

# ST JAMES CHURCH MANORBIER PEMBROKESHIRE

DISABLED ACCESS: ARCHAEOLOGICAL INVESTIGATION



Prepared by Cambria Archaeology  
For ST JAMES CHURCH



# ARCHAEOLEG CAMBRIA ARCHAEOLOGY

RHIF YR ADRODDIAD / REPORT NO. 2007/57  
RHIF Y PROSIECT / PROJECT RECORD NO. 62768

HYDREF 2007  
OCTOBER 2007

## ST JAMES CHURCH, MANORBIER, PEMBROKESHIRE DISABLED ACCESS: ARCHAEOLOGICAL INVESTIGATION

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## ACKNOWLEDGEMENTS

I would like to thank Andy Shobbrook for his help with the excavation and recording; Alison Sables, from Lampeter University for the analysis and report on the human remains; Mathew Taylor the contractor on site working for Dorian Phillips for his interest and co-operation; Ken Crisp of St James' Church and in particular the Reverend Victor Millgate for his help in what became an increasingly demanding project.

## **SUMMARY**

*Archaeological work in advance of construction of a disabled access on the north side of St James Church, Manorbier, encountered approximately 15 graves, some of which were already known, mainly dating to the Georgian or Victorian Period. There was also a large quantity of residual human bone along with some medieval roof and floor tile and fragments of painted wall plaster.*

## **INTRODUCTION**

Sally Bere prepared a detailed brief (Bere 2007) for this project in consultation with Louise Austin of Cambria Archaeology-Heritage Management, who acts as archaeological advisors to the Diocesan Advisory Committee in respect to archaeological matters regarding alterations and development. The location of this development was next to the north side of the north aisle (cover photo) and then leading to the churchyard gate.

This brief required the area affected on the north side of the north aisle should be archaeologically excavated. The remainder, from the corner of the church to the churchyard gate, was to be excavated by a contractor but subject to an archaeological watching brief. In particular, where over half a grave was encountered the whole body was to be lifted, but where there was less than half being disturbed these remains should be placed with the undisturbed portion.

St James Church is located on the southeast side of a valley running down to the sea with the beach about half a kilometre away (Fig. 1). Manorbier Castle lies on the opposite side of the valley, on the end of a promontory where two valleys join. The village lies immediately inland. The Ordnance Survey grid reference is SS0651097630.

Because of the limited size and results of this project, no detailed history of the church and immediate area have been included. The history and architecture of the church have been covered recently by Ludlow (1998). The history and archaeology of the immediate area was also assessed a short time ago by James (1999). More recently archaeological work was undertaken by the former Department of Archaeology, Trinity College, Carmarthen, although only a draft of this work has been produced (Williams 2002).

The castle, much smaller than it is today, was started in the 1100s, with, presumably, the church being founded a little later. However, there is a suggestion that there may be some pre Norman Conquest religious use of the site (Ludlow 1998, 7). Ingress of sand from the beach has long affected the immediate area of the church and castle, the earliest written records being those made by Gerald of Wales in the late 1100s. From the 1930s large quantities of sand and gravel were removed from the beach and later the area below the church was also landscaped as a car park, removing sand dunes, known as The Burrows, which then extended up to the church.

## **OBJECTIVES**

The objectives of the archaeological work were to characterise and record the extent, chronology and significance of any surviving archaeological deposits encountered during the building programme.

## **METHODOLOGY**

Because of changes in design the archaeological works are best described in two phases. This initial phase of work was based on the original design on which the brief was made. This was for a path sloping up from the top of the churchyard entrance steps to the northwest corner of the church, then for the path to slope

down to a blocked doorway in the north aisle. This scheme involved a trench 1.5m wide. However, although advised by Cambria Archaeology at the beginning of the ground works, that with the removal of the soakaways from the project there were likely to be issues with drainage. It was also pointed out that the levels originally specified would leave a slope down to the north door of about 1 in 12 rather than less than 1 in 20 as required.

The first phase of archaeological hand excavation of the area adjacent to the north aisle wall took place at the same time as watching the contractor hand digging the remainder (Fig. 2). This work was started on 25 April and completed by 3 May 2007. The weather was good for the whole of this period. It was necessary to lift one skeleton in the trench under archaeological excavation but another towards one side of the trench was just below the depth required. A large amount of re-deposited human bone was also recovered. The trench was planned and main sections were photographed and drawn, as was the adjacent elevation of the north aisle, as specified in the brief.

The scheme was changed following consideration of the drainage problems and the potentially steep slope down to the north doorway. There would now be a single gentle slope from the doorway in the north Aisle wall to the top of the churchyard entrance. This resulted in a slope of less than 1:50. The width to be excavated was also increased from 1.5m to 2m to accommodate a 0.7m high retaining wall above the new path surface. This retaining wall also required a footing trench 0.3m deeper than the depth required for the path construction. Above the top of the retaining wall the ground was to be chamfered back at approximately 40°.

There were a number of implications in this revised scheme: there would need to be a greater depth of excavation not only for the revetment wall footing but also much deeper adjacent to the north west corner of the church. Widening the trench back into the bank of the churchyard away from the north Aisle would need a depth of nearly 2m in sandy soil, with a lot of disturbance making collapses likely and potentially dangerous. At least one further grave monument would need to be moved with an unknown depth of burial below. One other burial found in the side of the earlier scheme would need to be lifted and some, possibly many, burials were likely to be encountered.

