

St Piran's Church, Perranzabuloe, Cornwall

Archaeological excavation, conservation and management works



Historic Environment Service (Projects)

Cornwall County Council

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Cover illustration

A selection of photographs from the excavation.

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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.

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Abbreviations

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

1 Summary

A range of works were carried out on St Piran's Church, Perranzabuloe, during 2005-2007 by the projects team of the Historic Environment Service of Cornwall County Council, in partnership with the St Piran Trust.

The project sought to improve the amenity value and interpretation of the site by excavating sand from within the interior of the Church. A series of four trenches were also excavated around the monument in order to better understand the archaeological potential of the site and its wider historic context.

A considerable length of the north wall of the Church and the inside of the tower were uncovered for the first time in 200 years, along with a number of other historic features including the remains of a grave marker dating to the 1620s. This allowed John Allan and Stuart Blaylock to produce a structural history of the excavated church and to identify stonework from the original Church which had been used in the present Parish Church.

Features excavated in the evaluation trenches included rubble from the Church (Trench 1), the enclosure boundary of the cemetery, mining activity (Trench 3) and prehistoric walling and associated pottery (Trench 4). Trench 2 failed to produce any features but demonstrated the great depth of blown sand in parts of the site.

The project also carried out conservation works to the fabric of the Church and erected three interpretation boards (at the Church, St Piran's Oratory and Perran Round), while a display was organised in Perranporth Museum for those people unable to visit the site during the excavation. A concise management plan was also produced to provide a long-term strategy for St Piran's Church, the site of the Oratory and Perran Round.

2 Introduction

2.1 Project background

A range of works were carried out on St Piran's Church, Perranzabuloe, during 2005-2007 by the projects team of the Historic Environment Service of Cornwall County Council, in partnership with the St Piran Trust,¹ a charitable group whose primary objective is to protect and enhance archaeological sites in the Perranporth area, associated with the name of St Piran, the adopted national saint of Cornwall.

The Church (Scheduled Monument Cornwall 15009) (SW 7685 2405) was abandoned to the sands in the early 19th century. Much of the fabric of the Church was taken down and used in a new Church, which was built 2.5 km inland. The remains of St Piran's Church lie within an enclosure which includes a cemetery and associated cross (Figs. 1 and 2).

The project sought to improve the amenity value of the site by excavating sand from within the interior of the structure, thereby greatly improving its presentation and interpretation. Four evaluation trenches were also excavated across anomalies identified in a geophysical survey in order to better understand the archaeological potential of these features and the wider historic context of the monument.

The project included conservation works to the church remains following the excavation, as well as the erection of interpretation boards and the organisation of a display in Perranporth Museum for those people unable to visit the site during the excavation. A concise management plan was also produced to provide a long-term strategy for St Piran's Church, the site of the Oratory and Perran Round.

2.2 Aims

The principal aims of this project were:

- To secure and safeguard the future of St Piran's Church, while improving its amenity value.
- To improve access to the Church and make it more understandable to visitors.
- To enhance our knowledge of the Church, its immediate landscape and associated features.
- To make information about the Church more widely available.
- To work with the St Piran Trust in achieving its objectives in protecting the monument and to engage with the general public and local community in appreciation and active conservation of this heritage asset.
- To guide future management.

¹ The group is concentrating its efforts on three scheduled archaeological sites. These are (i) **St Piran's Oratory** (Scheduled Monument Cornwall 29670) (SW 7685 5639), an early Christian chapel that was re-buried in 1980 owing to repeated problems with vandalism and flooding; (ii) the medieval **St Piran's Church** and (iii) **Perran Round** (Scheduled Monument Cornwall 29628) (SW 7789 5448), the best preserved medieval *plen an gwary* or playing place in Cornwall, located just outside Perranporth. The Trust has funded a study of the hydrology (below-ground water levels) around the Oratory in order to inform future decisions about the management of the site and the feasibility of its re-excavation.

2.3 Methodology for the excavation

The excavation work took place over a four-week period (12th September-10th October 2005). The focus of the project was the excavation of sand from within the church interior, while four evaluation trenches were excavated around the Church to investigate anomalies identified in a geophysical survey carried out by Substrata in 2004 (Fig 3).

2.3.1 Excavation of church interior

The general methodology of the excavation work and related recording was as follows:

- Turf covering the excavation area was lifted by hand and stored for reuse. Sand within the core of the building was removed by mechanical digger under archaeological supervision. Sand from more sensitive areas in and around the Church was excavated by hand (Figs. 21-22).
- A single sondage trench was excavated to investigate the potential of the floor remains.
- Disarticulated human bone uncovered within the Church was collected and reburied within the structure at the end of the excavation programme.
- Upon completion of the excavation, a new ground surface at a level raised above the actual historic floor levels was created. This comprised two levels, with a slightly higher floor over the chancel with an artificial step recreated, where the chancel meets the nave. It was turfed and hessian matting was also used to hold the turf in place and help it to regenerate.
- A drawn and detailed photographic record was produced with layers and features being allocated site-specific context numbers. Artefacts were also retrieved by context.

The sand from the church interior was redeposited within two areas of open sand (NGR SW 76945 56368 and SW 77010 56335) to the west of the excavation site which had been agreed with English Nature and the landowner. However, during the second week of the excavation, it became clear that the areas identified for the disposal of the sand were not adequate for the amount of sand that would need to be moved. English Nature were contacted and it was agreed that the excess sand could be placed in an irregular hollow (NGR SW 77215 56415 to the south of the Church. Turf was removed from an area 18m in diameter, approximately 80-90 tonnes of sand were deposited in the hollow and it was returfed. The profiles of the hollow were recorded in advance of and following works, while Sarah Taylor (Penhale Sands Ranger) produced a species record for the area.

Following the removal of the 'clean' sand and the levelling of the interior of the Church, the remaining sand and rubble were profiled into the bank on the southern edge of the excavated Church, where a set of steps to gain access to the structure were constructed.

Following the excavation, a detailed measured survey of the walling and other archaeological features was carried out.

2.3.2 Evaluation trenching

Four trenches (see Fig 3) were excavated to investigate geophysical anomalies relating to the site. This evaluation trenching comprised small-scale interventions to investigate possible features identified by the geophysical survey, establishing the depth of old land surfaces, buried archaeological remains, their general character and date. This work was carried out solely by hand excavation.

The geophysical survey was used to lay out the approximate locations of the four trenches and the exact locations were agreed with English Nature in advance of the first week of the excavation programme. The project design included scope for limited extensions to the trenches to be dug. An extra pit (Trench 6), 2.0m by 1.0m, was excavated close to Trench 4.

The methodology for the evaluation trenching was broadly the same as that for the works within the interior of the Church:

- Turf covering the excavation area was removed by hand and stored for reuse.
- Open trenches were fenced off due to health and safety concerns.
- Excavation of features was restricted to the minimum necessary to assess their date, character and likely potential (Fig. 23).
- Loose human bone was collected and reburied within the same trench from which it had been recovered.
- A drawn and photographic record was made of each evaluation trench, with layers and features allocated site-specific context numbers. Artefacts were also retrieved by context.
- The trenches were backfilled upon completion and turfing, with hessian matting laid over to help it to regenerate.

2.4 Consolidation and Conservation Works

Following the excavation, the condition of the upstanding walls of the Church was assessed by Keith Weston of English Heritage. He was concerned that the stability of the north wall needed to be improved. Sand to the rear of the north wall was subsequently removed in order to lessen pressure on the remains of the structure (see Section 6.1).

Advice was also sought about necessary conservation works to the newly uncovered walls of the Church, focussing primarily on the north wall of the nave which was still covered with plaster. Sue and Laurence Kelland's recommendation to protect the plaster with a modern plaster covering was accepted and undertaken by Darrock and Brown. This firm also carried out some repointing at the tops of the walls and rebuilt the north east corner of the south transept (see Section 6.2).

Sue and Laurence Kelland also carried out the restoration of a 17th century grave slab uncovered in pieces in the Church, which was placed in the modern Parish Church (see Section 6.3).

2.5 Dissemination of information

The dissemination of information took three distinct forms (see Section 7). These were the (i) three interpretation boards erected at the Church, the site of the Oratory and Perran Round; (ii) the display exhibition in Perranporth Museum and (iii) production of a number of publications.

This archive report will be edited and a version will be published in *Cornish Archaeology* – the journal of the Cornwall Archaeological Society. A second, more popular publication has also been produced and distributed widely in the local area.

2.6 Management plan

This project also developed a concise management plan for St Piran's Church and the two other properties in Perranzabuloe Parish (St Piran's Oratory and Perran Round) (see

Section 8). The resultant plan, which was widely consulted upon in Perranzabuloe Parish, incorporated and built upon the findings of the archaeological work, while at the same time addressing issues of access and erosion.

2.7 Community involvement

This project has been fostered by the St Piran Trust, a community-based charity. A key public benefit of the works was the large-scale involvement of local people with the project. Opportunities for participation included physical involvement in the excavation of the Church and the evaluation trenching and volunteers came from the local community, from throughout Cornwall and further afield. In addition, children from the local schools viewed the site during works and there was a considerable interest from the local media.

A large number of press releases were sent out and the project was featured in local newspapers on numerous occasions. The dig was also featured on Radio Cornwall, and Westcountry TV, there was a ten minute slot on BBC South West's Inside Out programme while the BBC also produced a half-hour documentary which was broadcast as part of its Passion for Churches series on BBC 2.

The end of the actual excavation was marked with a religious service within the remains of the structure. The service was taken by the Rev. Jeremy Andrew, who had been involved with the dig, and over 100 people attended. The congregation included a number of Cornish Bards who were attending a conference at the nearby holiday camp.

3 Background

3.1 Location and setting

St Piran's Church (Fig. 2) is one of two religious structures which survive in part 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 chapel that acquired fame in the 19th century as the 'oldest Christian building in Britain.'

3.2 St Piran's Church

It is generally argued that St Piran's Church was built following the abandonment of St Piran's Oratory, though it is possible that both the Church and Oratory co-existed for some time. It has also been suggested that the Church is positioned within an earlier prehistoric enclosure or round. The earliest date that can be ascribed to the surviving fabric is late 12th or 13th century (see Section 5), though there may have been structures on the site prior to this.

The Domesday Book records a complex at Lanpiran, as set out below, which may have been centred at either the site of the Church 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 earliest part of the Church was the chancel. The structure was enlarged and underwent various structural modifications through the 13th-15th centuries which included the construction of a south aisle and the tower (see Section 5), as well as further adaptation in the 16th to 18th centuries. It was finally abandoned in the early 19th century due to the encroachment of sand, although it is recorded that 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 with the Church has also been directly documented. In 1650, an area of land linked to "Lamberran" was sold which included a number of fields 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 1804-1805, a new Church was built some 2.5km inland and the old St Piran's Church was allowed to decay.

In 1820, Gilbert 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 had been removed to build the New Church.

3.3 Previous archaeological work

The site was excavated by T. F. G. Dexter between 1917 and 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 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 was clear that the tower, pillars, font, tracery and other cut stone were removed to the New Church site at Perranzabuloe., while only the foundations remained, with walls to the east visible up to 2m high containing openings for windows and for a piscina.

From Dexter's work it was known that the Church consisted of a nave and chancel, south aisle, south transept and tower. He suggested that the north transept had been blocked off and replaced by a rood stair projecting from the line of the north wall. He also 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. It was his view that the south nave aisle, tower and possibly porch were added in the 15th century (see Figs. 4-10).

Prior to the 2005 excavation, the levels within the Church varied considerably. The east end, which had been most thoroughly excavated, was lowest while the deposits in the west end were up to 1.5 metres higher. Comparison with historic photographs from the early 1920s (Figs. 6 and 7) 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 south aisle could still be noted, which demonstrated 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 the 20th century and much of the walling in the east end of the Church, exposed in 1917-20, had since been lost.

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).

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 assessments of Gear Sands (Cole 1997) and the Penhale Training Area (Cole and Tapper 2004). Substrata Ltd also undertook a gradiometer and resistance survey of a three 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 The excavation

4.1 The interior of the Church

In advance of the 2005 excavation, two test pits were excavated in the centre of the Church in order to understand the nature of the archaeological remains contained within the structure (see Cole 2004).

This work was carried out in August 2004. The first test pit was excavated in the chancel, within the area where Dr Dexter had carried out considerable excavation work in the second decade of the 20th century. The test pit encountered evidence of both the chancel floor, in the form of a single *in situ* gritstone slab, and disarticulated human remains. The main deposit within the test pit was a windblown sand, containing small fragments of mortar and human bone. The lower deposits in the test pit were quite disturbed and contained more human bone. It was considered that the disturbed nature of these deposits

reflected the condition of the site following Dexter's excavation. It is likely that there were areas of disturbed earth containing bone and other remains, loose within the structure, which then became mixed in with the sand, as a degree of windblown sand refilled the Church in the 1920s.

The second test pit was positioned in a central position within the nave. It was excavated to a depth of 1.8m, through a very clean windblown sand, until a demolition layer was encountered. Unlike the first test pit, no fragments of human bone were recovered, although there were occasional small stone pieces and small slate pieces. Whereas the sandy layer identified in test pit 1 had accumulated following the 1917-1920 excavation, the sand in this second 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.

This evidence was used to develop the excavation strategy for the site. It was considered that, in the parts of the Church not disturbed by Dexter, the main fill was likely to be windblown sand, with areas of disturbance largely restricted to the previously excavated chancel. For this reason, it was decided that the removal of the sand could be undertaken with a mechanical digger. It was also agreed that whereas the deposits encountered in the evaluation trenches were recorded individually on a context by context basis, in the actual Church this would not be necessary as all deposits were post-1805 demolition layers or wind-blown sand.

The extent of sand within the core of the Church building was indeed considerable, though there was also a large amount of rubble at the base of existing walls. This was particularly so in the chancel, where the walling had decayed and collapsed following the 1917-1920 excavation. Analysis of Dexter's drawings show that the north wall of the chancel had lost nearly 2.0m in height since 1920, whereas the east wall of the Church and the south wall of the south aisle had lost up to 1.0m in height (see Figs. 12-14).

The excavation exposed the northern wall of the nave and uncovered the inner facing of the tower (Fig. 11). Within the Church itself, a number of features of note were recorded which included an upturned column base at the entrance into the tower. At the western end of the chancel, near the south transept, there was a rectangular stone lined depression, 0.35m by 0.25m. This aligned with two stones which formed a recessed niche at the base of the north wall, which could reflect the position of a rood screen. The excavation also uncovered four flat stones arranged in an approximate square which would have been the base for a column, forming part of the arcade between the nave and south aisle. John Allan and Stuart Blaylock suggest that it would have been one of five, approximately 3.8m apart from column centre to column centre.

In the Church itself, pockets of rubble were found, some incorporating fragments of architectural significance. On one such raised pile of rubble, the remains of a gravestone dating to the 1620s (Fig. 24) were found. This was removed, renovated and placed on permanent display in the modern Parish Church (see Section 6.3). A selection of architectural fragments recovered from the dig is listed in Appendix 2.

Artefacts recovered from within the Church included a large array of ridge tile fragments, many with incised 'Christmas tree' decoration, dating to the 13th-17th centuries, roofing slates, fragments of lead from windows and a selection of nails.

4.1.1 The tower

The excavation demonstrated that the internal extent of the tower was 4.8m by 3.7m, and it was clear from the plan of the tower that the stairway was positioned in the northwest corner, where its lower course was extant (Figs. 11 and 12). Due to sand banking around the exterior of the tower, the width of the walling could not be determined.

The internal facing survived on all three sides, with the best-preserved section being the north wall. Along this north section, the lowest exposed course of stone comprised large granite blocks, up to 0.75m by 0.65m. The course above it comprised smaller stones, up to 0.2m in height, though most of these stones had been lost and the size of the walling was deduced from the sockets that remained. To the rear of the stone facing, there was a much more substantial area of exposed corework, over 1.5m deep, the external face of which remains hidden by the sand dunes.

At the eastern extent of the tower, where it joined the nave, there were rough recesses in the north and south walls into which columns for an archway would have been positioned. The carved base of the northern column was located during the excavation and has been placed in its approximate position against the wall (Fig. 25).

4.1.2 North wall of the nave and chancel

Within the chancel, the ground level was only lowered about 0.4m. No new features were noted within the surviving walling although the clearance of soil from the upper reaches of the surviving stonework better defined the two extant window openings and possible easter sepulchre (see Section 5 and Preston-Jones 1994 for further discussion).

Also exposed was the 13m long extent of the nave, which stands to a height of up to 1.65m. This wall was mostly covered with a white painted plaster, though it obviously covered a number of earlier layers. Discoloration along the surviving plaster showed the positions of the pews that had been placed against the wall. The pew markings were each approximately 0.9m high and 0.4m wide. To the east and west of this section, there were the markings of self-contained box pews with six rows of pews between them. The western box pew appears to have been 2.95m long (Figs. 12, 26-28).

The excavation also allowed the position of the three windows to be better defined and a blocked doorway at the east end of the nave to be identified, adding an extra chronological layer to the complex (Fig. 29).

Between the chancel and nave, there are two blocks of contrasting stonework at the point which is generally believed to be the location of the north transept. The stonework is later blocking. The western free-standing piece, 2.8m long and 0.5m wide, is thinner than the older sections of the north wall and leans in towards the centre of the Church. To its east, there was a block of stonework abutting the chancel. This walling stood to a height of 0.8m and was constructed from sandrock blocks that may have been reused from elsewhere. It also extended, in excess of 1.5m, into the sand and rubble bank to the north (Figs. 30 and 31).

In order to investigate the likely survival of the floor, a sondage trench was excavated against the north wall beneath the middle of the three window openings. A total of 52 shards of glass were recovered from within this trench, while a further 59 were found on the exterior of the north wall. Three distinct forms of glass were identified which demonstrated clear evidence for a series of phases of refitting and/or *ad hoc* repairs. These included medieval coloured glass with grozed edges, post-reformation pale green thin glass with cut edges dating to the 16th to 17th centuries and crown glass with rounded edges dating to the 17th and 18th centuries.