The second phase of groundworks took place between 14 and 25 May 2007. The weather remained fair to good throughout this period. The trench was expanded as instructed. However, as expected, a number of burials were encountered and lifted as per the brief. A bone specialist was called to site for the lifting of the two marked Victorian burials, and there were some collapses of the trench side. Again a very large amount of re-deposited human bone was recovered. The trench was re-photographed and drawn and the elevation extended downwards to the further depth excavated.

The second phase of the watching brief, to the west of the church, took place between 4 and 8 June. Again the weather was fine. A mini digger mostly using a toothless bucket excavated most of this. There was a large collapse by the northwest corner of the church, partly caused by the collapse of a capping of a brick lined grave into a large void below. This necessitated the removal of the overlying monument by specialists to make the trench safe. It is expected that this monument can be put back in its original location when the disabled access is completed.

Having discussed the results with the Diocesan Archaeologist it was decided: that a full bone specialist report would not be necessary on the articulated human

remains, just age, sex and any obvious pathology. The residual human bone would only be counted. These remains were sorted on site by Alison Sables (see report below) at a later date, re-boxed and left in the vestry for reburial. The iron coffin fittings would be catalogued, photographed and discarded. A specialist report would not be required on the other finds (pottery, tile, etc) as it appeared likely that all had been redeposited.

## RESULTS

It is uncertain as to what was the earliest feature or deposit; no underlying bedrock or natural subsoil was seen in the excavations, as all of the soils observed appeared to be caused by human activity or later sand inundation.

***Area north of aisle: archaeologically excavated*** (Plan Fig. 3, main section Fig. 4 and small section Fig. 5. Photos. 1 and 2)

The earliest deposits appeared to be just outside the North aisle wall, and were below apparent building or demolition level. These deposits were not dug individually or to any extent. However, in the top of a thin lens or layer just outside and below the blocked doorway there was a layer or lens that contained pottery fragments, probably Merida ware, imported from Portugal (pottery left *in situ*). This pottery is typically 15th-16th century in date, less commonly 17th and rarely 14th century. It appeared that the lens with the pottery and adjacent layer/s 123 pre-date the north aisle wall as they are at or below the level of the top of the footings for this wall. The top of this lens and layers were removed in the first phase of the groundworks as part of context 107 which contained another eight sherds of Merida ware, possibly all from the same vessel.

At the eastern end of the excavation above layer 123 there was a considerable thickness of layers (120) containing building debris. A thick layer of windblown yellow sand had in turn covered these layers. This sandy deposit went down to a greater depth towards the west end of the church, possibly with a more soil/ sand layer below. This yellow sandy deposit had been cut in a large number of places by graves.

Possibly the earliest grave (skeleton 407) was that of a child (Photo. 3), with no evidence of a coffin. There was no sign that this grave cut (412) just to the south, suggesting 407 was earlier. This burial (407) was left *in situ* as it was just below the depth required for the retaining wall. Just to the east of (407) the top of another skull, possibly a child, was seen but otherwise not disturbed. Both of these graves had sandy fills, probably deriving from the later post medieval sand inundation of the immediate area.

Graves/burials 401 (Photo. 4) and 402 (Photo. 5) contained mature male and female burials in coffins with curved handles. In the case of the eastern skeleton the coffin fittings had been greatly disturbed and were removed with the material above. These two graves may very well relate to the ledger now in the wall above:

Underneath  
this Stone Leith the Body  
of JAMES WILLIAMS  
late of [.....]\* Who  
died Sep the 8 1803  
Age 84 years  
Also  
The Body of ELIZABETH  
Wife of he said

JAMES WILLIAMS  
Who died May the 30<sup>th</sup> 1808  
Aged 88 years

\*Not discernable

Just to the west of the burials 401 and 402 there were three burials (403, 408 and 406) (Photos. 6, 7 and 8), which appeared to respect each other. In a temporary section just above the level of the skeletons of 403 and 408 the stratigraphy indicated that 403 was the latter. But this stratigraphic evidence may reflect coffin collapse rather than interment sequence. However, the southern grave did cut mortar on the footings of the north aisle wall. There was very little left of the northernmost of these three burials (406) as the construction trenches for brick lined graves 111 and 116 had cut it. All three skeletons had stains from copper alloy pins near the skull and also nails indicating they were all in coffins. A Georgian date similar to that of 401 and 402 is considered likely.

A fragmented juvenile skull 409 (Photo. 9) was found higher up, and to the west of the three graves, along with some other small bones. This was suspected to be an articulated grave disturbed by our excavation. However, on further examination these bones and skull were found not to be *in situ* and are likely to have been replaced in the backfill of a deeper, undefined, grave.

By the north west corner of the church an adult sized grave was identified (cut 137, fill 138), but the burial was below the depth reached during excavation. This grave appeared to predate the brick lined grave 111 adjacent to the northeast.

Articulated foot bones, probably of a child (414) were revealed when part of the section collapsed to the west of brick lined grave 116. These bones were left in place.

Two Victorian brick lined graves 111 and 116 were partly demolished while the upper burials in each were lifted. The western grave 111, was of plain bricks bonded by white lime mortar; it also had an upper slate capping. Below this there were the remains of a coffin and fittings; the skeleton 104 (Photo. 10) was in good condition, and there were the remains of the shroud, neck tie and some large copper alloy rings from around the upper body or neck area. This burial was above slate slabs, almost certainly with other burials below. The upper remains were probably those of John Williams, died 1873. The ledger from above this grave read:

*South side*

Mary Williams of CORNISH DOWNS  
WHO DIED JANRY 8<sup>th</sup> 1832 AGED 48  
ALSO JOHN WILLIAMS OF [\*].L.GARS HUSBAND OF  
THE ABOVE DIED JAN 25<sup>TH</sup> 1873 AGED 89

*North side*

CHARLOTE WILLIAMS DIED  
JAN 28<sup>TH</sup> 1832 AGED 18  
AND WILLIAM WILLIAMS DIED  
APRIL 14<sup>th</sup> 18[50] AGED [44] \*\*  
LIKEWISE ANN WILLIAMS DIED  
APRIL 12<sup>th</sup> 1866 AGED 58

\*Possibly CLEGGARS, but unable to read due to poor light conditions

\*\* Year and age not totally clear



The eastern grave 116 was again constructed out of bricks, but in this case also contained bricks with 20 vertical holes. This type of brick first appeared during the 19<sup>th</sup> century and continued into the late 20<sup>th</sup> century (Harley 1974, 79). The mortar used was harder and more grey than in that of the grave 111 to the east. There was an upper slate capping, one slab of which had collapsed. Below this there were the remains of a coffin and fittings. The skeleton 405 was again in good condition (Photo. 11). This burial was laid on slate slabs, but it is unknown if there are earlier burials below in this grave. These remains are possibly those of James Williams, died 1891 aged 66, but the remains appear to be of a male aged 30 – 45 (see specialist report), and therefore may be the remains of a later unmarked burial. The inscription on the stone cross above this grave read:

IN MEMORY OF  
JAMES WILLIAMS  
FORMERLY OF CLEGGARS FARM  
WHO DIED AT BALDWIN MOOR  
DEC<sup>R</sup> 5<sup>TH</sup> 1891 AGED 66  
HIGHLY RESPECTED AND BELOVED BY RICH AND POOR

There were lots of bones in construction trench fill 125 for this grave, and also in refilling (fill 131) of this grave, suggesting that a large number of earlier burials had been cut during its construction. In the top of the grave fill (131) there were a pair of copper alloy tweezers (304).

The southern sides of two more brick lined graves were seen. The western of these, 141, was seen in the edge of the excavation. The grave marker above this had been moved and will be replaced after the works have been completed. The eastern grave, 142, was seen when part of the trench edge collapsed and was unmarked.

Overlying the edge of the brick lined grave 111 near the west end of the church was part of a retaining wall 104, that ran parallel to north side of the church. By the corner of the church there were the trace remains of a stone flagged path probably contemporary with the construction of the retaining wall, and probably of late Victorian date. Elsewhere this path seems to have been removed before a deposition (103, Fig. 5) of ash and clinker, along with some bricks. The ash and clinker may derive from a smithy or some other industrial origin, and probably dates from after 1960. Above deposit 103 there was a concrete path 102.

***Watching Brief west of church*** (Fig. 6. Photos. 12 and 13.)

Nothing of archaeological significance was seen in the first phase of the watching brief, which was only 0.6m deep, except for the top of a soakaway for the down pipe from the northeast corner of the church. This feature was situated about 1.8 m west of the church and below the level of the former path. A large number of re-deposited bones and a few artefacts ranging from the medieval period to modern times were recovered (context 108).

In the later watching brief phase the trench was significantly deepened up to 1.3m deep, none of the lower deposits appeared to be natural and there are likely to be a significant number of burials below the depth excavated. Two burials, probably not in coffins, lay in the side and bottom of the south side retaining wall footing trench, one of which (412)(Photo. 14) could be left in the side of the trench, while the other (411)(Photo. 15), which appeared to cut that (412) in the side of the trench. This later skeleton (411) was partially lowered to below the depth required for the base of the new retaining wall. On the north side of the

trench the lower legs of another burial (410)(not photographed) had to be lifted, the rest having been removed by cuts for later graves (111 and 139).

The western (139)(Photo. 16) of these later graves was a double brick lined grave, constructed with brick with 20 vertical holes, similar to those of grave 116, found below the removed monument. The incumbents were under a slate capping that was below the depth required and could be left unseen and *in situ*. The ledger for this monument read:

South side

IN MEMORY OF MARY JONES  
OF SUNNY HILL  
WHO DEPARTED THIS LIFE FEB 18<sup>TH</sup> 1894  
AGED 68 YEARS

North side

ALSO IN MEMORY OF JOHN JOHN  
OF SUNNY HILL  
WHO DEPARTED THIS LIFE FEB 28<sup>TH</sup> 1900  
AGED 77 YEARS

Part of the top a coffin, with a decorative silvered metal edging was also found on the north side, western end, below a suspected skeleton (413?) but again this coffin could be left in place. However, the bones (413) above the coffin had to be lifted for re-burial, and on examination were found not to be articulated remains and more likely were dug up when this later grave was put in and replaced on the coffin lid. There was no monument above this grave or graves.

In the centre of this part of the trench was an un-marked brick lined grave (140) with a capping of four thick slates. The top of this grave was just below the depth necessary, but the machine caught part of the upper slates. The upper part of a complete coffin was revealed and photographed (Photo. 17) but was not otherwise disturbed and the slate capping was replaced.

Part of another brick lined grave was seen after a collapse of the trench edge to the west of the church. The grave slab structure above this grave had partly subsided into the grave, which was partly voided, and it appears that the capping above the burial was broken. The grave slab had to be moved for safety reasons, but it is hoped to replace it when the work has been completed.

A small portion of the inner churchyard retaining wall was removed to below footings, towards the western end of the site. Immediately to the west of this there was an old pipe, probably water, and near this a live electricity cable running from the church to the light by the steps.