Evidence of two floor levels was encountered in the trench. At a depth of 0.4m below the final 'post-excavation' floor level, there was a solid, well-preserved lime mortar floor. Above this was a firm yellowish brown, but mottled, clayey soil layer, which clearly represented evidence of a later floor surface. It appears that the original floor within the nave was built up and a later floor constructed. It is noteworthy that the staining on the

wall representing the pew ends in this area ended at the level of the later floor surface, suggesting that the floor was contemporary with the pews.

4.1.3 Description of the plaster

Sue and Lawrence Kelland

Plaster survived in patches along most of the exposed face of the north nave wall. The patches consist of a multitude of layers which contain the history of the redecoration of the Church, probably for many centuries.

Underlying all the layers was a base coat of a gritty plaster, perhaps 15 mm thick, consisting of lime and aggregate with a substantial proportion of shell. This was a very even, good quality plaster which has survived very well and remains well-bonded to the walls, although eroded unevenly where it has been exposed to the weather or where roots have grown through it.

Over this there was in some places a fine coat, although not throughout, and then a multitude of layers of limewash. The top layer of limewash in this sequence had red paint (an iron oxide red). This is thought to be masonry lining, but as this is only exposed in patches, it is not possible to see whether there is also any figure or other painting present.

Over the red layer was another fine coat, a crumbly mix consisting probably of lime and a rough limey aggregate. This would have been applied, as was common during a redecoration programme, over the top of all the existing layers without doing more than remove any loose material and then skim over to give a new smooth surface for limewash.

Over this fine coat was another series of layers of limewash. In the top layer, the outline of the pews can be seen as darker areas, an important feature in the appreciation of this plaster.

4.1.4 East wall of chancel and south aisle

As noted above, the ground level within the chancel was only lowered by about 0.4m and no new features were noted along the east wall. Features already known within this section of wall included two window openings, a recess and areas of blocking (Fig. 13; see Section 5 and Preston-Jones 1994 for further discussion).

4.1.5 South wall of south aisle and south transept

It is also the case that no new features were noted along the south wall, though considerably more of the south transept was uncovered to aid appreciation of the Church, its component parts and layout (Fig. 14; see Section 5 and Preston-Jones 1994 for further discussion).

4.2 Trench 1

Trench 1 was located immediately to the west of St Piran's Cross, within the churchyard (Figs. 15 and 16). It was 10 metres long and 2 metres wide. The purpose of the excavation was to investigate the old land surface of the graveyard. The Substrata geophysical survey had noted the following in this general area:

“Anomalies ... include pits and possible small and well-defined patches of stone and masonry. Given that the Church was abandoned in 1804-1805, partially demolished and excavated in 1917-20, masonry should be expected but the anomalies ... correspond with well-defined resistance anomalies and may represent graves” (Substrata 2004, 7).

It was also considered possible that grave markers might survive in the enclosure, with Gilbert documenting “shattered tomb-stones” around the remains of the Church in 1820

(Gilbert 1820, 681). No such upstanding remains were discovered, though a series of deposits were uncovered which could be broadly dated through association with artefactual evidence and demolition debris.

The trench was covered by a topsoil layer [100], which sealed three sandy deposits [101] [104] [105], each with an approximate depth of 0.2m. More than 25 pieces of disarticulated human bone were recovered from the topsoil, while more than 150 fragments of bone were found in [101]. In this deposit, the human remains were found in a number of clusters just beneath the turf/topsoil and included a large amount of leg and arm bones. These disarticulated remains, found so close to the ground surface, may therefore have been left in this location following Dexter's excavation in 1917-1920.

Immediately beneath deposits [101] [104] [105], there was a thin dark sand [103] which extended the full length of the trench. This was clearly an old land surface and, if we accept that the remains above can be dated to Dexter's excavation, it in turn can be seen to date to the turn of the 19th and 20th centuries. At the eastern end of the trench, the excavation demonstrated that layer [103] dipped down towards the base of the cross and only covered its northern edge. This is consistent with photographs of the cross from the 1890s which showed the base as visible. A small fragment of a slate grave marker was recovered from this layer.

The deepest deposit of windblown sand was layer [109] which was recorded in the western 6.5m of the trench, immediately beneath ground level [103]. With a maximum depth of 0.53m, it overlay the edge of rubble spread [108] in the eastern part of the trench and a number of cut features.

The rubble spread [108] contained a large number of stones which still had mortar attached, demonstrating that it represented fabric of the Church. A shallow pocket of sand [106] was recorded above the rubble which sealed another layer of windblown sand [110], which was 0.27m deep. It may be suggested that the rubble had been dumped in this location when the Church was being dismantled in the early nineteenth century.

Running across the whole trench at this level, sealed by sand layers [109] and [110], was a mid orange brown silty clay [119], which may have been the ground surface of the churchyard from around 1800. This ground level was extremely irregular, which was made even more pronounced because of four irregular hollows. Three [137] [138] [141] were partially hidden by the south-facing section, while the other [142] was partly hidden by the north-facing section. Each of these hollows appeared to include a light brown or orange brown silty sand [111] [113] [115] [117], underlain by a thin lens of windblown sand [112] [114] [116] [118] around the base of the feature.

Only [137] and [138] was explored through excavation. In [138], it was found that it cut through a pit containing the remains of the burial of a very young child [121-124]. The grave cut [121] was 0.9m long and 0.5m wide. It contained the partial remains of a small coffin [123], which was well preserved on the southern side, surviving as a slight grey brown stain in the soil and further denoted by remains of iron fittings. It was surrounded by light yellow sand [124]. The remains within the coffin area included the body of a child approximately 0.45m long, which would suggest that it did not survive long after its birth. A single silver pin was noted on the body, that presumably held some form of clothing in place. Neither the human remains or related artefacts were removed from the excavation trench.

Dating evidence from the hollows was restricted to a single sherd of earthenware dating to the 15th-16th centuries, recovered from fill [117].

Due to the undulating nature of this layer [119], a sondage trench was excavated in the western part of the main trench in order to understand the nature of the deposits. Layer [119] was found to be 0.1m-0.12m deep. Immediately beneath it, there was small deposit of rubble material [120], which was 0.17m deep. This layer can be dated from the recovery of a late medieval local coarseware dating to the 15th-16th centuries. Sealed beneath [120], there two further layers; a mottled yellowish brown sand [125] and an orange brown silty sand [132].

These layers had been cut by graves [126] and, within the sondage trench, two burials were noted at just over one metre below ground level. The coffins of the two burials [127] [130] were visible, surviving as grey stains in the soil. The remains of the northern burial [127] showed a very distinctive coffin shape, while the southern one [130] was marked by two less clear, but broadly parallel, lines. They were both filled with an orange brown silty sand [128] [131], with an arm bone visible in fill [131]. It was difficult to see individual cuts for the graves, with the material between them also being an orange brown silty sand [132]. The material to the north of coffin [127] was the same, but contained infrequent slate and mortar fragments, no doubt from the disturbed deposit of rubble [120].

It is likely these inhumations are relatively late in the sequence of burials on the site and may be dated to the 17th or 18th centuries. Seventeenth century clay pipe fragments were found in fill [132] between the burials, while the northern cut for the burial sliced through deposit [120] which included a fragment of 15th-16th century coarseware. As with the child burial, no human remains were removed from the trench.

The excavation of Trench 1 was curtailed at the level of the human burials, as this demonstrated that, in this particular area, there were no structures or gravestone which survived above the early 19th century ground level of the cemetery.

4.3 Trench 2

This trench was located to the south west of the Church, just within the churchyard boundary. The purpose of the excavation was to investigate a series of anomalies, which the Substrata geophysical survey described as “an unclassified group of anomalies that may represent a structure, possibly a building” (Substrata 2004, 7).

It had been planned that the trench would be 10 metres long and 2 metres wide. However, it was the last evaluation trench to be excavated. It was opened up late in the fourth week of the dig and, due to time constraints, the trench was only 5m long.

Trench 2 was covered by a topsoil layer [200] which had a maximum depth of 0.16m. Beneath it, there was a deposit of windblown sand [201], 0.3m deep, which sealed two irregular spreads of a redeposited sandy loam soil [202] [203], containing considerable amounts of shillet. Although only slight deposits, these stony layers may have been the cause of the geophysical anomalies. A single sherd of 17th-19th century earthenware was recovered from context [202].

A small sondage trench was excavated in the northern part of the trench which found that layers [202] and [203] overlay another large deposit of windblown sand. Approximately 1.35m deep, this sand sealed a sandy clay surface which is likely to have been an old ground surface. The excavation was not taken further due to the extent of windblown sand, which had built up against the immediate inside of the churchyard boundary.

4.4 Trench 3

Trench 3 was positioned to the south-east of the Church (Figs. 17 and 18), across the enclosure bank of the churchyard, where the geophysical survey suggested that there was a

second linear feature which it considered might represent an earlier phase of enclosure or a separate bank (Substrata 2004, 7). Two thirds of the 15 metre long trench was outside the cemetery. The enclosure bank was successfully identified, as well as a grave cut within the churchyard and mining remains on the exterior of the bank.

The topsoil [300], which covered this trench, varied in depth between 0.1m and 0.3m. It also included over 50 fragments of human bone, ten sherds of medieval pottery, one piece of 19th-20th century stoneware and window glass. The churchyard boundary comprised a three metre wide bank of greyish brown sandy clay [306] that was faced on its exterior face [305]. The bank stood to a height of 0.5m and the wall was comprised of quartz, shillet and granite pieces 0.18m-0.35m in size. It also included two orthostats which marked out the location of an opening that had been blocked up [344] (Fig. 32). Excavation into the bank showed that it gave access into an alcove or hollow [357], the purpose of which was unknown. It was 1.2m wide and had a maximum depth of 0.64m. The upper fill [358] of sand was 0.54m deep and separated from a similar bottom fill [360], which was 0.06m deep, by a slight lens of a yellowish brown silty clay [359] which may have been a temporarily stabilised ground surface.

Two post-holes were excavated in front of wall [305]. In the east-facing section, cut [341] had near-vertical sides, a diameter of 0.3m and was 0.5m deep. It had two fills; stone packing [337] and sand [342]. A very similar pit [339] survived in the west-facing section. It had a diameter of 0.38m and was 0.62m deep. It was filled with a single brownish yellow sandy fill [340]. Post-hole [339] cut through layer [328] while post-hole [341] cut through layer [311] demonstrating that the features were quite modern and interestingly were positioned on either side of the blocked gateway [344]. They may represent evidence of a structure that stood in front of the opening prior to it being blocked.

There was a further post-hole [334] uncovered just to the east of [339], which was also positioned immediately to the south of wall [305]. Cut through a small deposit of backfill [333], the diameter of this feature was 0.3m and it was 0.2m deep. The post-hole was stepped and contained two fill [335] and [336], the lower one of which included numerous charcoal flecks.

On the interior of the churchyard boundary, a single grave cut [314] was discovered. It was 1.8m long and 0.6m wide but not fully excavated. Its top fill was a dark orange brown silty clay [315]. At this point there were three layers, two sandy deposits [308] [320] overlying an orange brown sandy loam [343], all of which had been cut by the actual grave.

On the exterior of the churchyard, the archaeological deposits were much more complex. Deposits to the south of the wall included a stony bank material [338] and a brown silty clay [345], containing a large concentration of shillet fragments. Against these layers, there appeared to be a range of sandy deposits which had silted up against the bank. These included windblown sands [318], [347], [352] and [354], an orange brown silty loam [346], a yellowish brown silty clay [351] and a rich dark brown sandy loam [353]. The depths of these layers varied considerably with sand layer [352] being 0.45m deep, while deposit [354] had a maximum depth of 0.08m. These were no artefacts recovered from any of these layers.

In the southern part of the trench, a roughly linear pit was excavated [325]. Clearly a mining feature, it was possibly a lode-back pit, a type of pre-19th century shallow shaft, which would have been excavated along mineral lodes. It was most prominent in the west-facing section. Approximately 2.0m wide, the depth of this feature was over 0.8m and contained four fills. The bottom fill of the hollow was a windblown sand [328] and the second fill was a thin lens of a brownish orange sandy soil [327]. A spread of rubble [319], containing a sherd of 16th century coarseware and a shard of window glass, also overlay

[328]. In the east-facing section, both [319] and [328] extended out of the hollow and over deposits to the north, almost to the boundary wall itself. Above this there was layer [326], a windblown sand with a depth of 0.3m-0.4m deep, while the top fill [324] was a brownish orange sand with a maximum depth of 0.14m.

This mining trench had also cut through a grave cut [330], which comprised a dark greyish brown sandy clay [331], containing about two-thirds of a human skull, part of a shoulder blade and part of an upper arm. Being outside of the churchyard, this burial was an intriguing discovery and the possible north-south orientation of the remains could suggest that remains were prehistoric in date.

The early deposits and the fills of the mining feature [325] were sealed by a mid brownish yellow windblown sand [311] with a maximum depth of 0.35m. This layer contained two ridge tile fragments of 13th-14th century date and butted against a rubble spread [321] in the southern part of the trench comprising a large amount of roof slates.

Layer [309], a windblown sand, extended over the southern two-thirds of the trench. It had a maximum depth of 0.2m and also contained a lense of a light yellowish brown sand [355]. Layer [309] was overlain by a sandy layer [301] containing lots of shillet pieces. Artefacts from this deposit included a 14th-15th ridge tile fragment and three shards of post-medieval glass.

Layer [309] was the top deposit cut by hollow [303]. A steep sided feature, it was 2.7m wide at its top and had a maximum depth of 1.3m. It was best preserved in the east-facing section, with the hollow rising in height to the east. The feature was only sealed by the topsoil layer [300], which suggests it is a relatively modern hollow perhaps linked to WWII activity. It contained six fills; a dark brown silty sand containing numerous shillet fragments [304], a mid orange brown sandy loam containing moderate amounts of slate fragments [312], a greyish brown sand [332], yellowish brown sands [348] and [349], plus a dark orange brown sand [350]. Only deposit [312] contained artefactual evidence, which was a late medieval coarseware dating to 14th and 15th centuries and a fragment of ridge tile of similar date.

Although a reasonable assemblage of artefactual evidence was recovered, this has not helped to develop a datable sequence for the deposits. None were recovered from the earliest deposits, while artefacts from the later deposits and the one fill of modern cut [303] show that the finds are either residual or came from disturbance. It is worth noting that disarticulated human remains were found in or close to these very same deposits, namely [304], [309], [311], [312], and [315].

4.5 Trench 4

This trench (Fig. 19) was excavated on the exterior of the churchyard to investigate a series of geophysical anomalies, one of which Substrata felt may have represented a “heating event, possibly a hearth” (Substrata 2004, 8). A painting of the Church (Fig. 3), probably dating to the eighteenth century, showed a cottage to the south west of the Church and it was considered a possibility that the findings of the geophysical survey in this area may have represented the remains of that cottage. The trench was L-shaped, positioned to cross a probable field boundary and explore a possible yard area. It was 10 metres long, with a further 5m long extension to the south. It was 2 metres wide.

No evidence of a post-medieval building was uncovered. The trench was excavated down to natural in many places, with sections excavated across the walling and the linear feature, which contained evidence of burning dating to the Bronze Age or Iron Age.

Trench 4 was covered by a topsoil layer [400], 0.2m deep, which contained a number of artefacts including modern stoneware, a sherd of a post-medieval coarseware and three ridge tile fragments of a possible 16th-17th century date. It sealed a layer of windblown sand [401] that had a maximum depth of 0.25m. Beneath the sand, there was an old ground surface [402] which comprised an orange brown sandy loam, containing six sherds of undiagnostic Bronze Age gabbroic pottery. A small sondage trench was excavated in the western part of the trench, which showed deposit [402] to have a maximum depth of 0.18m and to overlay a dark brown silty clay [410]. In the eastern part of the trench, it overlay wall feature [405] in the eastern part of the trench.

Wall [405] comprised well-laid stone pieces, within a matrix of a dark brown silty clay which also contained prehistoric pottery and a single flint blade (Figs. 33 and 34). The wall extended over 2.0m on a north-west – south-west alignment. To the east, there was a slight bank [407] of an orange brown sandy loam which was only 0.14m high and contained a slight lens of sand [408]. To the west of wall [405], there was a compact greyish yellow clay [415] which contained nine sherds of gabbroic pottery (see Appendix 5). These included five sherds of a Middle Bronze Age vessel (c. 1500-1100 BC), but also three rim sherds of a bowl which may be late Bronze Age/Early Iron Age (8th-7th centuries BC).

Also extending across the trench was a rubble spread [409], within a dark brown silty clay on a broadly NNE-SSW alignment. This was the top fill of a linear cut [413] (Fig. 20). It was 1.5m wide and this layer had a maximum depth of 0.15m. It sealed layer [411] which was a looser rubble spread containing a single flint flake and in turn sealed two linear gullies containing charcoal deposits. The western gully contained a deposit [412], made up almost entirely of charcoal fragments. This deposit was 0.22m wide and had a depth of 0.05m deep. The eastern gully [414] contained a greater concentration of shillet fragments and considerable amounts of charcoal. It is likely that these remains represent some form of small-scale industrial activity on the site, with the gullies perhaps being flues of some sort.

4.6 Trench 6

At the commencement of the excavation of evaluation trench 4, the site was visited by Mr Higgins, a well-known dowser from Perranporth. He undertook his own survey of the area around the trench and informed the archaeological team that he could ‘sense’ a rectangular building immediately to the south. It was therefore decided to excavate a trench, 2.0m by 1.0m, over the suggested location of the northern wall of the structure.

Topsoil [600] sealed the trench and was 0.18m deep. The second layer was a windblown sand [601], which was 0.28m deep, and sealed a deposit of orange brown silty clay [602]. This layer had a depth of 0.3m in the southern part of the excavated area and overlay a bank [603] to the north. This bank had a maximum depth of 0.35m and comprised a dark orange brown silty clay, containing many pieces of shillet. It overlay a spread of stones [604] within a similar matrix of soil which, according to geophysical survey, was on the northern edge of an area of ‘uncharacterised archaeology.’ The remains did however appear linear in the field and gave the impression of possibly being a wall.

Twelve sherds of gabbroic pottery, probably Bronze Age in date, were found in the bank [603] and there was a single sherd in the wall material [604]. Two flint flakes were also recovered from [603]. This breadth of evidence suggests that the area around trenches 4 and 6 may contain considerably more evidence for early activity on this site.

4.7 Human remains

It had been documented that Dr Dexter encountered burials “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” in his 1917-1920 excavations. (Dexter 1922, 293). One of the two test pits excavated in advance of the 2005 project found over 40 fragments of disarticulated human bone (see Section 3). Most of these were in the lower deposits and represented disturbed material left around at the eastern end of the Church after Dexter’s excavation.

A considerable amount of disarticulated human bone was uncovered during the excavation. Within the Church itself, even though little of the lower deposits were dug into, over 100 bone fragments were recovered from disturbed deposits.

In trench 1, positioned within the centre of the churchyard, the topsoil [100] contained over 35 pieces of bone including arm and leg bones and vertebrae, while the next deposit [101] contained over 160 fragments. These included a large number of limbs which appeared to be clustered together just under the top-soil, but above the main area of sand blow [109] which sealed known burials. It is clear that these deposits represent relatively modern disturbance and could have been redeposited by Dexter’s excavation. A small number of bone fragments were also noted in contexts [108], [119] and [120].

The topsoil covering Trench 3 meanwhile contained over 50 fragments of human bone, which ranged from skull fragments to feet and hand bones. A number of contexts in this area also had small numbers of bone fragments, namely [301], [304], [309], [311], [312], and [315]. Most notably, the mining pit [325] was found to have cut across an old burial, just on the outside of the churchyard boundary, which was found to contain the remains of two-thirds of a skull and fragmentary remains of the torso.

No human bone was recorded from Trench 4, some distance from the churchyard, and Trench 2, which contained undisturbed windblown sand. A handful of fragments were collected in the hollow deturfed to the north of the main excavation for the disposal of sand, where a coffin handle was also recovered.

All this disarticulated human bone material was reburied on site in the general areas where it had been found.

5 Notes towards a structural history of the Church

By John Allan and Stuart Blaylock

Following the excavation of 2005, John Allan and Stuart Blaylock examined the upstanding fabric of the old parish Church of Perranzabuloe, studied the architectural fragments recovered during the dig and also considered the similarities between the Old Church and the 19th century building which replaced it.

5.1 The Old Church

5.1.1 The chancel

Like earlier commentators, we conclude that the earliest visible fabric in the Church is the masonry forming the lowest courses of the east and north walls of the chancel (Figs. 11 and 12). It consists of fairly rough rubble containing a scatter of quite large water-worn boulders, evidently collected from local beaches, intermixed with smaller slabs of slate. It contrasts with the later medieval walling used at the Church, which consists mainly of

angular quarried stone. Examination of the internal angle at the junction of the two walls shows that they are bonded together and are thus contemporary.

In his account of 1920, T.F.G. Dexter described this masonry when newly excavated. It was, he said, earth-bonded, but the surfaces appeared to have been pointed in lime mortar: 'the mortar was merely a superficial addition ... probing between the stones revealed only sand, perhaps with a little clay' (Dexter 1920, 461). Nowadays the bonding material is so deeply eroded that it hardly survives near the wall surfaces, but small-scale sampling of the core at a couple of points where there are cavities shows that, whilst it consists mainly of earth, it contains some white lime mortar. It is difficult to be quite sure that the material sampled is part of the primary bonding, but this seems to show that these walls were earth-bonded, with a small admixture of lime mortar strengthening the mix.

The lowest 0.20–0.30m of walling exposed by the excavation has the great merit of being unaffected by the clumsy recent repointing of the walls above, which makes it almost impossible to distinguish different phases of work. The north wall will be described first, since the evidence here seems clearest. At heights of 0.38m and 0.5m above the present floor level there survive the lower courses of two broadly splayed windows, both subsequently altered. No previous commentator has distinguished a structural break between these windows and the plain earth-bonded walling immediately below them. The earth bonding appears to surround the position of the eastern window, now badly ruined and to include the rectangular opening between the two windows, for which various interpretations have been offered, but which in the writers' view is simply a put-log hole. It is unfortunate that the crucial relationship between the windows and the earth-bonded masonry below could not be inspected in a thoroughly satisfactory way either by Ann Preston-Jones in the 1990s (when the lowest masonry was buried) or in 2006 (when it had been smeared over). That said, the splayed openings look integral to the surrounding stonework; there is no obvious reason to regard them as being of different dates.

The splays are the lowest portions of two lancet windows of Early English form, broadly datable to the late 12th or early or mid 13th century. Comparison with the one datable example of work in Cornwall of *c.* 1200 which comes to mind suggests that an early 13th century date may be more likely than a late 12th century one. The single surviving window in the north wall of the chancel of Minster Church, founded in the 1190s and therefore probably built *c.* 1200, belongs to the preceding Romanesque tradition: it is set high in the wall and is very narrow.

Much of the subsequent development of the north wall was skilfully interpreted by Dexter in 1920. The lower part of the eastern window was infilled, and an ogee-headed niche (14th century?), followed by a rectangular recess, were later cut into the wall below; Dexter interpreted the latter, quite reasonably, as an Easter Sepulchre. He might have added that the blocking of the lower parts of the windows probably shows that sand dunes were already accumulating to a high level against this wall. The western single-light lancet in the north wall was replaced by a two-light window with a higher sill; examination of Dexter's drawing (Fig. 8) shows that this entailed cutting back the angle of the splay whilst retaining the line of its inner quoins.

The sequence of masonry in the east wall was studied carefully by Ann Preston-Jones in 1994 and was subsequently daubed with modern mortar which makes further consideration very difficult (Fig. 13). A few features can still be made out behind the recent pointing, but some of the complexities discussed in Preston-Jones' original report can hardly be seen. High on the southern side, close to the present wall top, small areas of splayed facework from two different phases of window survive. The later splay is the inner one; it will be argued below that the four-light Perpendicular window now standing in the

equivalent position in Perranzabuloe New Church comes from this spot. The outer splay, it may be suggested, is likely to be contemporary with the windows in the north wall, since the primary work in the two walls is contemporary. An arrangement of either two or three Early English lancets would leave a splay in this position.

A horizontal break is still visible running across the centre of the wall at a height of 0.98m; this was fully recorded by Preston-Jones. The walling above represents some form of infilling; it may represent the provision of plain walling which would allow the use of a retable sitting on the high altar below (perhaps an alabaster one; a fragment of such a retable was found in 1919 (Dexter 1920, 475 and Fig. 9). An alternative possibility seems equally plausible: that the encroaching sand dunes also caused the parishioners to block in the bottom of this window. It is even possible that it may be of much later date, reflecting post-Reformation changes to the wall, perhaps connected with setting up the boards displaying the Ten Commandments. Below this, in the area immediately behind the position of the high altar, is an area of poor earth-bonded stonework formed of small slabs, which has been claimed to be very ancient. It seems clear enough, however, that this must have been put in place after the lower courses of rubble on which it sits, for which an early 13th century date has been argued.

5.1.2 The crossing

The sequence of masonry on the north side of the crossing was recorded in two different forms by Dexter and CAU; it is possible that some of the discrepancy arises from the loss of slight walling at a higher level since the 1920s. At present the masonry is only partially visible, and no overall sequence can be offered without more extensive excavation. It seems very likely that a north transept formerly projected here, since this is the obvious explanation for the gap in old walling between the choir and the nave. The two lengths of walling occupying the gap between them are of quite different character, and are presumably later in date; that to the west at least must relate to the abandonment of the putative north transept (Fig. 12). To the eastern side, the walling abutting the choir consists of regular dressed ashlar blocks of sandrock (Fig. 30). There is no structural need for ashlar here, and it is probable that these blocks have been reused – perhaps from a different building. Dexter noted the presence of reused Romanesque architectural fragments of sandrock in the chancel fabric; he suggested that they came from St Piran's Oratory (Dexter 1920). This is also a possible source for the blocks in the crossing. He also interpreted the ashlar as the foot of the rood stair; this seems probable. Since the stair masonry formed part of a wall closing off the former transept, it seems to show that the north transept was abandoned before the Reformation, when rood lofts were dismantled. The abandonment of the transept may reflect a contraction of the Church, as sometimes happened after the Black Death; it might alternatively have been connected with the accumulation of sand dunes on the north side of the Church.

On the south side of the crossing, the footing of one pier of the south arcade was excavated. This is most useful; its position indicates that the spacing of the arcade bore no relation to the division between choir and nave, reflecting the absence of a chancel arch. The position and form of the arcade are considered further below.

5.1.3 The nave

The nave is aligned quite differently from the choir (Figs. 11 and 31), and clearly belongs to a different building phase. It is obvious that such marked changes of alignment in medieval churches were deliberately achieved, rather than being the result of carelessness. The reason is not firmly known; the question has been considered recently by James Muirden,

who has argued that churches may have been orientated towards the position of sunrise on the patronal festival day (Muirden 2005).

It is now apparent that the north wall of the nave is of two phases. This is clear at the east end, where the lower parts of an opening with a chamfered western side, which can only have been a doorway, is truncated at a height of 0.85m (c. 1.15m above original ground level: Fig. 29); the position where the upper part of its west jamb would have stood is overlain by a window sill. The sill forms part of one of the three large window openings in the north wall which must have held Perpendicular-style windows (see below); the secondary phase of the wall, therefore, is datable to the 15th or early 16th century. The earlier phase is undated, and both the junction of the two builds and most of the facework of the earlier phase are almost entirely concealed below plastered surfaces. The presence of a door leading out into the area to the north of the Church shows that the first phase of the nave wall must have preceded the growth of dunes against this side of the Church. Again, the structural evidence points to the accumulation of dunes against the north side of the Church in the later Middle Ages. The outer face of the wall was evidently protected with lime render; patches survive throughout the exposed wall.

5.1.4 The tower and south aisle

The excavation exposed the relationships between the tower and the adjacent walls of the nave. On the north side, no structural break can be clearly seen between the upper phase of nave wall and the tower; the nave wall oversails the division of the two, but there must once have been a break where the nave rubble met the ashlar blocks of the tower (Fig. 12). The evidence was much clearer on the south side, where the footings of the tower, the projecting section of the south arcade, and the west wall of the south aisle are convincingly bonded together, showing that they belong to a single period. Although the foundations seen in 2006 were of rubble, the surviving superstructure of the tower is of ashlar (see below). Dexter made the perceptive comment that the reason that the south aisle was robbed down to its lowest courses, whilst many of the other walls were left to their full height, was probably because it was built of ashlar (Dexter 1920). In a single expensive phase of late medieval (late 15th or early 16th century) building work, then, a high tower of costly ashlar was added to the west end, an arcade of excellent quality was commissioned, and a new show front, very probably also of ashlar, was provided for the south nave aisle of the Church.

5.2 The New Church

The New Church was laid out to a similar plan to the old, but the uncomfortably narrow form of the Old Church was replaced by a more generous layout, and the nave was made one bay shorter. This may have been because the western gallery in the new building provided the same number of nave seatings in a smaller space. It may be significant that a northern transept was provided; perhaps evidence of it could be seen in 1804, although it may have been built simply to give a symmetrical plan.

The new walls were built of stones of a different geology from those of the Old Church – mainly soft greenish shales – so these were evidently quarried afresh. If any old rubble was reused, it was confined to wall cores, foundations, etc, which cannot be seen.

5.2.1 Recycled components of the Old Church

The following components of the Old Church seem to have been extracted from the old one:

The tower (Fig. 35)

The tower of the Old Church, recorded in early 19th-century sketches (reproduced in Tomlin 1982, 20), was four storeys high and notably tall; it may well have served as a day marker for shipping. The present tower is appreciably lower, being only three storeys high; it consists of weathered granite ashlar with worn Perpendicular details. A number of other changes from the medieval design may be noted:

1. The excavation of the Old Church revealed the lowest courses of the tower stair at the north-western corner, whereas this was moved to the north-eastern angle of the New Church.
2. A large window now faces the nave; it is evidently not in its original position.
3. The heads of the belfry openings contain portions of Perpendicular windows, reassembled in peculiar patterns to fit the smaller spaces of the new tower. At least two different styles of Perpendicular window were employed: one with a pair of uncusped central lights below a broad frame window (Fig. 35, top right), the other with more pronounced cusping and super-mullions (Fig. 35, lower).

Windows (Figs 36–37)

The following windows of weathered granite in the body of the Church, all in Perpendicular style, appear to have been brought from the Old Church:

1. A four-light window at the east end of the chancel.
- 2–4. Three three-light Perpendicular windows, with the same pattern of a pair of multifoils in the head, now on the north side of the Church.
5. A window of the same pattern in the eastern wall of the south aisle.
- 6–7. The heads of two further windows of the same design, now incorporated in the lychgate, the inner one now bridging a wider space than the original, and thus with its uprights leaning inward. These too must have had three lights.
- 8–9. Two Perpendicular windows of a different design from nos 2–7 in the south wall of the south aisle, whose mullions rise upward through the window head to frame two pairs of small lights.
10. A tall three-light window in the western wall of the south aisle, with the same feature of mullions rising through the window head seen in windows 8–9.
11. A window in the east wall of the tower, of the same style as 8–10.

In considering the disposition of these windows in the Old Church, it may first be noted that the position of the four-light window above the high altar almost certainly replicates its position in the Old Church; not only was this wider than all the others but its stumpy proportions reflect the high position of the sill, recorded by Dexter, which allowed space below for a retable sitting on the altar. The remaining windows fall into two groups – nos 2–7 on the north and east sides of the New Church, and probably once in the transepts (see below), and nos 8–11 in the south aisle and tower. The positions of five openings corresponding in width to these three-light windows are known in the Old Church – a run of three on the north side of the nave, with two in the south choir aisle (with a third, smaller, window which was not transported to the New Church). The transepts must each have had a large window in their gable ends, and there will no doubt have been the usual window in the west end of the south aisle. It seems probable that the separate group of windows in the south aisle, together with the window in the east wall of the tower, came from the south aisle and tower of the Old Church, which excavation showed to be all of a single phase. The remainder filled the other seven spaces in the Old Church. This

conclusion confirms the account, dismissed by Dexter as a folk legend, that considerable trouble was taken in 1804 to reproduce faithfully the arrangements in the Old Church.

Some of these windows show evidence of crude post-medieval adaption: the cusping of their upper lights has been trimmed back, presumably to accommodate glass more easily. Adaption of this sort is commonly attributable to the late 17th and 18th centuries.

The Perpendicular arcade

The piers are sharply cut monoliths of fine silvery St Stephens stone granite, with Perpendicular Decoration (Fig. 38). The traditional belief that the arcade had been dismantled and moved appears to be confirmed from a comparison of the spacing of the arcades in the old and new churches. The position of a single pier base was established by excavation at the east end of the nave, and the position of the western respond of the arcade can be seen in the upstanding fabric. (The latter is unusual; it was normal to cut a respond rather than a free-standing pier in this position.) Comparison of the distance between these two points and the equivalent positions in the New Church shows that they correspond well; four bays of the arcade can therefore be restored between these two points. The arcade of the New Church has a fifth bay; it seems likely that the Old Church would have had a sixth.

The porch

The porch at the New Church is built of reused medieval materials including sloping weatherings whose likely origin is an old porch. Although no sign of such a porch has been found at the Old Church, it is likely that there was one, and this appears to be confirmed by mention of sand filling the porch at the time of Borlase's visit in 1755 (Collins 1837, 29).

Sixteenth-century woodwork fixed to the west wall

A series of pieces of 16th-century woodwork is fixed to the west wall of the Church (Fig. 39). These are described by Pevsner and Radcliffe (1970, 140–1) as early 16th-century bench-ends, but in fact they consist of 12 panels taken from the dado of a rood screen, arranged above a number of bench-ends (Fig. 40). Both series display Renaissance motifs; the screen is no doubt of pre-Reformation date, so both screen and benches probably belong to c. 1530–50. They are arranged in two rows: the top one, consisting of a total of twelve carvings, is composed of dado panels from a screen – either a rood or a parclose screen – more probably the former, since it would be difficult to fit as many as twelve panels in the space in the Old Church between the choir and south choir chapel. Dado panels with relief carving are far less common than panels painted with saints. The trimming of the bottoms from some panels no was doubt carried out because their feet had decayed through damp.

The pulpit

Made up from mid-16th century bench-ends with Renaissance-style motifs, belonging to same series as those on the west wall (Fig. 42).

Georgian woodwork in the tower

Fragments of reused 18th or early 19th century box pews have been assembled to form panelling lining the inner faces of the tower. They may have come from the Old Church, but may equally be the remains of the pews installed in the New Church in 1805, discarded in the restoration of 1873.

Font

This is unusual: the overall form, with corner shafts (restored but on original bases) suggests a date in the late 12th or early 13th century, but the curious bulbous terminations on the bowl are unfamiliar to the writers and the carved panels on the sides of the bowl look later (probably 15th century).

Ledger stones, south wall

Listed elsewhere.

5.2.2 The late 19th century changes

The transepts now have 19th century Perpendicular windows with tall, two-centred heads, cut from new stone (Fig. 36, f; Fig. 37). They are quite different in style from the granite windows taken from the Old Church, and indeed from the low heads of Cornish Perpendicular windows elsewhere. It seems likely that they were inserted in the restoration of 1873, rather than belonging to the Church of 1804-1805. The heads of two old Perpendicular windows now form the arches of the lych gate on the south side of the Church. A possible sequence of events may be that a Perpendicular window from the Old Church was installed in 1804 in the north and south transept windows of the New Church, but they were in poor condition and replaced in 1873, subsequently being incorporated in the lych gate.