### ***Human Bone***

A full report by Alison Sables is in Appendix 1

### ***Finds***

A list of all finds is in Appendix 2. Pottery identification was not undertaken by an expert and therefore remains provisional.

There were some medieval finds of floor and ridge tile of local origin, along with some medieval pottery, some of which is probably Llanstephan ware. There were also a few fragments of painted wall plaster (Photo. 17). Some late medieval or early post medieval Merida ware could have been from undisturbed deposits. Most of the post medieval pottery was gravel tempered ware, either from North Devon or Dyfed.

A number of copper alloy pins were found, some showing signs of having been silvered, and a number of the skulls also showed a green stain, probably from a similar pin. These are likely to be for temporarily securing the shroud, before stitching, and may be accidental losses rather than the main method of joining the material (Gilchrist and Sloane 2005, p110).

None of the bricks in the grave structures had frogs (single indents for bedding on mortar), but there were some on the bricks with the infilling 103 for the modern concrete path alongside the north aisle wall. Unfortunately the bricks with 20 vertical holes, in two of the grave structures, 116 and 139, are not closely datable and are 19<sup>th</sup> century or later.

A large number of iron coffin nails were recovered but they were not diagnostic and given the disturbed nature of most of the grave fills did not readily lend themselves to analysis of how the coffins were constructed. Little also can be said of the iron coffin handles, the examples presumed to be earlier (Georgian) appear to have curved handles while later one were more likely to be straight.

Possible tweezers 304 (Photo. 19). Found in the top of grave fill 131 just below the turf. These were made of copper with simple decoration on the handle and with a square pommel that was possibly pierced to take a suspension ring. This object has been shown to a number of finds experts but no indication of date has been given. The decoration on the handle is similar to some Roman objects but no tweezers like this have been found. It is possible that these tweezers are Victorian in the Arts and Crafts style.

## **DISCUSSION**

Although there was great potential for finding medieval features or graves nothing of this date was found. However, floor tile, ridge tile, painted plaster and pottery were recovered, but it is likely that most, if not all of this medieval material was re-deposited. The later medieval Merida ware was possibly from undisturbed deposits and possibly deposited along with the medieval material around the time that the north aisle was constructed, probably in the early 17<sup>th</sup> century (Ludlow 1998). There would appear to be many more graves at lower levels and some of these are likely to be of medieval date. It is more probable that other medieval structures lie under the church or elsewhere in the churchyard, but it cannot be ruled out that they do not lie within the area of this project.

None of the apparent non-coffin graves (skeletons 407, 411 and 412) were excavated; only the tops (407 and 411) or the sides (412) were uncovered. These could be earlier and may be medieval in date: but it is more probable that these reflect age or status. Skeleton 407 was most certainly that of a child. All of these graves may predate the sand intrusion, but given the amount of disturbance by later grave cuts and cut for the later path, this must remain uncertain.

It is difficult to date the substantial sand inundation on the site. It seems post-dates the building of the north aisle, given its depth. This deposits (120) is higher than the base of the, now blocked, doorway in the north aisle, indicating that they are also likely to be later than the doorway. This cannot, however be archaeologically confirmed as the deposits were truncated from outside the doorway by the Victorian or later path. There also may have been an earlier route around the outside of the north aisle, but there was no evidence for this.

At least some of the graves with coffins but without brick lining (skeletons 401, 402, 403, 406, 408, 410? and 413?) date to the earlier 1800s (possibly they all do). However, the remains of a probable child, 414, that may or may not be in a coffin, is most certainly later on grounds of stratification and depth of burial. Those graves with brick linings (111, 116, 139, 140, 141 and 412) are likely to be Victorian, with possibly one or two being a little later.

The bone preservation on this site was, in the main, good and, given the generally very poor preservation of skeletal material in west Wales, this represents a very important archaeological resource. The only significant study on skeletal material in this area is that being undertaken on early medieval burials from Angle and Castlemartin, Pembrokeshire (Schlee forthcoming, Hughes forthcoming). Little work, if any, has been done on post medieval burials up until now, in this area. It is recommended that examination of burials of similar dates on other sites be undertaken to establish a greater knowledge of the health of the population in the recent past.

The exterior elevation of the north aisle was drawn, and this part of the project will be completed when the blocking is taken out of the north doorway, hopefully in the near future.

## CONCLUSIONS

There is no doubt that St James Church, Manorbier is an important historic and archaeological site of more than local importance. It is therefore very satisfactory that even with the revised deeper and wider footpath scheme no significant archaeological deposits were disturbed. All burials, whether medieval or later, are an important resource in this area, and at least these post medieval burials have been examined, rather than the information being lost. It is expected that all remains will be re-buried on the site as close as possible to where they were found.

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## **APPENDIX 1: ST JAMES' PARISH CHURCH, MANORBIER: HUMAN SKELETAL REMAINS REPORT**

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## **INTRODUCTION**

This report considers the human skeletal remains excavated from burials within St James Church graveyard, Manorbier, Pembrokeshire in June 2007 for the purpose of building a disabled ramp leading into the north side of the church. St James Church is the local parish church for Manorbier village and is a Grade 1 listed 12th Century Norman Church set high up on a hill overlooking the beach, castle and village. The majority of the human remains were excavated from single coffined burials; however additional disarticulated human remains were found within close proximity of these burials. These remains were excavated and have been included within this report but as it was not possible to determine the precise location of their burials they have been recorded under the title of commingled remains.