Other changes probably attributable to the restoration are the installation of pitch-pine pews, presumably replacing box pews, and the provision of a new tiled floor and roof in the nave.

5.3 A structural history of the Old Church

It has repeatedly been claimed that the Old Church of Perranzabuloe is extremely ancient, retaining fabric far older than that seen in most Cornish churches. Opinions have differed about quite how old it is; after an initial comment that the early work is ‘so crude one wonders whether it may not be pre-Norman’, Dexter went on to suggest a pre-Saxon and possibly 9th century date (Dexter 1920, 461, 482). Others have dated the Church to ‘c. 980–1080’ (Thomas c.1994) and ‘the 11C’ (Pevsner and Radcliffe 1970). Crucial to this conclusion has been the belief that the use of clay bonding in the lower parts of the walls of the chancel indicates a date before the Norman Conquest. This presumption is not firmly based. The use of clay-bonded walls, pointed up in lime mortar, is commonplace in vernacular building in south-west England – not just in farmhouses but in good-quality manor houses (for recently studied examples see e.g. Pridhamsleigh, Staverton, an early 17th century manor house; Ware Farm, Ugborough), as well as towns. The technique was sometimes employed for important defensive work, such as the 13th century curtain wall of Okehampton Castle. It was also used for church building; a recently studied instance of this is the church tower of Clawton, west Devon, built in the 14th century (Blaylock and Parker 2000, 4–5). It is simply an economical means of building in areas which were distant from lime. Once one accepts that the use of this technique need have no chronological significance, the case for early fabric evaporates. Our conclusion is that the earliest remaining part of the Church is in Early English style, and dates to the late 12th or early 13th century; as indicated above, there is a case for a date after c. 1200. It may be noted that other commentators have had similar opinions; writing in the 1920s, soon after Dexter had published, Charles Henderson wrote, ‘No part of the Church could be called earlier than the 12th century’, apart from early Norman architectural fragments, no doubt from the oratory, embedded in the walls (Henderson 1928, 160). This is perhaps the source of the English Heritage Listing description of 2006, which dates the earliest fabric to ‘the 12th century.’

The later medieval development of the Church was as follows. The 13th century Church consisted of a choir, two transepts and a nave; the north transept was abandoned in the later Middle Ages. A chapel providing a choir aisle was added in the later 13th or 14th centuries; one of the two window openings in its south wall was recorded by Dexter as a small affair, probably of two lights, contrasting with the typical three-light windows of the later medieval Church. The first phase of the north nave wall is presumably different in date from the choir but it preserves no datable architectural features. The Church underwent a major refenestration in the late 14th or 15th century, represented by the most common window type now to be seen in the New Church, with ogee heads to the main lights and paired foils above. The insertion of these windows entailed the rebuilding of the north wall of the nave above sill level; this may have been part of a larger programme of works. A second phase of Perpendicular work followed, characterised by the lavish use of granite ashlar in the tower and south nave aisle, its window tracery with round-headed lights and frames, and the introduction of excellent St Stephens stone arcades. By Cornish standards this was quite an impressive scheme, although not on the grand scale of Bodmin or Launceston; Haslam can be forgiven some local pride in describing it as work ‘on a magnificent scale’ (Haslam 1884, 41). The second phase of Perpendicular work probably dates to the period 1450–1550.

There is considerable evidence of changes to the Church in the 16th, 17th and 18th centuries. In the period 1530–60 it was provided with a richly carved rood screen and a series of bench-ends. The fact that only the panels from the dado are preserved suggests that the upper part was sawn down and discarded before 1804 – a common practice. Other signs of post-medieval change include the trimming back of the foils of some of the upper lights in the nave windows (presumably in the 17th or 18th centuries), the provision of box pews against the north wall of the nave, the possible evidence for the sawing down of the upper parts of the rood screen, and the thick limewash visible on some architectural fragments.

6 Conservation work

Following the excavation, the condition of the freshly exposed archaeological remains was assessed by a number of specialists. The stability of the northern wall of the Church was viewed by Keith Weston of English Heritage, advice was sought on how to conserve the plaster on the north wall of the nave while Sue and Laurence Kelland restored the 17th century grave slab uncovered in the centre of the Church.

6.1 Stability of north wall

The north wall of the nave stands to a height of around 1.65m above the present artificial floor level of the Church, with approximately 0.4m of wall beneath the ground. To the north of the Church, there was a considerable depth of rubble and sand and the pressure of such material on the wall was perceived to be a potential problem. The section of walling in the position of the blocked north transept looked most unstable as it physically leaned into the excavated Church interior.

Keith Weston visited the site early in 2006. His initial view was that he felt the “wall could perform adequately in its present condition.” However, when English Heritage carried out a preliminary analysis, it “became evident that the factor of safety for the wall sliding forward was poor. A detailed analysis then confirmed that the wall stability needed to be improved as there was insufficient ground in front of the wall to give a reasonable factor of safety against sliding.” He recommended that stone filled gabions, with a standard section size of 0.5 metres deep and 1.0 metres wide, be placed on the ground in front of the wall.

Subsequently, volunteers cleared soil from within the exposed windows and excavated a considerable amount of sand and rubble from the rear of the north wall. Keith Weston revisited the site in May 2006 and as a result was able to revise his opinion. He noted that the “lowering of the ground reduces the lateral loads acting on the wall and makes the placing of gabions in front of the wall unnecessary.”

He did however consider advisable to make improvements in front of the short length of wall that leaned inwards and suggested that here “the depth of ground in front of the wall should be increased by 350mm by gently sloping the ground upwards from the existing level. It is important to ensure that the added ground is very well compacted.”

The actual action taken was to construct two sections of recessed walling between this walling and the remainder of the north wall, giving the weakest part of the structure greater solidity. The ground was not raised in front of this section of wall.

6.2 The walling

Advice was sought from a range of sources about conservation work to newly uncovered walls of the Church and especially the north wall of the nave which was still covered with plaster. Sue and Laurence Kelland’s basic recommendation to protect the plaster with a modern plaster covering was accepted and undertaken by Darrock and Brown.

A fine coat plaster in lime mortar was applied, with a nylon scrim reinforcement between render coats. The work was protected from the elements with hessian for a considerable period in order to prevent cracking and potential frost damage. Care was taken to show the location of the blocked door. A layer of limewash/lime paint was added over the completed plasterwork (Fig. 44). As well as protecting the historic plaster from weather and visitors, this has the additional benefit of enhancing the appearance of the wall and window openings.

Darrock and Brown also carried out local repairs and rebuilt some areas of wall in order to protect those parts of the structure which had been weakened by the loss of stonework in recent years (Fig. 42-43). Walling was constructed in the area of the blocked north transept to add solidity to the structure and at the point where the south wall should have met the walls of the south transept. Repair work was undertaken in the south wall above the piscina and at the eastern respond to the arcade between the nave/chancel and south aisle, which had suffered considerable damage due to people using the buttress to climb over the walls of the Church.

The materials used in the conservation works were as follows:

- St Astier hydraulic lime mortar NHL2.
- CLS 25 sand used in rebuilding work.
- CLS 35 sand for finish coat render.
- Hydraulic NHL2 lime paint.

6.3 The Resoga gravestone

Sue and Laurence Kelland

The discovery of the fragments of a 17th century grave slab gave the project a wonderful opportunity to carry out an unforeseen piece of conservation work to reconstruct the memorial as a display feature in the modern parish Church.

6.3.1 Description

The slab is in Cornish slate, dimensions: height 830mm, length 1600mm and depth 4.5mm. It was originally a fine slab of the type popular in this area, lettered around four sides, with an epitaph in the central section, framed by arches with cherubs' heads. The lettering is worn, indicating that it was walked on for many years, perhaps because it was set into a prominent position such as the central aisle directly in front of the chancel or even in front of the main altar itself.

The dates range from 1620 to 1628 and part of the name Resoga can be made out. Research in local archives has established that the Resoga family was prominent in the local area at this time.

The inscription around the edges reads:

**HERE LYE(TH) THE
BODYS OF JOHN RESO(GA AND AMY) HIS WIFE
(JOHN) DIED YE () DAY
OF NOVEMBER 1620 AND AMY DIED YE 17 OF MAY 1628**

The inscription in the centre is very worn, so that the lettering can only be conjectured in places:

**AS THO(SE) TO W(HOM)E IS GOD(LINES)
TO SHOW TH(EY A)RE BUT (DUST)
PREPARE YOURSELVES IN REDINES
(COME TO TH)E EARTH YOU MUST**

6.3.2 Condition

There was one large fragment, together with four smaller pieces and a large number of quite small fragments, making eleven pieces in all. In addition, there were many flakes which had detached from the broken edges.

The slate itself is in good condition, the fragments holding together and not laminating as is often the case with slate. This made it a viable proposition to reconstruct it in a vertical position, although each piece had to be mounted separately.

6.3.3 Reconstruction

The fragments were carefully cleaned dry by brushing with a soft brush and then the loose flakes were reattached using Palaloid B72 acrylic resin. Each section was fixed individually to the wall, with its own fitting on stainless steel (Grade S316 marine) set in 'general transparent vertical' polyester resin. This was capped with lime mortar wherever it may be exposed to the light, which would otherwise shorten the lifespan of the resin. All fixings were surface mounted, painted in to match the stone and make them less visible.

Once the fragments were all mounted, the cracks and missing areas were filled. The eroded surface of the stone meant that a coloured lime mortar blended in well and will allow the evaporation of any moisture from behind the stone. The inscription around the edges was painted in with a transparent white acrylic paint (Figs. 45-46).

7 Interpretation

7.1 Interpretation boards

In 2007, three interpretation boards were erected at the sites of the Church, the Oratory and Perran Round. The boards were produced by Cornwall County Council's Technical Services team, based on text supplied by the Historic Environment Service and members of the St Piran Trust.

The boards incorporated a range of images and also included text in the Cornish language, which emphasised the importance of these sites to Cornwall, its history and heritage. The board at Perran Round was also part sponsored by Ann Jenkin in memory of her husband Richard Jenkin, a former Grand Bard of the Cornish Gorseth (Fig. 47).

7.2 Display exhibition

A public display was produced for Perranzabuloe Museum, which opened in April 2007. As well as a series of images and explanatory sections of text, the exhibition included a range of artefacts including flints, medieval pottery, ridge tiles, fragments of stonework from the Church itself and a small piece of a slate gravestone.

7.3 Publications

This report is primarily an archive report which will be circulated to a limited number of organisations. It will however be followed by an article which will be published in *Cornish Archaeology* - the journal of the Cornwall Archaeological Society. A further popular publication has been produced which sets the results of the excavation within the wider historic and cultural context of Perranzabuloe (Cole 2007). It has been distributed to local libraries, community groups and interested parties.

8 The management plan

A key outcome of the programme of works in Perranzabuloe Parish was the production of a management plan to guide the future development of all the St Piran sites in Perranzabuloe Parish as a safe and accessible community resource, building on the improved presentation of the Church site, delivered as a result of this project.

Community involvement was a priority and the development of the strategy involved consultation with local people, local authorities and other stakeholders. The St Piran Trust made the plan available for a six week consultation period (26th February-5th April 2007) and also held a public meeting at the Parish Council's Hall on 22nd March. The document was modified following responses received and formally adopted by the Trust on 26th June 2007 (St Piran Trust 2007).

Appendix 8 lists the key action points agreed through the management plan.

9 Discussion

9.1 Safeguarding the future of St Piran's Church

Overall, the project was a success and the principal aims of improving the amenity value of the site, making information about the Church more widely available and engaging with the local community to actively conserve the Church were achieved.

Eighty percent of the footprint of the building is now visible with the internal walling of the tower, the full length of the north wall, the eastern third of the Church and the south transept able to be seen. Casual visitors are now able to appreciate and understand the nature of the archaeological remains unlike the situation prior to 2005, when only a small amount of walling was visible within an undulating landscape.

Since the excavation, and the conservation work which followed, the number of visitors to the site has increased greatly and events, such as services and poetry evenings as well as the annual St Piran play, have been held within the body of the cleared Church.

The experience of visiting the site (and also the neighbouring sites of St Piran's Oratory and Perran Round) has been enhanced through the erection of interpretation boards. The production of a display for Perranporth Museum, numerous talks (from Perranporth and Liskeard to London) by members of the project team and the production of a popular publication about the dig have, and will continue, to promote St Piran's Church in the public arena.

One of the most important outcomes of the project has been the preparation of a detailed management plan for St Piran's Church, St Piran's Oratory and Perran Round, which the St Piran Trust will use to guide how they look after the sites for future generations to visit and enjoy.

9.2 Enhancing knowledge of the Church and its immediate landscape

As well as the works to better present the monument of St Piran's Church to the public, the excavation provided much information about the site which greatly increases our understanding of the archaeological potential of this area.

9.2.1 St Piran's Church

The excavation of the Church uncovered a considerable extent of stonework which allowed a structural history of the monument to be prepared by John Allan and Stuart Blaylock.

Their findings confirm that the earliest visible fabric in the Church is the masonry forming the east and north walls of the chancel, which can be dated to the late 12th or early 13th century from two lancet windows of Early English form. From this corner, it is believed that the Church developed through the later 13th century until it comprised a chancel, two transepts and a nave, with the south aisle added in the late 13th or early 14th century. Analysis of the surviving fabric of the north wall of the nave shows that it is of two phases. The lower part of the wall includes a blocked doorway and presumably dates to the 13th century. Above this level, the walling was rebuilt in the 15th or early 16th century to hold three Perpendicular-style windows. A further phase of Perpendicular followed, which included the insertion of the granite ashlar tower and south nave aisle, new window tracery and the St Stephens stone arcade between the nave and south aisle.

The presence of ashlar blocks and a section of thin walling in the north wall to the east of the chancel appears to represent blocking of the north transept, which remains hidden by windblown sand and rubble.

Evidence of two floor levels was recorded in a sondage trench in front of the north wall. It is clear that a clayey deposit had been laid over a well-preserved lime mortar floor, in order to raise up the ground level, and support a new slab floor, a remnant of which was recorded in a test pit excavated before the dig (Cole 2004, 11-12, 22). It is not known when the reflooring was carried out, but it could conceivably have coincided with the refashioning of the Church in the 15th-16th centuries.

Individual features found within the Church which added to our knowledge of the internal layout of the Church included the base of the stairway in the north west corner of the tower and a column base which would have supported an arch at the opening between the tower and nave, the base for one of five likely arcade columns, a rectangular stone lined depression and a recessed niche which may represent the position of the former rood screen and the discolouration in the plaster of the north wall, which demonstrated the layout of pews in the 18th century. The recovery of the Resoga gravestone meanwhile suggests that the floor of the Church may have had a number of such memorials set into it.

9.2.2 The New Church

Comparison of the remains of the excavated Church, with its successor, confirms that the New Church reproduced the plan of the Old Church quite closely. Many components were recycled and reused, although all walls apart from the ashlar tower were built of newly quarried stone.

The tower of the New Church is three storeys high, one less than the Old Church as recorded in early 19th century sketches. The belfry openings contain portions of Perpendicular windows, the tower stair is in a different corner to the Old Church and a large window on the inside of the tower now faces the nave. It is suggested that a total of eleven windows of weathered granite, all in Perpendicular style, were reused in their same positions as in the original Church. Allan and Blaylock also suggest that the window fragments in the lych gate may have been used in the transepts of the New Church between 1804-1805 and 1873, when they were replaced by two new windows. The arcade of St Stephens granite also came from the Old Church.

The present Parish Church also contains 12 panels from the dado of a rood screen and a series of pew bench-ends from around 1530-50. The modern pulpit is also constructed out of similar bench-ends, while panelling along the inner faces of the tower is made up of reused 18th or early 19th century box pews.

9.2.3 Archaeological potential around the Church

The geophysical survey carried out around the Church in 2004 (Substrata 2004) identified a wide range of possible archaeological features, which included the known boundary around the cemetery, a series of small fields and cultivation ridges, pits/hollows or stone/masonry in the churchyard and possible mining evidence. The four evaluation trenches added further detail to our understanding of the likely potential of the below-ground remains in this area which appear to be quite considerable.

Within the churchyard itself, spoil from the 1804-1805 demolition of the Church was uncovered, as were disarticulated human remains possibly dumped during the 1917-1920 excavation by Dexter. No grave markers were discovered, though it is known that some were still visible in the early 19th century and these are likely to survive below the build-up of sand. A geophysical anomaly investigated in the western part of the enclosure appeared to have been generated by a deposit of clayey soil within a deep deposit of wind-blown sand and other such geophysical anomalies may likewise prove not to be archaeological in character.

The excavation trench that was cut across the enclosure bank did not encounter any evidence to suggest that the churchyard has a prehistoric antecedent. The boundary bank has clearly been refaced and modified through time, while much of the ground on the exterior of the bank has been refashioned through mining, which means we cannot rule out the possibility that the enclosure was originally prehistoric and reused in the medieval period.

The recovery of over 50 fragments of human bone from this trench demonstrates that the process of digging and redigging graves in the cemetery and disposing of excess soil would have led to much human bone finding its way to the outside of the churchyard. The discovery of a human burial on the outside of the consecrated area, truncated by a later mining feature, could represent the internment of someone who for cultural or religious reasons would not have been buried within the enclosed area of the churchyard.

Elsewhere, burials have also been found outside of graveyards, for example, at Crantock, St Endellion and Phillack, suggesting that these cemeteries had formerly been more extensive. However, the north-south orientation of the burial, could even suggest that the remains could be of prehistoric date, showing a remarkable continuity of religious focus at the site.

9.2.4 Prehistoric remains

The discovery of prehistoric pottery dating to the Middle Bronze Age vessel (c. 1500-1100 BC) and the Late Bronze Age/Early Iron Age (8th-7th centuries BC), flints of likely Bronze Age date, related walling and evidence of burning to the west of the Church all represent further evidence of the potential of the Penhale Sands area for archaeological sites of all ages.

In the case of the prehistoric remains recorded in 2005, these were recovered from an area with very little sand cover. Elsewhere in this general area, it remains highly likely that the buried remains of Bronze Age, Iron Age and Romano-British settlements survive hidden beneath large and expansive sand dunes. As well as the Iron Age cliff castle at Penhale Point (PRN 19692), the three small bowl barrows on Ligger Point (PRN 19682) and documentary references to other burial mounds of which there is presently no above-ground remains, a considerable number of archaeological finds have already been located within the Penhale Sands area, which demonstrate the level of time-depth in this landscape (Cole and Tapper 2004, 13-14).

These include finds of Mesolithic flints left by nomadic hunter-gatherers at temporary camps or flint working sites and flints from the Neolithic period (PRN 19689) (Cole and Tapper 2004, 14-15). Evidence of Romano-British activity is restricted to two chance finds of Roman artefacts. A heavy silver ring and a coin of Roman date were found close to St Piran's Oratory by a William Mitchell in the first decade of the 20th century while a Roman coin, said to be a second brass of Nero or Vespasian, was found in the churchyard of St Piran's Church. In a checklist of archaeological features and finds produced for the Cornwall Archaeological Society, Warner listed the finds of some Romano-British sherds found on Penhale Sands in 1911 (PRN 19714) and Iron Age and medieval finds spread over a wide area of Penhale Sands (PRN 19706) (Cole and Tapper 2004, 13-14).

9.2.5 Evidence for mining remains

The discovery of mining remains on the immediate exterior of the churchyard was not unexpected given the large number of known mining interventions in the Penhale Sands area which include a series of east-west tin lodes (Wheal Vlow, Wheal Creeg North Lode, Wheal Creeg South Lode. and Rowlands Lode) on Gear Sands, north-south lead lodes (Wheal Golden, Penhale Mine, East Wheal Golden, Phoenix Mine) and the Great Perran Iron Lode (Gravel Hill Mine, Halwyn Mine) further to the north.

The 1997 archaeological assessment of Gear Sands recorded a shaft, two lode-back pits and two prospecting pits, to the east of the churchyard enclosure (Cole 1997, 69, 74-75, 79). Further assessment work in the Penhale Training Area shows that slightly further to the east is the Halwyn openwork, edged by a series of prospecting pits (Cole and Tapper 2004, 43, 63-64, 69), while two shafts and a spoil heap, provisionally identified as part of Halwyn Mine, lies less than 200m to the north (Cole and Tapper 2004, 67, 92). Halwyn

Mine is documented as a 19th century lead mine, while the openwork was excavated within the extent of the Great Perran Iron Lode.

The mining remains in Trench 4 include a lode-back pit, similar to one with visible above-ground remains which is positioned within field boundaries, only 50m from the edge of the churchyard boundary. It is likely that these remains represent an early phase of the workings of Halwyn Mine.

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11 Project archive

The HES project number is **2005048**

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 567).
3. Electronic drawings stored in the directory `..\CAD ARCHIVE\SITES S\ST PIRANS CHURCH`
4. Black and white photographs archived under the following index numbers: `GBP 1803-1807`.
5. Digital photographs stored in the directory `..\IMAGES\SITES S\ST PIRANS CHURCH EXCAVATION`
6. This report held in digital form as: `G:\CAU\HE PROJECTS\SITES\SITES S\ST PIRAN'S CHURCH EXCAVATION\ST PIRANS CHURCH EXCAVATION REPORT.DOC`

The project site code was SPC 05.

The archive and artefacts recovered during the excavation will be deposited with the Royal Cornwall Museum in Truro.

12 Appendices

12.1 Appendix 1: List of contexts

Printed below is a full list of all the contexts encountered during the excavation.

Context	Description
Trench 1	
100	Topsail (mid brown black sandy loam) containing very few stones. The depth of this layer varied between 0.04m-0.15m and covered the whole of the trench. It contained over 25 disarticulated pieces of human bone.
101	Layer (mid yellow brown sand) in the western half of the trench, it varied in depth between 0.06m-0.15m and contained over 150 fragments of disarticulated human bone and occasional stones 0.5m-0.2m across.
102	Layer reclassified as [103].
103	Layer (dark mid yellow brown sand) is a very thin deposit, 0.02m-0.04m deep, which may represent an old land surface. It extended across the whole trench and lay beneath contexts [101] [104] [105].
104	Layer (light white yellow windblown sand) in the eastern part of the trench. It was 4.3m long and up to 0.2m deep. It overlay [103] and was sealed by [100].
105	Layer (light white yellow windblown sand) in the very eastern part of the trench. It was 1.5m long and up to 0.13m deep. It overlay [103] and was sealed by [100].
106	Layer (light yellow windblown sand) in the eastern part of the trench. It was 1.4m long and up to 0.07m deep. It overlay deposit of stones [108] and was sealed by [103]. This layer contained occasional small stones.
107	Layer reclassified as [103].
108	Deposit of stones in a matrix of a light yellowish brown silty sand in the eastern part of the trench. The largest of the stones were 0.3m across and still had mortar attached. Some stones were still bonded to others showing that this was debris from the Church. The deposit had a maximum depth of 0.5m and also included frequent fragments of charcoal, mortar and two pieces of human skull.
109	Layer (light white yellow windblown sand) in the westernmost 6.5m of the trench. This was a clean layer but included a small fragment of a slate gravestone with a carved inscription. It had a maximum depth of 0.53m and overlay a number of deposits and cut features.
110	Layer (light white yellow windblown sand) in the eastern part of the trench. It lay beneath the spread of stones [108] and had a maximum depth of 0.27m. This layer contained occasional fragments of shillet.
111	Fill of possible grave cut [137]. It was mid light brown silty sand containing frequent stone pieces and occasional pieces of mortar and human bone. The cut was 1.9m wide. It was not bottomed and had a depth in excess of 0.4m.
112	Small deposit of a light yellowish brown windblown sand in the western part of possible grave cut [137]. Its depth was only 0.1m deep.
113	Top fill of pit [138], that itself cut through cut [121]. A mid orange brown silty sand, it contained frequent shillet pieces and occasional pieces of human bone. The cut was 1.2m wide and 0.3m deep.
114	Bottom fill of pit [138], that itself cut through cut [121]. A layer of light yellowish brown windblown sand, it had a maximum depth of 0.05m deep.
115	Top fill of hollow [141]. Layer of light mid brown silty sand, with occasional stones pieces and fragments of human bone. It was 2.2m long in the section but not bottomed. It was clear there was a layer of windblown sand [116] which lay beneath it.
116	Bottom fill of hollow [141]. A layer of light white yellow sand, with a depth of about 0.05m.
117	Fill (mid light brown silty sand) in a 2.7m wide hollow [142], partially hidden by north-facing section.

	It contained occasional small stones and shillet fragments and overlay deposit [118] but was not excavated.
118	Fill (light white yellow sand) in a 2.7m wide hollow [142], overlain by deposit [118]. It was not excavated.
119	Layer (mid orange brown silty sand) which extended the length of the trench but had been cut by numerous pits or graves. It was only excavated out in the western end of the trench and was 0.1-0.12m deep. It sealed layers [120], [132] and [134], and contained 10 small human bone fragments.
120	Limited pocket of demolition debris from the Church, with 15% fragments of mortar and also occasional pieces of human bone. A mid-dark brown sandy deposit, it was 0.17m deep and had been cut by [126]. This deposit was only encountered in the westernmost part of the trench where the deeper sondage trench was excavated.
121	Rectangular grave cut with vertical sides and aligned east-west. It was 1.0m long and 0.5m wide. The depth of the feature was greater than 0.3m, but it was not fully excavated because of the <i>in situ</i> remains of a small coffin [12] and a child's skeleton [122]. It was sealed by [109].
122	Fill of coffin [122]. This comprised one articulated infant skeleton with a silver pin within a mid red brown silty sand. This burial was partly hidden by the section with the visible remains measuring 0.6m by 0.3m.
123	Slight mid grey brown mark which showed edge of coffin. It was also marked by seven pieces of coffin iron fixings.
124	Fill of grave cut [121], it was filled with a light white yellow sand which surrounded the coffin [123].
125	Layer (mid yellowish brown sand), which was quite mottled with slight darker lenses of a more humic material. Sealed beneath layer [119] and the pocket of rubble [120], this deposit was only encountered in the westernmost part of the trench where the deeper sondage trench was excavated.
126	Cut in western part of trench marking the northern edge of burial [127]. The excavation stopped when the remains of a coffin were encountered. It cut the rubble deposit [120] and was itself sealed by layer [119]. It was filled by deposit [134] which surrounded the remains of coffin [127].
127	Remains of a coffin, aligned east-west, which was partially hidden by the south-facing section. It survived as two thin mid-grey stains from the decomposition of the wood of the coffin, 0.03m-0.04m wide. It resembled the shape of a coffin (ie. broad at the position of the shoulders). Fragments of metal fittings were also recorded from this deposit. It was filled by [128].
128	Fill of coffin [127]. A mid orange brown silty sand which contained moderate amounts of small angular stones and occasional small lumps of a mid brown clayey soil. Not excavated.
129	NOT USED.
130	Remains of a coffin It survived as two thin mid-grey stains, 0.04m wide, on an east-west alignment. Similar to the remains of the adjacent burial [127], it was filled by [131].
131	Fill of coffin [130]. A mid orange brown silty sand which contained a few small angular stones and occasional small lumps of a mid brown clayey soil. A human arm bone was noted in the fill. Not excavated.
132	Layer (mid orange brown silty sand) which was noted between the two coffins [127] and [130]. It contained a few small angular stones. The disturbed nature of contexts in this area meant that no cuts were visible for the two burials.
133	NOT USED.
134	Fill of grave cut [126], overlying the northern part of the coffin [127]. A mid orange brown silty sand, it contained infrequent small slate fragments and mortar fragments.
135	NOT USED.
136	NOT USED.
137	Possible grave cut, filled by deposits [112] and [113]. The section cuts the remains diagonally, so the full extent is not visible. Not fully excavated.
138	Pit excavated into deposit [121], it was filled by [113] and [114] and overlain by [109].

139	Small deposit (light yellow brown windblown sand), which butted against the cross base. It was sealed by layer [119].
140	Layer (light yellow brown windblown sand), which was noted under the cross base. It was not fully excavated.
141	Hollow partially hidden under south-facing section, it was 1.8m wide and filled by [115] and [116].
142	Hollow partially hidden under north-facing section, it was 2.7m wide and filled by [117] and [118].
Trench 2	
200	Topsoil (dark brown sandy loam) containing very few stones. The maximum depth of the layer was 0.16m.
201	Layer (light brownish yellow windblown sand), which extended the full length of the trench. Sealed by [200], it had a maximum depth of 0.3m.
202	Layer of a sandy redeposited material (dark greyish brown sandy loam), containing abundant shillet fragments. Positioned in the northern part of the 5m long trench, it survived in two fragments, the northernmost one of which was only 0.05m deep. It overlies a clean windblown sand [204].
203	Layer (dark reddish brown sandy loam), containing frequent pieces of small stones and shillet fragments. Positioned in the southern part of the 5m long trench, it's western edge had been heavily disturbed by animal burrowing. It overlies a clean windblown sand [204].
204	Layer (light brownish yellow windblown sand), located beneath [202] in the northern part of the trench. A sondage was excavated in this area and the deposit was found to be 1.35m deep. A small number of slate fragments were located towards the base of the deposit. It overlay [205].
205	Layer (mid brown sandy clay) beneath the windblown sand [204], which was recorded at a level 1.84m below the level of the turf. This is likely to have been an old ground surface. It was not excavated.
Trench 3	
300	Topsoil (mid dark brown silty sand), this deposit contained fragments of building rubble, slates, roof ridge tiles and modern pottery, but very few stones. The depth of the layer varied between 0.1m and 0.3m. Over 50 fragments of human bone were recovered from this context.
301	Spread of rubble at the base of the topsoil [300] in the southernmost part of the trench. This was 1.8m wide and had a maximum depth of 0.04m. It comprised a large number of roof slates and some fragments of mortar within a blackish brown silty sand.
302	NOT USED.
303	Cut feature with steep sides, which was 2.7m wide at its top and had a maximum depth of 1.3m. It was best preserved in the east-facing section, with the hollow rising in height to the east. It contained six fills; [304] [321] [332] [348] [349] [350]. This feature cut through layer [309] and was only sealed by the topsoil layer [300], which suggests it is a relatively modern hollow – perhaps linked to WWII activity.
304	Top fill of cut [303]. Similar to the topsoil above it, it was a mid dark brown silty sand, containing a number of shillet fragments. The maximum depth of the layer was 0.3m.
305	Churchyard boundary wall which was transected by the trench. Comprised of quartz, shillet and granite stones 0.18m-0.35m in size, it also included two orthostats which marked an entrance [344] which had been blocked. To the north of the wall, there was a bank [306].
306	Bank, which was revetted to the south by wall [305]. It stood to a height of 0.5m and was 3.1m wide. The feature was made up of a compacted greyish brown sandy clay, with included frequent shillet fragments.
307	NOT USED.
308	Layer [orange brown silty sand] in the northernmost part of the trench. It contained was 0.25m deep and had been cut by grave cut [314]. Sealed by the topsoil [300], it overlay deposit [320].
309	Layer (brownish windblown sand), which extended over the southern two-thirds of the trench. It had a maximum depth of 0.2m and contained a lense of a light yellowish brown sand [355]. Some

	fragments of human bone were recovered. Sealed by [300] and [356], it overlay wall [305] and had been cut by hollow [303].
310	NOT USED.
311	Layer (mid brownish windblown sand), which extended over the southern two-thirds of the trench. It had a maximum depth of 0.35m and contained occasional shell pieces and fragments of shillet. It was darker than layer [309] which sealed it. Some fragments of human bone were recovered. Sealed by [300], it overlay wall [305] and had been cut by hollow [303].
312	Fifth fill of cut feature [303]. It was a mid orange brown sandy loam, containing moderate amounts of slate fragments and occasional larger shillet pieces. It was 2.7m wide, extending across the full width of the feature, and had a maximum depth of 0.3m. This deposit was below [304] and sealed [348].
313	RECLASSIFIED AS [309].
314	Rectangular grave cut at the northern end of Trench 3, on the interior of the enclosure bank of the churchyard. The east of this rectangular feature was masked by the edge of the trench. It had a maximum width of 0.6m and was over 1.8m long. Filled by [315], the feature cut layer [308] and was overlain by the topsoil deposit [300]. It was not fully excavated.
315	Fill of grave cut [314]. This deposit was a dark orange brown silty loam containing moderate amounts of small stones. Quite a compact deposit, it was much less sandy than surrounding deposits. The fill was overlain and sealed by the topsoil deposit [300].
316	NOT USED.
317	NOT USED.
318	Layer (light brownish yellow windblown sand), it had a maximum depth of 0.15m. It was sealed by [328] and covered [354].
319	Rubble spread between wall [305] and cut [325]. A thin deposit of only 0.02-0.04m, this was a mid brownish orange sandy loam, which contained abundant fragments of slate, some with nail holes. A single fragment of window glass was recovered.
320	Layer (light yellowish brown windblown sand) in the northern part of Trench 3 inside the boundary of the Churchyard. Noted only in the eastern part of the trench, it was cut by grave [314]. It had a maximum depth of 0.23m and overlay deposit [343]
321	Rubble spread in the southern part of the trench. This deposit was a mid brownish orange sandy loam and contained a large amount of discarded roof slates. It was 0.6m wide, visible in the west-facing section and extended past the southern edge of the excavation. It had a maximum depth of 0.4m. This spread was overlain by deposit [311], a mid brownish windblown sand.
322	Buried land surface in central part of Trench 3. A dark brown sandy loam, it contained frequent slate fragments, and had been cut by pit [325]. Not fully excavated.
323	NOT USED.
324	Top fill of pit [325]. A dark brownish orange sand containing frequent shell fragments, it overlay fill [326] It had a maximum depth of 0.14m.
325	Roughly linear pit, in the southernmost part of Trench 3, it sloped down to the SE (where it was not bottomed). It cut buried soil deposits [322] and [329], was well as a human skull – see [330] [331]. Approximately 2.0m wide, the depth of this feature was over 0.8m. It contained four fills [324] [326] [327] [328].
326	Third fill of pit [325]. It was a light brownish orange windblown sand, that had a depth that largely fluctuated between 0.3m-0.4m. Sealed by [324], it overlay [327].
327	Second fill of pit [325]. A slight layer, only 0.01m thick, this may represent evidence of a temporarily stabilised ground surface. It was a dark brownish orange sandy soil, and overlain the windblown sand at the base of the cut [328].
328	Bottom fill of pit [325]. A layer of light yellowish brown windblown sand, this deposit was not bottomed. The depth of excavation was 0.4m. This deposit also covered deposits to the north of the pit, where it was sealed by layer [319].