## **MINIMUM NUMBER OF INDIVIDUALS**

A total of ten interments were excavated (numbered 401 - 410) with each containing the remains of one individual. Two additional graves were noted (411 – 412) but as they were below the maximum depth of the footings they were not excavated. An additional number of human remains, that were associated with the surrounding area of the burials, were also removed for reburial. These fragmentary and commingled remains represented a number of adults and juveniles that had been buried in the surrounding area of the marked graves. This report will give an account on the skeletal remains from burials 401 - 410 plus a brief summary of the commingled remains associated with the burials.

## **BURIAL CONDITIONS**

St James Church is located on a hilltop overlooking the south coast of Pembrokeshire, Wales. The land belonging to the church is relatively small and layered burials (one on top of another) over time have resulted in the graveyard being of a higher level than the entrance to the church and pathway. The geology of the area has resulted in the soil being of a damp, acidic and gritty consistency. The soil is large grained sand and dark brown in colour. Due to lying in damp acidic soil, taphonomic processes have resulted in the bones being of a fragile nature with much of the damage showing on the long bones ends and more delicate bones such as the vertebrae and pelvis. In addition, water had seeped into many of the burials over a period of time which has resulted in the wooden coffins collapsing and the wood integrating with the skeletal remains and any material present. Burial 401 and associated commingled remains were taken to the University of Wales, Lampeter where the skeletal remains were washed and air dried before the skeletal inventory took place. Burials 402 to 410 were recorded at the churchyard. All skeletal remains are to be reburied within the churchyard.

## **METHODOLOGY**

All the remains were examined and recorded within the grounds of the church with the exception of the remains from burial 401.

The sex of the adult individuals was assigned predominately from a number of traits identified on the pelvis and skull. Metric measurements from the femur and humerus were also taken into account. To date, there has not been an accurate method of sexing juvenile individuals (below the age of 17 years) therefore no attempt has been made to sex any juveniles within this report. Methodologies were taken from Bass (1995) and Scheuer & Black (2000).

The age of the individual was assigned from a range of features but predominately based on the tooth wear and degenerative condition of the vertebrae and skull within the adult population; within the juvenile population the length of the long bones, tooth eruption stage and fusion stage of the long bones were used as indicators of age.

Methodologies were taken from Lovejoy (1985), Bass (1995) and Scheuer & Black (2000).

The stature of the individual was assigned predominately from the length of the long bones. The metric measurements were taken using cloth tape and digital calipers and the results were entered into the regression equations table published by Trotter & Gleser (1952) within Bass (1995:27). The height of the individual is given in both centimetres and feet and inches.

The pathologies that were exhibited on the individuals are listed. These were identified from Ortner (2003), Aufderheide & Rodriguez-Martin (1998).

## SUMMARY

It can be confirmed that there were 10 individuals excavated from the intentional interments comprising of 7 adults and 3 juveniles (total = 10). In addition there was a considerable number (total = 2834) of commingled and fragmentary remains representing an unidentifiable number of adults and juveniles plus 24 fragments of animal bone (see table 3 page 18). Table 1 is a summary of the skeletal inventory findings set out within this report:

Context number	Sex	Age	Stature
401	Male	Mature (55+)	6'2 – 6'4
402	Female	Mature (55+)	5'3 – 5'4
403	Female	Mature (55+)	5'5
404	Male	Mature (55+)	5'6
405	Male	Middle (30 – 45)	5'3
406	Juvenile	12 – 14 years	-
407	Infant	9 – 18 month	-
408	Male	Mature (55+)	5'4 – 5'5
409	Juvenile	-	-
410	Adult	-	-

*Table 1; summary of the skeletal report findings*

## **BURIAL 401 – MATURE MALE (Photo. 4)**

The excavated remains from burial 401 were cleaned, air dried and recorded at the University of Wales Lampeter. The result of the inventory identified one complete male adult (401A) plus a number of commingled remains consisting of a minimum of 2 adults (401B) and 3 juveniles (401a). The results for the commingled remains are discussed section 2.

### **Condition of Remains**

The remains had been contained within a wooden coffin that had been buried in close proximity to the north church wall. The coffin had decomposed resulting in water, acidic soil and additional skeletal remains intruding into the burial. The human remains were in a wet, fragile and spongy condition. This burial may be associated with a ledger on the church wall for James Williams who died 1803 aged 84 years.

### **Sex Estimation**

A range of features were observed on both the pelvis and skull that concluded the individual was male.

### **Age Estimation**

Examination of the vertebrae revealed degenerative hypertrophic lipping to the bodies of the thoracic and lumbar vertebrae plus evidence of Schmorl's nodes in the lumbar vertebrae (a protrusion of a spinal disk's soft tissue into the bony tissue of the adjacent vertebrae) (Roberts & Cox 2003, Stabler *et al* 1997).

Examination of the tooth wear revealed that only the mandible and 4 maxillary teeth were present. The individual had lost all his mandibular adult teeth prior to death with bone reabsorption having taken place with the exception of the right 1<sup>st</sup> premolar where reabsorption had not completed, suggesting the tooth had been lost recently to death. The 4 maxillary teeth indicated that there had been extreme wear on the teeth again indicative of an older individual. There was no indication of tooth or gum disease.

The range of features examined concludes that the individual had been a mature male in excess of 55+ years.

### **Stature Estimation**

The total length of the right femur (567mm) and left tibia (444mm) achieved an estimated height of 195cm. The measurement taken from the right humerus (387mm) achieved an estimated height of 190cm.

It is suggested that the individual was between 190cm and 195cm (6'2" – 6'4").

### **Pathology**

A number of pathologies were noted on the skeletal remains. These are listed below:

1 Lipping to the proximal, superior edge of the lower thoracic and 1<sup>st</sup> to 4<sup>th</sup> lumbar bodies. Schmorl's nodes were found on the superior and inferior vertebral surfaces. Both may be associated with spinal disease associated with age degeneration.

2 The left proximal femur indicated trauma to the femoral neck resulting in the femoral head becoming detached from the neck. Bone remodeling had taken place on the medial greater trochanter and anterior femoral head suggesting healing had begun to take place. This pathology may be indicative of an intertrochanteric fracture (commonly known as a hip fracture), possibly caused by a fall or knock (Ortner 2003).



3 It was noted that the nasal bone was offset to the left side with extreme protrusion.

4 Metric measurements taken from the left and right femur indicated that the right femur was 1" longer than the left side. In addition, the right femur was much straighter than a normal femur as it did not follow the natural growth contours. It is possible that the extra length to the right femur placed pressure on the left side increasing its susceptibility to the hip fracture.

## **BURIAL 402 - MATURE FEMALE (Photo. 5)**

### **Condition of Remains**

The wooden coffin had been buried in close proximity to the north church wall. The coffin had decomposed resulting in water, acidic soil and additional skeletal remains intruding into the burial. The human remains were in a wet, fragile and spongy condition. This burial may be associated with a ledger on the church wall for Elizabeth Williams (wife of James Williams burial 401) who died 1803 aged 88 years.

### **Sex Estimation**

A range of features were observed on both the pelvis and skull that concluded the individual was female.

### **Age Estimation**

Examination of the skull showed complete closure along the sutures indicating a mature individual. In addition, the individual had lost all her mandibular adult teeth prior to death with bone reabsorption taken place and there were no maxillary teeth present. There was no indication of tooth or gum disease.

These features would suggest a mature individual.

### **Stature Estimation**

The total length of the left femur (432mm) and tibia (345 mm) achieved an estimated height of 161cm. The measurement taken from the left humerus (324mm) achieved an estimated height of 167cm.

It is suggested that the individual was between 161cm and 167cm (5'3" – 5'4").

### **Pathology**

A number of pathologies were noted on the skeletal remains. These are listed below:

1. The skull exhibited an extreme occipital protuberance.
2. The 2<sup>nd</sup> and 3<sup>rd</sup> metacarpals and the trapezoid of the right hand were fused together.
3. The left proximal humeral shaft revealed bone regrowth due to a healed fracture.
4. There was evidence of mild lipping to the vertebral bodies of lumbar 4 & 5.

## **BURIAL 403 – MATURE FEMALE (Photo. 6)**

### **Condition of Remains**

The human remains were in a wet, fragile condition.

### **Sex Estimation**

A range of features were observed on both the pelvis and skull that concluded the individual was female.

### **Age Estimation**

Examination of the vertebrae revealed mild degenerative lipping to the bodies of the thoracic and lumbar vertebrae (Roberts & Cox 2003). There was no evidence of Schmorl's nodes.

Examination of the teeth concluded that the individual had lost all her mandibular adult teeth prior to death with bone reabsorption taken place. There were only 3 maxillary teeth and all showed signs of adult wear on the teeth. The 2<sup>nd</sup> left premolar showed signs of tooth disease.

The ranges of features examined indicate that the individual had been a mature female.

### **Stature Estimation**

The total length of the right femur (461mm) achieved an estimated height of 168cm. The measurement taken from the right humerus (327mm) also achieved an estimated height of 168cm.

It is suggested that the individual had been in the region of 168cm (5'5").

### **Pathology**

A number of pathologies were noted on the skeletal remains. These are listed below:

1. Excessive bone remodeling to coronoid process of the left ulna, indicative of trauma to the elbow, possibly osteoarthritis.
2. Twisting and lateral bowing to distal shaft of right ulna and excessive bone remodelling to distal ulna head, indicative of healed fracture.
3. Slight degenerative hypertrophic lipping to lumbar vertebrae.

## **BURIAL 404 – MATURE MALE (Photo. 10)**

### **Condition of Remains**

The human remains had been contained within a wooden coffin approximately 1 meter from the church wall. This coffin had been capped by 5 slate slabs. This burial may be associated with the headstone attributed to John Williams buried 1873 aged 89 years. The burial contained a mixture of wood, bone, fabric and metal rings from the collapsed coffin. Water had penetrated the coffin over time resulting in the bones being in a wet, fragile and spongy condition with poor preservation.

### **Sex Estimation**

The range of features observed on both the pelvis and skull confirmed that the individual was male.

### **Age Estimation**

Examination of the vertebrae revealed degenerative hypertrophic lipping to the bodies of the thoracic and lumbar vertebrae plus evidence of Schmorl's nodes in the thoracic vertebrae associated with degeneration of the aging spine.

Examination revealed that only 7 mandibular and no maxillary teeth were present. The individual had lost 6 mandibular teeth prior to death with bone reabsorption having taken place on the alveolar bone. Neither the left nor right 3rd molar had erupted. The 7 mandibular teeth remaining indicated that there had been extreme wear on the teeth. There was evidence of tooth decay on the 1<sup>st</sup> left incisor.

The heavy wear on the vertebrae and teeth confirms that the individual had been a mature adult.

### **Stature Estimation**

The total length of the right femur (461mm) produced an estimated height of 171cm.

It is suggested that the stature of the individual had been approximately 171cm tall (5'6").