329	Buried land surface in central part of Trench 3. A dark brown sandy loam, it contained frequent angular stone fragments, and had been cut by pit [325]. Not fully excavated.
330	Barely discernible cut of grave. Located outside the churchyard boundary, it had been truncated by pit [325]. The base of the cut was 1.2m below modern ground levels.
331	Single fill of grave cut [330], this was a dark greyish brown sandy clay which also contained about two-thirds of a human skull, part of a shoulder blade and part of an upper arm. It appeared that the orientation of the remains was north-south.
332	Third fill of cut feature [303]. It was a light greyish brown sand, containing occasional pieces of quartz grit. Deeper in the northern part of the pit, it had a maximum depth of 0.14 though the general depth was 0.02m-0.4m. This deposit was below [348] and sealed [349]. A slight layer this may represent evidence of a temporarily stabilised ground surface.
333	Deposit containing a large amount of redeposited natural immediately to the south of wall [305]. A mid orange brown sandy silt, mottled with yellowish grey inclusions,
334	Cut for post-hole, to the east of [339], this was positioned immediately to the south of wall [305] and just east of the wall tumble [337]. The diameter of this feature was 0.3m and it was 0.2m deep. It cuts through the backfill layer [333]. The post-hole was stepped. The upper part contained fill [335] while the lower section, which was circular, contained fill [336].
335	Top fill of post-hole [335]. A mid brownish orange sand, it was 0.11m deep.
336	Bottom fill of post-hole [335]. A dark brownish orange sand, it contained occasional charcoal flecks. The fill was 0.09m deep.
337	Stone packing (five stones) positioned together in front of a gap in wall [305]. This appears to be a socket with a stone base, immediately to the west of the western orthostat in the wall. This feature is visible in the east-facing section, while socket [339] appears in the opposite section.
338	Stony bank material to the south of wall [305]. A mid yellowish brown silty clay, it contained frequent shillet fragments. It was 0.8 wide and had a maximum depth of 0.32m. This deposit was cut by [341].
339	Post-hole in front of wall [305] surviving in the west-facing section. With near-vertical sides, this circular pit had a diameter of 0.38m and was 0.62m deep. It was filled with a single fill [340]. Very similar to [341].
340	Single fill of post-hole [339]. This was a light brownish yellow sand, which contained a single piece of shillet.
341	Post-hole in front of wall [305] surviving in the east-facing section. With near-vertical sides, this circular pit had a diameter of 0.3m and was 0.5m deep. It was filled with two fills; stone packing [337] and sand [342]. Very similar to [339].
342	Fill of post-hole [341]. This was a light orange brown sandy loam, which was found in association with stone packing [337].
343	Layer (mid orange brown sandy loam) on the northern side of the churchyard bank [306]. It had a maximum depth of 0.34m and contained occasional shillet fragments. Sealed by [320], this deposit was also cut by grave [314].
344	Rubble blocking gap in revetted churchyard bank [305]. Made up of sub angular quartz and shillet blocks, the stones were placed between two orthostats approximately 0.9m apart. The height of this feature was 0.56m.
345	Buried land surface to the south of wall [305], which only appears in the west-facing section. It was a dark brown silty clay containing moderate amounts of small shillet fragments.
346	Layer (mid orange brown sandy loam), containing moderate amounts of shillet fragments. A very sandy layer, it had a maximum depth of 0.22m. Sealed by [352] and [354], it overlay [347] and had been cut by [303].
347	Layer (light yellowish brown windblown sand), it had a maximum depth of 0.12m. It was sealed by [346].
348	Fourth fill of cut feature [303]. It was a light yellowish brown windblown sand containing occasional small shillet pieces. It had a maximum depth of 0.2m. This deposit was below [312] and overlay [332].

349	Second fill of cut feature [303]. It was a light yellowish brown windblown sand containing occasional small shillet pieces. It had a maximum depth of 0.28m. This deposit was below [332] and sealed [350].
350	Bottom fill of cut feature [303]. It was a dark orange brown sand containing occasional small shillet pieces. It had a maximum depth of 0.24m. This deposit was sealed by [349].
351	Layer (mid yellowish brown silty clay). Sealed between two layers of windblown sand [328] and [352], this layer contained considerable amounts of redeposited natural shillet.
352	Layer (light brownish yellow windblown sand), it had a maximum depth of 0.45m. It was sealed by [346].
353	Layer (organic rich dark brown sandy loam), containing moderate amounts of shillet pieces. It formed the base of the trench and was a likely old ground surface.
354	Layer (light brownish yellow windblown sand), it had a maximum depth of 0.08m. It was sealed by [318] and covered [346].
355	Layer (light yellowish brown windblown sand), surviving as a distinct layer within deposit [309]. It had a maximum depth of 0.08m.
356	NOT USED.
357	Cut in bank material [306] forming a large hollow directly behind the blocked gateway [344]. It was 1.2m wide and had a maximum depth of 0.64m. Mainly filled with windblown sand [358], there was a large shillet block in the eastern side of the cut.
358	Top fill of cut [357]. A light brownish yellow sand, it also contained two lenses of slumped bank material. It had a maximum depth of 0.54m.
359	Slight lens of a mid yellowish brown silty clay, this had a depth of less than 0.04m. It was sealed between two layers of windblown sand [358] and [360].
360	Bottom fill of cut [357]. A light brownish yellow sand. It had a maximum depth of 0.06m.
Trench 4	
400	Topsoil (dark greyish brown sandy loam) containing very few stones. Some modern pottery fragments and small pieces of plaster were recovered from the deposit. The maximum depth of the layer was 0.2m.
401	Layer (light brownish yellow windblown sand), which extended the full length of the trench. Sealed by [400], it had a maximum depth of 0.25m. This layer thins to the east and overlies layer [402] which is above wall [405].
402	Layer (mid orange brown sandy loam) beneath the windblown sand [401], which included moderate amounts of quartz fragments. It is likely to have been an old ground surface and rises as a bank over the wall [405]. The maximum depth was 0.18m.
403	Shallow feature consisting of a linear cut which joins a sub-rectangular cut near the north-east corner of this L-shaped trench. It had a maximum depth of 0.08m and was filled by [404].
404	Fill of shallow feature [403]. A dark brown sandy loam, it contained occasional small angular stone pieces.
405	Wall of well-laid stone forming a level base in the north-east corner of this L-shaped trench, which extended over 2.0m. The matrix around this feature was a compact dark brown silty clay and included a single flint blade.
406	Small pocket of mid yellowish brown windblown sand, which overlay layers [402] and [407]. It was 0.3m-0.35m wide and up to 0.1m deep.
407	Layer (light orange brown sandy loam) to the east and upslope of wall [405], it could be either a sub-soil horizon or a slight bank. It was 0.14m deep and contained a slight lens of windblown sand [408].
408	Layer (light brownish yellow windblown sand), which survives as a thin lens 0.02m-0.03m thick layer within layer [407].
409	Top fill of cut [413] to the west of wall [405]. A rubble spread, linear in plan, it was 1.5m wide and aligned broadly NNE-SSW. It had a maximum depth of 0.15m and comprised large slate pieces up to

	0.2m across, with smaller stones, including rounded quartz cobbles, lying above them. The matrix around the stones was a dark brown silty clay. This overlay a loose layer [411], which covered two distinct charcoal layers [412] and [414].
410	Sub-soil horizon uncovered in the sondage in the western end of the trench. A compact dark brown silty clay, it included frequent angular quartz fragments. It was 0.2m deep. Sealed by layer [402], it lay over a natural mottled grey clay.
411	A rubble spread, it was 0.9m wide and had a maximum depth of 0.1m. The deposit comprised frequent angular and flat shillet pieces, slate and quartz pieces, as well as moderate amounts of charcoal. It lay in cut [413], beneath [409]. The matrix around the stones was a mid brown silty clay. A flint was found at the base of the deposit, which overlay two distinct charcoal layers [412] and [414].
412	Layer made up almost entirely of charcoal fragments, lying within the western of two 'flues' at the base of cut [413]. It was 0.22m wide and had a depth of 0.05m.
413	Linear cut containing spreads [409] and [411], the base of the cut had two distinct sub-cuts which contained fills [412] and [414]. This cut was over 1.5m wide at its top.
414	Layer (dark brown silty clay) which contained frequent shillet and quartz fragments, as well as a considerable amount of charcoal fragments and burnt bone. This lay within the eastern of the two 'flues' at the base of cut [413]. It was 0.26m wide and had a depth of 0.1m.
415	Layer (mid greyish yellow clay), containing moderate amounts of shillet fragments and occasional large shillet boulders. This compact deposit to the west of wall [405] appears to be redeposited natural. It included finds of prehistoric pottery.
Trench 6	
600	Topsoil (dark greyish brown sandy loam) containing very few stones. The maximum depth of the layer was 0.18m.
601	Layer (light brownish yellow windblown sand), which extended the full length of the trench. Sealed by [600], it had a maximum depth of 0.28m.
602	Layer (mid orange brown silty clay) beneath the windblown sand [601], which included frequent angular stone fragments. It is likely to have been an old ground surface. It was covered by windblown sand [601] and overlay the bank material [603], which was positioned to the south.
603	Bank material (dark orange brown silty clay), which contained frequent small angular stones and quartz fragments. It overlay the remains of a rubble spread [604] and prehistoric pottery and flint waste were recovered from within this layer.
604	Linear spread of rubble. It was 0.7m wide with a height in excess of 0.1m. The matrix around the wall was a dark orange brown silty clay, which contained frequent small angular stones and quartz fragments. Prehistoric pottery and flint waste were recovered from within and immediately above this layer.

12.2 Appendix 2: Architectural fragments from the Old Church

By John Allan and Stuart Blaylock

The collection of 42 architectural fragments collected from the excavation was examined in the HES store at Truro. They are as follows:

Window mullions in granite

1–3. Window mullion fragments with hollow chamfers both internally and externally, no groove for glass, no. 3 with one whitewashed side (no doubt the inner face). Perpendicular style, probably 15th or 16th century.

4. Window mullion fragments as 1–3 but with glazing groove on each side; the external moulding has been broken off and covered in plaster.

5. As 4 but with internal plastered face and full external profile.

Fragments of sandrock, probably late 12th or early 13th century

6–7. Fragments from the head of a lancet window.

8. Battered corbel, probably from a corbel table, with traces of external plaster/render. Norman. Perhaps from the Oratory like the Norman fragments recorded in the 1920s (Dexter 1920, *passim*).

Other fragments of sandrock, possibly of the same date

9. Rectangular block with one chamfered edge, perhaps from a doorway.

10. Jamb from a window with a roll moulding.

11. Plain voussoir.

12. Stepped window sill fragment, similar to the one *in situ* in the N. chancel wall.

13. Rectangular block, one corner deeply cut away to form a hollow. Perhaps from the head of a lancet.

14. Long rectangular fragment, perhaps a window mullion.

15. Chamfered block, possibly from a window.

16. Rectangular block with one chamfered edge, perhaps from a doorway jamb.

17. Plain rectangular block.

18. Large block with sunken chamfers and central glazing groove, from a window jamb.

Other miscellaneous fragments

19. Large rectangular block with simple chamfer and render (door jamb?). Granite.

20. Lump with roll moulding. Granite.

21. Fragment with hollow chamfer. Granite.

22. Large voussoir. Aplite.

23–5. Large rectangular blocks, the geology of no. 24 described by Dr Taylor below. Aplite.

26. Roof slate with peg-hole.

27. Perforated slate, the lower side with mortar bedding.

28–9. Slate floor slabs, their undersides with mortar bedding. 17th or 18th century.

30. Aplite block with axe-dressed top and one chamfered edge with raised rectangular projections, possibly brattishing, 15th or 16th century.

31–42. Six misc. blocks sandrock; one waterworn metamorphic stone; three aplite blocks, each with a single dressed face; two granite blocks, each with two worked faces.

12.3 Appendix 3: The petrology of the architectural fragments

By Roger T. Taylor

Twelve samples selected by J. Allan from among the architectural fragments held at Truro were submitted to the writer to examine the range of building materials used in the Old Church; two further samples (nos 13–14), found loose at the Church, were added. They were examined without thin-sectioning.

Granite

1. Medium-coarse grained 0.5–3mm with softened white kaolinised feldspar, quartz and muscovite.
2. A fine-grained quartzo-feldspathic matrix with phenocrysts of feldspar up 3 mm, quartz 0.5-1.5 mm and altered biotite up to 1 mm.

Aplite

3. Architectural fragment 24: altered aplite:

Finely crystalline, less than 0.05mm, with soft creamy white altered feldspar, muscovite and quartz grains, sparse vitreous colourless angular and rounded quartz phenocrysts, 0.5–2 mm.

A scatter of brownish red fairly soft rounded ferruginous grains, probably altered pyrite, 0.1-1 mm.

Aplite/elvan

- 4–6. Three small fragments, off-white kaolinised feldspathic matrix with some quartz. Small cleaved unaltered feldspars, 0.1-0.2 mm.

Elvan

7. Light grey matrix, porphyritic with small rounded quartz and irregular white kaolinised feldspar phenocrysts, 1–4 mm. (Sample A).
8. Creamy buff weathered matrix, porphyritic with small rounded quartz 1–2mm. and creamy white irregular kaolinised feldspar phenocrysts, 1–11mm. (Sample B).

These two elvan fragments could be from the same source but the larger fragment is more intensely weathered. A number of elvan dykes outcrop along the coast between St Agnes Head and Perranporth, 3–7km north-west of Perranzabuloe; some of these have been quarried. Other elvan dykes have been mapped between Perranporth and Newlyn East.

Slate

9. Perforated slate, medium grey, 17–21 mm thick. Edge opposite perforation weathered and rounded. Cleavage glossy and well developed but slate not thinly cleaved. Local Upper Devonian slate. (Architectural fragment 27)
10. Greyish-buff weathered fragment, micaceous moderately well cleaved. One surface water rounded, possibly slightly hornfelsed.

Sandrock

- 11–12. Two examples of the naturally cemented beach sand, probably from a Pleistocene raised beach; Calcium carbonate derived from shell mixed with sand.

Beer stone

13. Sample from spoil tip at Church

Fine-grained white granular limestone, Cretaceous, offering a visual match to Beer stone.

Altered granite

14. Greisen: a medium coarse-grained quartz-muscovite with brown tourmaline; some of the muscovite is brown-stained. The granite of Cligga Head, 4km to the west, which is partially altered to greisen, is the nearest potential source.

12.4 Appendix 4: List of finds

Printed below is a list of all artefacts recovered from the excavation. All sherds of pottery, ridge tiles, glass, etc, were collected but only a sample of the large number of roof slates was retained.

Context	Material	Period	No	Description
The Church				
Interior	Building material	MD or Early PM	24	<p>1 ridge tile fragment. Micaceous fabric (<i>cf</i> Lostwithiel fabric) with traces of white painted decoration. 15th or early 16th centuries.</p> <p>4 fragments of ridge tile. Non micaceous fabric (N. Devon, Barnstaple?), with green glaze on exterior. Traces of shallow moulded crests, suggests date of late 17th to 18th century.</p> <p>2 undiagnostic ridge tile fragments, non micaceous fabric. N. Devon? 16th to 17th centuries?</p> <p>1 undiagnostic ridge tile fragment. Micaceous (Cornish?) fabric. Late medieval, early Post-Medieval.</p> <p>10 ridge tile fragments. Micaceous fabric (<i>cf</i> Lostwithiel fabric) with traces of white painted decoration. 15th or early 16th centuries.</p> <p>2 fragments of ridge tile. Non micaceous fabric (N. Devon?), with green glaze on exterior. 14th to 15th century.</p> <p>3 fragments of ridge tile. Non micaceous fabric (N. Devon?), with green glaze on exterior. 14th to 15th century.</p> <p>1 ridge tile with sharp pinched peek and incised 'Christmas tree' pattern. Fabric is <i>cf</i> N. Devon Gravel tempered Ware. 13th to 15th centuries.</p>
Interior	Glass	MOD	1	1 base shard of modern brown bottle glass. 19 th to 20 th centuries.
Interior	Claypipe	PM	1	1 clay pipe heel/stem fragment. Ø=1.5mm 19 th to 20 th centuries.
Interior	Metalwork	PM	3 8	<p>2 fragments of lead window came.</p> <p>1 lead roof guttering fragment.</p> <p>8 hand forged iron nails.</p>
Interior.	Stone	PM	27	27 roofing slates most with iron nails or holes at one end for suspension. Post-Medieval?
Tower	Stone	PM?	9	9 roofing slates most with iron nails at one end for suspension. Post-Medieval?
Floor trench	Building materials	MD-PM	9	<p>5 ridge tile fragments with sharp pinched peek and incised 'Christmas tree' pattern. Fabric is a Cornish Micaceous <i>cf</i> Lostwithiel. 14th to 15th centuries.</p> <p>2 ridge tile fragments, Cornish micaceous fabric. 15th to 16th centuries?</p>
Floor trench	Glass	PM-MOD	52	52 shards of window glass. Medieval coloured glass and 16 th -17 th century thin glass.

Floor trench	Metalwork	MD-MOD	5	5 copper alloy pins with round heads. Dress pins, this style becoming common from the 15 th century.
Exterior	Metalwork	Late MD or PM	2	1 large fragment of lead window came. Late 16 th or early 17 th centuries. 1 large nail shaped piece of lead. Late 16 th or early 17 th centuries.
Exterior	Building materials	MD-PM	26	26 ridge tile fragments with low sharp pinched peak and incised line and incised 'Christmas tree' pattern. Fabric is a Cornish Micaceous <i>cf</i> Lostwithiel. 13 th to 15 th centuries.
Exterior	Glass	PM	52	52 shards of clear hand-blown window glass. 16 th to 17 th centuries.
Exterior	Glass	PM	7	7 shards of distinctive clear hand-blown Crown window glass. 17 th to 18 th centuries.
Trench 1				
101	Metalwork	?	1	1 iron clench nail.
103	Stone	PM	1	1 fragment from a slate memorial with gothic script and part of a border. 17 th century?
108	Metalwork	?	2	2 iron nails (1 appears to be a rafter nail).
117	Pottery	PM	1	1 handle sherd, undiagnostic Post-Medieval Glazed Red Earthenware (PMGRE). 16 th to 17 th centuries.
120	Pottery	Late MD	1	1 sherd, undiagnostic Cornish Late Medieval Coarseware. 15 th or 16 th centuries.
120	Metalwork	?	2 1	2 hand forged iron nails. 1 iron hinge post.
127	Metalwork	?	2	2 iron hand forged coffin nails with wood still adhering to them.
132	Claypipe	PM	3	2 co-joining clay pipe stem fragments. Ø= 3.5mm Pre 1650. 1 clay pipe stem fragment. Ø= 2.0mm 1650 to 1700.
Trench 2				
202	Pottery	PM	1	1 undiagnostic bodysherd of North Devon Gravel Free Earthenware. 17 th to 19 th centuries.
204	Metalwork	?	1	1 iron hand forged coffin nail.
Trench 3				
300	Pottery	MD	9	1 rimsherd Cornish Medieval Coarseware jug. 13 th century. 8 undiagnostic bodysherds Cornish Medieval Coarseware. 13 th century
300	Pottery	MOD	1	1 sherd Modern Yellow glazed Stoneware. 19 th to 20 th centuries.
300	Glass	PM-MOD	3	3 shards of Post-Medieval to Modern window glass. 18 th to 19 th centuries.
300	Metalwork	?	8	8 small iron hand forged nails (some small coffin nails?).
300	Building materials	MD	6	6 ridge tile fragments. Fabric is a Cornish Micaceous <i>cf</i> Lostwithiel. 15 th to 16 th centuries.
301	Building material	MD	1	1 ridge tile fragment. (cf Cornish Late Medieval Coarseware fabric). 14 th to 15 th centuries.