### **Pathology**

A number of pathologies were noted on the skeletal remains. These are listed below:

1. Fusion and bone regrowth of the lower thoracic vertebrae (T9 – T12) suggest the individual suffered from a form of degenerative joint disorder (DJD) in the form of osteoarthritis or similar disease (Ortner 2003).
2. Severe lipping was evident on all the thoracic and lumbar vertebrae suggesting advanced DJD.
3. The left humerus did not follow the natural shape of the bone and demonstrated a twist from the proximal to distal end resulting in the epicondyle being slightly offset from the humeral head. Both humeri displayed pronounced deltoid tuberosity muscle attachments.
4. The 1<sup>st</sup> left mandibular incisor was diseased and withered however, there did not appear to be evidence of disease within the gum.

### **BURIAL 405 – MIDDLE AGED MALE (Photo. 11)**

#### **Condition of Remains**

The human remains for burial 405 had been buried within a wooden coffin that had consequently been enclosed by a modern brick wall suggesting the burial was post Victorian. The burial contained a mixture of water, mud, decayed matter as well as the skeletal remains. Although the burial conditions were wet, the human remains were in a very good condition and the skeleton was complete. This burial was associated with the ledger of James Williams who died 1891 aged 66 years.

#### **Sex Estimation**

The range of features observed on both the pelvis and skull indicates that the individual was male.

#### **Age Estimation**

Examination of the vertebrae revealed only slight hypertrophic lipping to the bodies of the thoracic vertebrae with no evidence of Schmorl's nodes on the vertebrae.

The tooth examination revealed that 8 mandibular teeth and 7 maxillary were present. Examination of the 15 teeth indicated that there had been average wear on the teeth indicative of a middle aged adult. The individual had lost 8 mandibular teeth and 6 maxillary teeth prior to death with bone reabsorption having taken place on the alveolar bone. There was no evidence of tooth decay or gum disease.

The slight wear on the vertebrae and only moderate wear on the teeth suggests that the individual had been a middle aged adult between 30 – 45 years old.

### **Stature Estimation**

Placing the total length of the left femur (428mm) and left tibia (344mm) into the regression formulae an estimated height of 164cm was calculated.

It is suggested that the stature of the individual had been approximately 164cm tall (5'3").

### **Pathology**

No pathologies were noted on this individual.

## **BURIAL 406 – JUVENILE (12 – 14 YEARS) (Photo. 8)**

### **Condition of Remains**

Only the fragmented remains of the skull, upper torso and right arm were preserved.

### **Sex Estimation**

This was not possible to establish as the individual was a juvenile.

### **Age Estimation**

Examination revealed incomplete fusion on the clavicle and humerus. This would place the individual below the age of 16 years. The suture lines along the skull also only showed signs of minimal closure, again placing the individual below 18 years.

Placing the total length right humerus (317mm) into the regression formulae an estimated age of 14 – 14.5 years was calculated.

Examination of the teeth revealed all maxillary and mandibular adult teeth were present with the exception of the maxillary 3<sup>rd</sup> left and right molar. These were in the stage of erupting, placing the individual between the ages of 12 – 14 years.

The range of features examined concludes that the individual was estimated to be between 12 and 14 years old.

### **Stature Estimation**

This was not possible to establish as the individual was a juvenile.

### **Pathology**

No pathologies were noted on this individual.

## **BURIAL 407 – INFANT (Photo 3)**

### **Condition of Remains**

No coffin nails were found, which may suggest an early date for the burial. The skull had been severely damaged due to a trench collapse during excavation and it was noted by the excavators that some bones had moved (Crane *pers comm.* 2007). The arms had been folded across the chest. The remains were in a good condition.

### **Sex Estimation**

This was not possible to establish as the individual was a juvenile.

### **Age Estimation**

Examination revealed there was incomplete fusion on all the bones placing the individual below the age of 13 years.

The total length of the long bones were placed in the regression formulae table to establish the infants' age and the results as shown below:

Bone	Length (mm)	Age
Left humerus	109.88	14 months
Right radius	77.53	10 months
Left femur	137.74	12 months
left tibia	107.60	9 months

Table 2: relationship of long bone length to age (Scheuer & Black 2000)

The long bone length results place the infant between the ages of 9 to 14 months old.

Examination of the teeth revealed that only deciduous teeth were present. Although 8 maxillary and 8 mandibular teeth had erupted only 5 teeth in total were present. There was evidence that the 2<sup>nd</sup> deciduous molars (m2) were in the early stages of eruption. This would place the infant between the ages of 13 – 18 months.

The range of features examined concludes that the infant was estimated to be between 9 and 18 months old.

### **Stature Estimation**

This was not possible to establish as the individual was a juvenile.

### **Pathology**

No pathologies were present.

## **BURIAL 408 – MATURE MALE (Photo. 7)**

### **Condition of Remains**

The remains had been contained within a wooden coffin that had been buried in close proximity to the north church wall. The skeleton was complete and in good condition.

### **Sex Estimation**

A range of features were observed on both the pelvis and skull that concluded the individual was male.

### **Age Estimation**

Examination of the vertebrae revealed degenerative hypertrophic lipping to the bodies of the thoracic and lumbar vertebrae associated with minor degeneration of the aging spine. There was evidence of spinal deformity with severe 'S' shaped spine due to the collapse of lower thoracic vertebral bodies. This may have been due to a serious infection such as tuberculosis or through degenerative aging process.

The mandible showed evidence of all adult teeth erupting although only 8 teeth were present. All maxilla teeth had erupted but only 7 were present. No bone re-absorption had taken place as teeth were lost post mortem. There had been extreme wear on the teeth, the left mandibular molar was diseased and there was a carie on the right maxilla canine.