301	Glass	PM-MOD	1	1 shard of Post-Medieval to Modern window glass. 18 th to 19 th centuries.
301 [formerly 302]	Glass	PM-MOD	2	2 shards of Post-Medieval to Modern window glass. 18 th to 19 th centuries.
311	Building material	MD	2	2 ridge tile fragments. (cf Cornish Medieval coarseware fabric). 13 th to 14 th centuries.
312	Pottery	Late MD	1	1 undiagnostic sherd of Cornish Late Medieval Coarseware. 14 th to 15 th centuries.
312	Building material	Late MD	1	1 ridge tile fragment. (cf Cornish Late Medieval coarseware fabric). 14 th to 15 th centuries.
312	Metalwork	?	1	1 iron hand forged nail.
319	Pottery	PM	1	1 sherd Cornish Post-Medieval Coarseware (Lostwithiel ware). 16 th century.
319	Glass	PM-MOD	1	1 shard of Post-Medieval to Modern window glass. 18 th to 19 th centuries.
332	Pottery	MD	1	1 sherd, part of a spout from a cistern, Cornish Late Medieval Coarseware. 13 th to 15 th centuries.
344	Pottery	MD	1	1 undiagnostic sherd, Cornish Medieval Coarseware (Bunnings Park/ Stuffeware). 13 th to 14 th centuries.
Trench 3 u/s	Stone	PX?	1	1 elongated pebble with a bevelled end and the opposite end showing ground surfaces. Some percussion marks also visible. Polished wear facets on sides. Pestle? Whetstone.
Trench 4				
400	Pottery	MOD.	2	1 rimsherd with moulded decoration, Modern White Glazed Stoneware. 19 th to 20 th centuries. 1 basal angle sherd with footing (from a tankard?). 19 th to 20 th centuries.
400	Pottery	PM	1	1 rimsherd Cornish Post-Medieval Coarseware. Pancheon. 16 th to 17 th centuries.
400	Building material	PM		3 undiagnostic ridge tile fragments, non micaceous fabric. North Devon? 16 th to 17 th centuries
402	Pottery	BA?	6	6 undiagnostic prehistoric gabbroic bodysherds. Bronze Age?
405	Flint	PX	1	1 flint blade exhibiting use wear.
411	Flint	PX	1	1 small flint core rejuvenation flake.
415	Pottery	BA	9	SF Δ2. 1 rimsherd of gabbroic Trevisker style. Bronze Age. SF Δ3. 1 rimsherd of gabbroic Trevisker style. Co-joins with Δ2. Bronze Age. SF Δ4. 7 body sherds, gabbroic fabric, one with applied cordon. Trevisker style. Bronze Age.
Trench 4 u/s	Pottery	IA/RB	1	1 basal sherd, prehistoric gabbroic fabric. Most likely Iron Age/Romano-British.
Trench 6				
603	Pottery	BA?	12	12 sherds prehistoric gabbroic pottery. BA?
603	Flint	PX	2	1 flint primary flake utilised as a side scraper with retouch on one side. Neolithic/BA? 1 flint primary waste flake.

604	Pottery	BA?	1	1 bodysherd prehistoric gabbroic pottery. BA?
Hollow				
-	Pottery	MOD	7	<p>1 basal angle sherd, Modern Yellow Glazed Stoneware. 19th to 20th centuries.</p> <p>2 basal angle sherds, Modern Stoneware. 19th to 20th centuries.</p> <p>2 body sherds, Modern Stoneware. 19th to 20th centuries.</p> <p>1 basal angle sherd Modern White glazed Stoneware. Closed form, probably tankard with dot moulding at base. 19th century.</p> <p>1 fragment Modern Land drain.</p>
-	Pottery	PM	16	<p>1 shoulder sherd Post-Medieval Yellow Glazed Slipware (Bristol / Somerset) with brown trail slip and dot decoration. Mid 18th to early 19th century.</p> <p>2 co-joining fragments from a plate with hand painted blue and white decoration consisting of flowers. Post-Medieval Tin-glazed Earthenware; Delftware. Mid to late 18th century.</p> <p>1 sherd Post-Medieval Tin-glazed Earthenware; Delftware with hand painted blue and white decoration. Late 17th to 18th centuries.</p> <p>1 rimsherd, Tin glazed stoneware (possibly Lambeth ware?) with beaded rim (from cup?). Slight blue tinge to glaze. Interior with incised sgraffito picked out in dark cobalt blue colour. Possibly 18th century.</p> <p>1 handle/rimsherd from a pancheon, North Devon Post-Medieval Gravel-Tempered Glazed Red Earthenware (Barnstaple Ware). 18th century.</p> <p>1 rimsherd from a pancheon, North Devon Post-Medieval Glazed Red Earthenware (Barnstaple Ware). 18th century.</p> <p>2 co-joining rimsherds from a pancheon, North Devon Post-Medieval Glazed Red Earthenware (Barnstaple Ware). 18th century.</p> <p>6 sherds (including 1 handle, 1 handle springing, and 1 basal angle) Post-Medieval Glazed Red Earthenware. 17th to 19th centuries.</p> <p>1 basal angle sherd with foot ring, Post-Medieval Saltglazed Stoneware (Nottingham Ware). 18th to 19th centuries.</p>
-	Pottery	MD	1	1 bodysherd Devon Medieval Coarseware. 14 th to 15 th centuries.
-	Claypipe	PM	1	1 clay pipe stem fragment. Ø= 3+mm. Pre 1650.
-	Glass	PM	5	<p>1 mouth and neck of a bottle in thick green glass. Mid 18th to late century</p> <p>1 neck of a bottle in thick green glass.</p> <p>2 basal angle shards of thick green bottle glass, one straight sided.</p> <p>1 shard window glass. 18th to 19th centuries.</p>
-	Metalwork	PM-MOD	3	<p>1 iron ox shoe. 18th to 19th centuries.</p> <p>1 iron handle (coffin fitting?). 18th to 19th centuries.</p>

				1 iron scythe blade fragment. 18 th to 19 th centuries.
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12.5 Appendix 5: The prehistoric pottery

Henrietta Quinnell

The small assemblage of 16 sherds weighing 324 grammes came from contexts in Trenches 4 and 6 where they are assumed to be residual. Most sherds are abraded.

Context	Gabbroic (no./weight)	Gabbroic Admixture (no./weight)	Hard Gabbroic (no./weight)
402	6/25		
415			1/29 SF2
415			1/38 SF3
415		5/154 SF4	
Trench 4 u/s			1/38
603	1/22		
604	1/18		
Totals	8/65	5/154	3/105

The eight sherds in gabbroic fabric have no distinguishing features of form or manufacture. They are poorly made and do not resemble material in assemblages of South Western Decorated (Middle Iron Age) or of Roman date. They may belong either to the Middle Bronze Age Trevisker sequence or to the poorly understood sequence of the Late Bronze Age to Early Iron Age (Quinnell forthcoming).

The gabbroic admixture sherds probably all come from the same vessel although there are no joins. The fabric, of Lizard gabbroic clay with additional non-gabbroic inclusions, is the most common fabric in which Middle Bronze Age Trevisker vessels are found in Cornwall: a discussion of gabbroic and gabbroic admixture fabrics in the large Trevisker assemblage from Trethellan, Newquay, is presented by Williams (1991). The vessel had been decorated by a plain cordon with comb-stamped decoration on the body above this. Both cordons and comb-stamped decoration are standard, although not common, features of Trevisker ware (Woodward & Cane 1991).

The fabric described as 'hard gabbroic' is of a compact hard gabbroic fabric. It has been examined microscopically by Dr R Taylor who confirms that all the inclusions indicate a source in the gabbroic clays of the Lizard. It has a rough hand-smoothed finish and is generally irregular. There are some plant impressions on the top and outside of the rim: there is a varying amount of charred residue coating on the exterior of the shoulder which may obscure more of these impressions. The three sherds in this fabric join. The vessel represented has a short rim with a rounded top with an internal diameter of c 240mm. The rim turns sharply outward from, apparently, a gently rounded vessel wall. The date of this vessel is of interest. The fabric has no immediate close parallels and its poor finish makes inclusion within the Trevisker sequence unlikely. Carl Thorpe has examined it and finds no parallels within the Early Medieval Grass-Marked series and the plant impressions do not appear similar to 'grass marking' which is found on the lower parts of vessels. It appears most likely to belong to the Early Iron Age, although a previously unknown variant of

Early Medieval date can not be entirely excluded. Broadly similar vessels were found at Carn Euny (Elsdon 1978, fig 53) belonging to the end of this period, in what is now termed the Plain Jar Group of the sixth to fourth centuries BC (Quinnell forthcoming). However the Late Bronze Age to Early Iron Age ceramic sequence is not well understood in Cornwall because assemblages of this date are rare. Some parallels with the vessel can also be seen among sherds from Bodrifty in West Penwith (Dudley 1956, fig 9) which more probably date to eighth or seventh centuries BC. Because material of this period is unusual, the vessel from St Piran's is of interest as indicating activity of some date in the Late Bronze Age to Early Iron Age in the area.

The prehistoric pottery from St Piran's Church is of interest because it highlights a little recognised scatter of material extending from Penhale Sands in Perran Bay some four kilometres north to Kelsey Head. A number of small trial trenches were dug in the area in the 1940s (Harding 1950). This publication took place before recognition of Trevisker ware in the 1970s but illustrations (ibid fig 10) show a range of pieces, mainly from the area immediately south of Kelsey Head, which can now be recognised as Trevisker. Some other illustrated pieces may be of Early Iron Age date. The material is housed in the British Museum and it has not been possible to examine it. (The publication also details a range of Early Medieval sherds). The pottery published by Harding comes stratigraphically either from surface layers or early surface layers now covered by sand and she notes much material located in eroded surfaces patches. This area was regularly field walked, with some small scale trenching, by the late LJ Penna. His collection is housed in the Royal Cornwall Museum and remains unpublished. A rapid scan of part of this showed (Box 416) gabbroic admixture body sherds of Trevisker type including a typical incised sherd from Perran Sands and numerous gabbroic admixture sherds (Box 412) from Kelsey Head. The Penna collection also contains Middle Iron Age South Western Decorated Ware and a large quantity of Early Medieval pieces. It seems probably that blown sand throughout this area has preserved surfaces of various dates from the Middle Bronze Age onward.

12.6 Appendix 6: Lithic remains

Anna Lawson Jones

A total of four pieces of flint were recovered from the excavation. Two were made from local beach pebble flint and two were of probable beach pebble flint. The flint is of variable colour and quality.

The four flints were as follows:

Wall [405]

One near-complete tertiary flint blade, with no obvious signs of use or hafting. It was thin with near-parallel sides and came from a blade producing core. Soft hammered, it appears reasonably fresh, undamaged and unabraded. It could be Mesolithic or later in date and may represent a residual find.

Context [411]

One heat damaged tertiary flint, with hairline fractures and related damage on the ventral surface. This piece seems to have use-associated damage along the distal end and one side. It has a thick bulbar end suitable for easy handling and may have been used as a broad piercer. Likely to be Bronze Age in date.

Test pit 6; context [603]

This context contained two pebble flints of local beach origin. One was a split pebble or thick primary flake and the other an elongated thick primary flake. Neither piece had been modified or retouched and neither piece showed any sign of use wear. Both are slightly abraded through probable surface exposure on an associated old land surface. Neither are diagnostic.

12.7 Appendix 7: Geology of the two Churches

Colin Bristow

At the request of Ann Preston-Jones, a visit was made to the present Parish Church of Perranzabuloe Parish and the remains of the earlier St Piran's Church. The aim was to look at the stones used in the two structures and see if any useful geology-based deductions could be made which would help the archaeological investigations.

The present Parish Church

A complex structure with stones from many different sources

1. The main mass of the rubble walls is built with a slaty siltstone, weathering a pale khaki colour. This is probably locally derived from a small quarry nearby in the Devonian Ladock Beds. There are three small quarries close to the A3075 between Perranwell and Perranzabuloe in the Ladock Beds, all less than 1km distant from the Church, so it is possible that the stone used came from one of these. This kind of stone is not seen in the walls and rubble from the Old Church, so this strongly suggests that the main mass of the rubble masonry making up the walls of the present Church did not come from the Old Church.

2. The arcade of arches separating the nave from the south aisle is composed of a medium grained very pale granite with practically no dark minerals and occasional thin tourmaline veins. There are no greisen borders to the tourmaline veins, so this suggests that this stone should be correctly described as St Stephen's Stone, probably sourced as loose boulders from the moors (moorstone) between Treviscoe and Nanpean. If this granite had been obtained from the nearby Cligga granite, it would probably have shown greisen borders to the tourmaline veins. Also, the Cligga granite has pervasive weak kaolinization, which would make it an inferior source to the St Stephen's Stone. The tracery of the windows on the south side and in the arch of the Lych Gate also looks to be St Stephen's Stone. Occasional fragments of a porphyritic elvan with prominent white crystals of feldspar up to 1cm across, set in a grey matrix, are seen in some of the arches, notably in the apex of the westernmost arch and on the west side of the south transept. This is probably a local elvan.

3. The tracery of the windows on the north side is different in style to those on the south side and the stone is difficult to identify, as it is badly weathered and there has been much repair work with cement mortar which obscures the stone. This could be a more weathered version of the St Stephen's Stone seen in the tracery of the windows of the south side, or it could be some form of pale coloured elvan which has been weathered, both internally and externally. Normally stone on the south side of buildings in Cornwall weathers more quickly than stone on the north side, so here we have the reverse, but this perhaps might be explained by the windows being obtained from the Old Church where they were differently positioned so that they weathered more rapidly. On the other hand there is a tradition recorded in the church guide that some windows were salvaged from Old Kea Church and these could be the ones on the north side.

4. The granite blocks used to outline the interior recesses for the windows (the reveals) are of another type of granite. This is a pale grey colour and fine grained, with scattered black crystals of tourmaline throughout. The quoins used for the exterior angles of the Church appear to be of similar material though it is difficult to be sure as they are covered with lichen, etc. It might be some kind of fine grained granite from the western part of the St Austell granite or the granite at Cligga is another possibility. However, the most likely source is a granitic elvan which was worked for building stone near Wheal Budnick and Rose, 3km north of the Church at Perranzabuloe. Collecting *in situ* samples from the Wheal Budnick elvan would confirm or otherwise.
5. The tower is built of a fine grained granite which appears similar to the Wheal Budnick/Rose elvan, but the exterior is so covered with lichen, etc, that it is difficult to be precise. Unfortunately, the interior of the tower has been whitewashed up to about 5m from the floor, so the granite faces are not visible inside either.
6. The south porch is composed of a glorious hotch potch of material, including different types of elvan, slaty siltstone, slag blocks, etc.
7. The font is composed of coarse grained greisen, the greenish colour of the columns supporting the font is due to gilbertite mica. This could very well have come from the Cligga granite or possibly Cathedral Caverns just to the west of Perranporth.
8. The stoup is composed of a fine grained brown elvan unlike any of the other elvans seen in the Church.
9. The threshold of the porch door is a coarse grained granite similar to many of the granites of the Carnmenellis mass, it appears to have originally been a gatepost, as the position of the hinges can be seen.

St Piran's Church, Gear Sands

1. The main mass of the rubble walls is very different to the present Parish Church. Looking at the remaining walls and the rubble removed during the archaeological dig shows a mixture of stones, including large pieces of a dark grey siliceous-looking slaty rock, possibly a form of calc-flintas, sandrock (weak and disintegrating), an elvan with prominent phenocrysts of feldspar set in a grey matrix (also seen in one of the arches of the Parish Church), a fine grained non-porphyrritic elvan and large fragments of white quartz.
2. The interior of the Church shows much sandrock. The sandrock may have been locally derived from an occurrence now buried beneath the sand dunes. These dunes probably formed in historic times and engulfed the Old Church and Oratory and could have also engulfed a possible source of sandrock. Otherwise the nearest sandrock visible today would be on the north side of Fistray Bay.
3. The dark slaty rocks seen in the Old Church are similar to the slates exposed in the low cliffs behind Perranporth Sands. The hardness is partly due to the fact that they are within the metamorphic aureole of the Cligga granite and its extension eastwards at shallow depth. Also calc-silicate rocks ('calc-flintas') are also known to occur in this area, so the appearance of the hard siliceous slaty rocks in the Church masonry suggests this is locally derived beach boulder material, probably within a few kilometres of the Church.
4. The large quartz boulders are typically found over large areas of Cornwall, having been weathered out as knots of quartz from the slates, siltstones and sandstones containing them. Again a local derivation is likely.
5. The cross beside the Old Church is of a very coarse grained granite, not unlike granites in the eastern half of the St Austell granite, notably around Luxulyan. The Carnmenellis

granite, which is the nearest coarse grained granite, is normally not as coarse grained as the granite forming the cross, although it is just possible that there are some areas with as coarse a grain.

6. The only rocks in common with those seen in the present Parish Church are the grey elvan with feldspar phenocrysts and the occasional small fragment of St Stephen's Stone.

Conclusions

Looked at from a geological standpoint the conclusion must be that most of the rubble walling in the Old Church came from local sources and is completely different to the walling at Perranzabuloe. The dark slaty material and the sandrock seen in the Old Church are not seen at Perranzabuloe and the khaki slaty siltstone used for the masonry of the walls at Perranzabuloe is not seen in the Old Church. The main mass of rubblestone for the walls for both churches therefore appears to have been independently sourced in both cases.

However, the arcade of St Stephen's Stone at Perranzabuloe could have come from the Old Church, as well as the font and the stoup. If the tower came from the Old Church, it would seem to belong to a separate phase of building, as it appears to be different to the other building materials in the Old Church.

The reveals around the windows at Perranzabuloe are of a granite type which could have been obtained from a granitic elvan close to the sites of both churches at Wheal Budnick/Rose. This stonework looks so neat that it suggests it was newly supplied for the rebuilding of the Church in 1804 or the later 19th century restoration.

However, it may be that the tower (which is thought to have originally stood alongside the Old Church) was also constructed from this type of granitic elvan, which would suggest that this elvan was being quarried in the 15th century. I am not at all sure that there would have been quarrying at this early date so I am uncomfortable with this interpretation.

Cleaning a small area of the tower stonework so that the granite surface can be inspected could be useful, as well as visits to small old disused quarries in the local elvans, particularly the Wheal Budnick/Rose elvan.

The use of sandrock may have caused premature deterioration in the fabric of the Old Church as it is a weak material with poor structural strength (c.f. the problems of St Carantoc at Crantock where the tower and part of the nave collapsed in the 15th century, probably due to the use of sandrock in load-bearing situations. If sandrock was used extensively in the earliest phase of the Old Church, it could have caused serious structural problems, especially as Dexter reported that there was no mortar in the early part of the structure – only a clayey sand mixture. This would have resulted in a need for constant rebuilding and repair. The discovery of some carved sandrock also raises the intriguing question – did the arcade of St Stephen's Stone replace an earlier arcade made of sandrock? Quite apart from the threat of the advancing sand dunes, the poor state of the walls of the Old Church may have meant that moving to a new site and rebuilding with better materials was a preferable option to trying to repair the crumbling structure of the Old Church.

12.8 Appendix 8: The management plan

The Historic Environment Service, working in partnership with the St Piran Trust, produced a management plan which was formally adopted by the Trust on 26th June 2007 (St Piran Trust 2007).

An edited version of the management plan is printed below:

Status

All three sites are of national importance, which is reflected in their designation as Scheduled Monuments.

Scheduled Monuments have Statutory Protection under the Ancient Monuments and Archaeological Areas Act 1979. These are sites that have been identified by English Heritage, the Government's archaeological advisory body, and included in the statutory lists maintained by the Secretary of State for Culture, Media and Sport. A schedule has been kept since 1882 of monuments whose preservation is given priority over other land uses. The current legislation supports a formal system of Scheduled Monument Consent for any work to a designated monument.

The implications of Scheduled Monument status

Scheduled Monument status means that there are restrictions on the types of work which may be undertaken on the sites without consent. Work such as grass cutting and scrub clearance, which does not involve ground disturbance, can be undertaken without consent and regimes for such ongoing maintenance are detailed in this document. Other works which do involve disturbance, such as the consolidation of walling, etc, will need consent from English Heritage and are not included within this plan.

Special Area of Conservation

Both St Piran's Oratory and St Piran's Church are situated within a Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI). The management of the two scheduled sites lying within the SAC will be carried out in a manner that will not have a damaging effect on the area and will ideally deliver benefits to the natural environment.

Citation for Special Area of Conservation (SAC)

EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora

Name:	Penhale Dunes
Unitary Authority/County:	Cornwall
SAC status:	Designated on 1 April 2005
Grid reference:	SW769572
SAC EU code:	UK0012559
Area (ha):	621.34
Component SSSI:	Penhale Dunes SSSI

Site description:

Penhale Dunes is an extensive and exposed calcareous dune system where active geomorphological and successional dune processes occur. The dunes are composed of windblown calcareous shell sand and soils are highly calcareous with little organic content.

The majority of the dunes are fixed grey dunes colonised by marram *Ammophila arenaria*, and red fescue *Festuca rubra*. They support species such as kidney vetch *Hippocrepis comosa*, wild carrot *Daucus carota*, restharrow *Ononis repens*, sand sedge *Carex arenaria*, and Portland spurge *Euphorbia portlandica*. Nearer the sea are areas of yellow dune with evidence of active blow-outs.

Dune slacks with an interesting flora are well developed in the northern section where they often form marshy areas or pools. The drier slacks support short, rabbit-grazed turf, dominated by red fescue with herbs such as silverweed *Potentilla anserina*, common centaury *Centaureum erythraea*, pyramidal orchid *Anacamptis pyramidalis* and common storksbill *Erodium cicutarium*. Damper areas are colonised by taller herbs such as meadowsweet *Filipendula ulmaria*, water mint *Mentha aquatica*, common reed *Phragmites communis*, great willowherb *Epilobium hirsutum*, and marsh horsetail *Equisetum palustre*.

The older dunes have been eroded to form flatter expanses of species-rich dune grassland dominated by red fescue. Small patches of dune heath also occur. The dunes also support a number of uncommon plant species including a large population of petalwort *Petalophyllum ralfsii*, shore dock *Rumex rupestris* and strong populations of early gentian *Gentianella anglica*.

Qualifying habitats: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:

- Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*). (Dunes with creeping willow)
- Humid dune slacks
- Fixed dunes with herbaceous vegetation (grey dunes). (Dune grassland)*
- Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes). (Shifting dunes with marram)

Qualifying species: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:

- Early gentian *Gentianella anglica*
- Petalwort *Petalophyllum ralfsii*
- Shore dock *Rumex rupestris*

Statement of significance

All three sites are of enormous significance to Perranzabuloe, Cornwall and the wider world. St Piran's Oratory is especially important to Cornish identity, associated as it is with Cornwall's national saint, while St Piran's Church served the Parish of Perranzabuloe for at least 600-700 years. Perran Round is the best surviving example of a *plen an gwary*, a monument class only encountered in Cornwall, where Cornish language miracle plays were performed throughout the Middle Ages.

These sites are therefore of great significance to the cultural history of Cornwall and the heritage of local people. The sites are visited by thousands of people each year, particularly on St Piran's Day when people congregate to celebrate the saint and Cornwall's distinctive culture.

The beneficial management of the three sites by the St Piran Trust, will help the wider community to gain an increased understanding of the sites and their wider context, as well as providing a significant community asset.

Objectives of the plan

This management plan sets out a series of management actions for the three sites that are appropriate and can be carried out by members of the Trust and/or designated people.

The primary objectives of the plan are to achieve a long-term and beneficial management regime for these important archaeological sites, sustaining and where possible enhancing their historic character.

The St Piran Trust will, in collaboration with landowners and statutory bodies:

- Protect and conserve the standing remains and buried archaeology at St Piran's Oratory, St Piran's Church and Perran Round.
- Improve knowledge and understanding of the sites and encourage an increased appreciation of them as historic monuments and the wider archaeological heritage of Perranzabuloe and Cornwall.
- Endeavour to maximise the benefits to local people and visitors of the three sites as an important community assets, for quiet enjoyment and recreation, but also as a resource for lifelong learning.
- Manage the sites in a way that is compatible with their ecological status, particularly in relation to the internationally important SAC.

Components requiring management – St Piran's Oratory

St Piran's Oratory was excavated in 1835 and a further excavation was undertaken in 1843. Photographs from the late 19th century demonstrate that it had been enclosed with railings to help protect the monument. Unfortunately, the pressure of sand on the external walls caused these to move and in 1905 an appeal was launched to raise money to protect the Oratory. In 1910, a concrete 'preserving structure' was constructed over the site. In 1980, following concerns over flooding and vandalism, the decision was taken to rebury the Oratory.

Archaeological remains have traditionally been found close to the surface around the site. The exposure of bones in the cemetery associated with the Oratory has been documented many times. Rows of skeletons were reported in 1820, 1835 and 1905, and in 1910 the skeleton of a woman with a child in her arms was unearthed near the Oratory doorway. When the remains of the chapel were being buried in sand by a mechanical digger in 1980, twelve cist graves, some with slate tops, were exposed about 10 - 13m from the Oratory.

Because the remains of the monument are below the surface and no human remains have been unearthed in recent years, there are no significant management issues relating to this site at the present time.

An interpretation board has been erected next to the site of the Oratory and this will be monitored for vandalism and erosion around it.

Excavation of St Piran's Oratory

The primary objective of the St Piran Trust is to re-excavate the remains of St Piran's Oratory and to present them to the general public as a monument within the context of the wider landscape.

Following concerns about whether works to excavate the Oratory might have an adverse impact on a colony of Shore Dock, a protected species living in a duneslack to the south of the site, the St Piran Trust commissioned an assessment of the groundwater levels around the site. The conclusion of the monitoring, carried out from 2004 onwards, clearly demonstrates that the Shore Dock is located within a bowled area or 'perched aquifer', probably created through mining activity in this area. It is not in direct hydraulic connection with the main aquifer around the Oratory and therefore works carried out in the area will not impact on the viability of the Shore Dock.

It is the aspiration of the Trust to excavate the site of the Oratory within the period of this management plan. The organisation is committed to the following timetable:

Mid-2007	Initial preparatory work and assessment carried out through Scheduled Monument Programme, to include the preparation of an application for a planning development grant.
2008-2009	Planning development grant used to carry out necessary surveys (eg. hydrogeology, habitat/species, etc) and prepare detailed and costed project design (Stage 1). The uncovering of the Oratory, re-profiling of immediate locality, conservation works on the monument, etc. (Stage 2)
2010	Events to mark the uncovering of the Oratory (Stage 3)

The excavation of the site will only take place once the project design has been produced to the satisfaction of statutory bodies, including English Heritage and Natural England, and the necessary Scheduled Monument Consent and assent for work within a SAC/SSSI have been granted and the necessary funding secured. The excavation will be a community project with the work supervised by a team of professional archaeologists, assisted by volunteers from throughout Cornwall.

It is planned that there will be a series of educational and cultural events to commemorate the uncovering of the Oratory. These will include plays, musical performances, the involvement of local schools and a series of academic lectures, which will commence on St Piran's Day in March 2010 and run throughout the following months.

Once the excavation has been carried out and the dune restored, this management plan will be revised to deal with the new situation.

Components requiring management – St Piran's Church

St Piran's Church was excavated by T. F. G. Dexter between 1917 – 1920. The periphery of the church was dug to define the shape and size of the structure and the chancel was cleared of sand. No conservation work was carried out on the upstanding remains following the excavation and, because of this, there was considerable further decay of the walling in the following 85 years. In 2005, it was noted that the condition of the monument was quite poor, the management regime limited and that there was a pressing need to improve the interpretation and amenity value of the monument.

Sand from within the interior of the Church was removed by the Historic Environment Service of Cornwall County Council in partnership with the St Piran Trust in September-October 2005 and further works were undertaken to improve the amenity of the complex. Over 250 tonnes of material were removed from within the Church and the base of the tower and a considerable length of the north wall were uncovered for the first time in nearly 200 years. Conservation works on the exposed remains were carried out, exposed plaster on the internal face of the north wall covered with a modern lime mortar render for protection and areas of potential collapse were consolidated. A set of steps was constructed in order to improve access into the structure.

1. Regular inspections of fabric of church

In order to protect the remains of St Piran's Church, a regime of inspections will be carried out by members of the St Piran Trust and/or designated people on a monthly basis. At least two members of the Trust will carry out inspections and record any areas of damage or concern on a standard form. These forms will be kept in a binder for future reference.

In particular, the current and cumulative impact of visitors to the site and occurrences such as vandalism will be carefully monitored. Any damage likely to require repair will be reported to English Heritage Field Monument Warden and Scheduled Monument Consent for repairs will be sought where necessary. The repair works will then be carried out by the Trust guided by the advice of the Monument Warden.

2. St Piran's Day commemorations

Visitor numbers to St Piran's Church are generally limited. However, on the Sunday closest to St Piran's Day, a procession leads across the dunes and this means that 2,000-3,000 people could descend on the site at one time, where the final act of a play re-enacting the life of the saint is performed. Given the restricted access into the centre of the Church building, this is likely to be the time when most damage may occur. The Trust will liaise with the organisers of the march and play in order to safeguard the site and also carry out an extra inspection of the fabric of the Church and surrounding area in advance of the celebrations and within 48hrs of its end.

3. Limewash on north wall

The excavation of September-October 2005 revealed the north wall of the nave, which was covered with a considerable amount of historic plaster. To protect these archaeological remains from deterioration, a modern lime render was placed over them. In order to maintain the integrity of this modern layer, the St Piran Trust will apply a coating of limewash at least once a year, ideally in late Spring/early Summer and, if possible, in still, overcast and slightly misty conditions. The material to be used will be Hydraulic HNL2 lime paint, available from the Cornish Lime Company at Bodmin.

4. Grass cutting

It is important that the remains of St Piran's Church are presented professionally to the general public who visit it. The Trust will aim to cut the grass on the interior of the church four times per year. The banks by the steps (entranceway into the church) and an area about 2.0m wide on the east, south and west sides of the Church will be cut. The bank to the north of the Church has a covering of bramble, as does the area around the tower. These areas will also be cut regularly until the brambled areas are no longer a problem.

5. Removal of intrusive vegetation from stonework

Vegetation growing into the upstanding fabric of the church has the potential to do damage to the structure. Such vegetation will be carefully controlled through cutting, where this is felt appropriate, in order to protect the fabric of the Church. The vegetation will not be pulled out as this could damage the archaeological remains. Such works will be carried out during the monthly condition checks and full records kept.

6. Access into the Church

Steps have been provided to allow people to gain access into the centre of the Church. In spite of this, people are still entering the structure at different points, which often includes climbing or jumping down from walls and this obviously has the potential to damage the remains of the monument. The St Piran Trust will monitor movement around the site, as evidenced by 'permissive' paths and eroded areas. It may be necessary to erect temporary signs requesting visitors not to use certain areas, though this will be kept to a minimum.

Such interventions will be recorded and further monitored during the monthly condition checks and full records kept.

7. Interpretation board

An interpretation board has been erected next to Church and this will be regularly monitored for vandalism and erosion around it.

Components requiring management – Perran Round

The management of Perran Round has fluctuated between periods of neglect, phases of restoration and other times when it has been carefully looked after, with the vegetation cover of the monument varying from close-cut grass to rampant gorse.

In the early 1930s the Perranzabuloe branch of the Council for the Preservation of Rural England reported that it had been used as a dumping ground for tins, rubbish and caravans and undertook, with the help of the people of Rose, to keep it clean. The situation up to 1997 was summarised in a CAU report by Ann Preston-Jones, which described some recent minor management work (Preston Jones 1997). She noted that in the 1960s, the Round was again neglected and covered in scrub, while the entrance on the southern side was waterlogged. She noted:

“Work organised by Cornwall County Council in 1967 involved selective scrub clearance, fencing of the forecourt, raising the level of the forecourt to improve drainage, reseeding and laying paving across the forecourt to the entrance ... after this, the site was leased to Perranzabuloe Parish Council, but maintenance appears to have been limited ...

“In 1984-85, the exercise was repeated. Most of the fencing was replaced, the position of the access altered and further scrub clearance carried out. On this occasion, all of the interior of the bank and the exterior to either side of the main entrance on the south-south-east was cleared ... following this, the care of the monument was handed over to the Rose Community Association (later taken over by Rose Men’s Institute) who regularly mowed the interior and forecourt and generally managed to maintain the improvements made in 1984-85.”

Finding the work too expensive and onerous, Rose Men’s Institute gave up the management of the Round in 1995. In 1996, the Cornwall Wildlife Trust undertook an ecological assessment in advance of the monument being handed onto the Cornwall Heritage Trust. At this time, gorse and scrub were cleared from three areas: the bottom of the ditch, the outer face of the bank and ditch to either side of the entrance and the top of the bank on the west. The work was carried out by the British Trust for Conservation Volunteers. The Cornwall Heritage Trust did not maintain the site as well as had been anticipated, with the result that gorse on the banks grew back and flourished.

In 2002, the St Piran Trust entered into a discretionary agreement with the owner of the site and now manages the site. With the help of an English Heritage Management Agreement and the ongoing support of the landowner, the Trust will continue to maintain the site with the following priorities. The maintenance programme assumes the presence of an agreement with the landowner.

1. Regular inspections of the Round

A regime of inspections will be carried out by members of the St Piran Trust on a monthly basis. At least two members of the Trust and/or designated people will carry out inspections and record any areas of damage or concern on a standard form. These forms will be kept in a binder for future reference. Any damage likely to require repair will be reported to English Heritage Field Monument Warden and Scheduled Monument Consent for repairs will be sought where necessary. The repair works will then be carried out by the Trust guided by the advice of the Monument Warden.

2. Grass cutting

It is important that Perran Round is presented professionally to the general public who visit it. Grass cutting will continue on a regular basis with the Trust aiming to cut the grass six times per year.

3. Scrub clearance

Much of the exterior of the bank enclosing the Round is covered with intrusive vegetation including gorse and thorn. Between 2007-2009, the St Piran Trust will organise a programme of scrub clearance around the monument.

4. Interpretation board

An interpretation board has been erected at the entrance into the Round and this will be regularly monitored for vandalism and erosion around it.

5. Regular events

The St Piran Trust is committed to making sure that Perran Round is once again regularly used for educational and cultural events, which will include plays, musical performances and visits by historical groups. The Trust will liaise with the organisers of these events to ensure that there is no damage to the monument and, if necessary, discuss any special requirements with the English Heritage Field Monument Warden.