The range of features examined concludes that the individual had been a mature male.

### **Stature Estimation**

The total length of the right femur (441mm) achieved an estimated height of 166cm. The measurement taken from the right humerus (323mm) achieved an estimated height of 170cm.

It is suggested that the individual had been between 166cm and 170cm (5'4" – 5'5").

### **Pathology**

A number of pathologies were noted on the skeletal remains. These are listed below:

1. There was evidence of misshaped spine with an exaggerated 'S' shape in the lower thoracic vertebrae. The cause of the deformity is unclear but may be due to an infection such as tuberculosis or due to a severe degenerative disorder such as Senile Kyphosis.

## **BURIAL 409 – JUVENILE (Photo. 9)**

### **Condition of Remains**

Only the fragmentary remains of the skull were preserved due to heavy disturbance.

### **Sex Estimation**

This was not possible to establish as the individual was a juvenile.

### **Age Estimation**

It was not possible to establish an age for the individual. There was no closure along the suture lines of the skull concluding that it was a juvenile, but no age could be established.

### **Stature Estimation**

This was not possible to establish as the individual was a juvenile.

### **Pathology**

There were no pathologies present on the individual.

## **BURIAL 410 – ADULT (not photographed)**

### **Condition of Remains**

Only the lower legs had been preserved due to a second grave being cut into the burial resulting in only the individuals' distal femur (knees) being preserved. This burial was disturbed by grave structure 139.

### **Sex Estimation**

It was not possible to establish the sex of the individual.

### **Age Estimation**

It was not possible to establish the age of the individual.

### **Stature Estimation**

It was not possible to establish the stature of the individual.

### **Pathology**

1. Both tibia were misshaped; they appeared flattened and not the usual triangular shape. The cause of this is unknown.

## **BURIAL 411 (Photos. 14 and 15)**

The human remains within this burial were not lifted or examined.

## **BURIAL 412 (Photo. 14)**

The human remains within this burial were not lifted or examined.

## **COMMINGLED REMAINS**

An additional number of human remains, that were associated with the surrounding area of the marked burials, were also excavated, although they were not excavated from any identifiable marked graves. These fragmentary and commingled remains represented a number of adults and juveniles that had been buried in the surrounding area of the marked graves. The fragmentary nature of the intrusive commingled remains meant that it was not possible to establish the sex, age and stature of any of the individuals. The condition of the remains ranged from very good to fragile but many were of an extremely fragmentary nature and in most cases it was not possible to establish the total number of individuals represented.

For each context, the bone fragments were separated into animal and human and a count was made of all the bone fragments. Table 3 is a summery of the results.

Context number	Number of fragments	Minimum number of individuals	Animal bone	Age
101	194	n/a	8	Mixed
107	623	945	18	Mixed
108	409	n/a	12	Mixed
108a	9	1	X	Infant
112	70	n/a	4	Mixed
117	67	n/a	X	Mixed
118	96	n/a	X	Mixed
119	443	n/a	X	Mixed

120	86	n/a	X	Mixed
121	155	n/a	X	Mixed
122	3	n/a	X	Mixed
123	121	n/a	X	Mixed
125	41	n/a	X	Mixed
131	443	n/a	X	Mixed
134	30	n/a	X	Mixed
401a	19	3	X	Juvenile
401B	8	2	X	Adult
413	17	3	X	Mixed
Total number of fragments	2834		42	

*Table 3; identifying the number of human and animal bone fragments found within each context number.*

There was no evidence of cut marks, carnivore damage or burning to any of the human remains.

## **ANIMAL BONE**

It can be confirmed that a minimum of 42 animal bones were identified mixed within the human skeletal remains (Coard 2006).

## **GENERAL CONCLUSION**

Tables 4 and 5 are a summary of the findings set out within this report:

Context number	Sex	Age	Stature
401	Male	Mature (55+)	6'2 – 6'4
402	Female	Mature (55+)	5'3 – 5'4
403	Female	Mature (55+)	5'5
404	Male	Mature (55+)	5'6
405	Male	Middle (30 – 45)	5'3
406	Juvenile	12 – 14 years	-
407	Infant	9 – 18 month	-
408	Male	Mature (55+)	5'4 – 5'5
409	Juvenile	-	-
410	Adult	-	-

*Table 4; summary of the marked grave skeletal report findings*



Fragmentary remains	Number	Age
Human	2834	mixed
Animal	42	/

Table 5; summery of the fragmentary remains excavated from St James Church

It can be confirmed that 10 purposeful burials were lifted and the remains examined. Within each grave only one individual was buried although many graves contained the intrusive remains from graves that had collapsed or been disturbed. Two graves (numbers 411 & 412) were identified but not lifted or recorded as they were buried beneath the maximum depth required for the foundations.

Aside from the 10 individuals, there were an additional number (total = 2834) of commingled and fragmentary remains representing an unidentifiable number of adults and juveniles.

A number (total = 42) of fragments of animal bone were also identified.

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## APPENDIX 2 FINDS TABLE

Disc = Discarded. All discarded iron was photographed first

Context	Description
101	Cu alloy: rod part threaded. Part of lightning conductor rod? Disc
	Iron: 1 frag cast iron possibly gutter fragment. Disc
	Ceramic? 1 disc broken, and heat affected. Disc
	Glass: 1 frag brown window glass. Post Med. Disc
	Iron: 1 tie rod for stone. Complete. Med?
	Pottery: 1 frag unglazed body gritty local?, likely post med
	Cu alloy: 4 frags of pins
107	Iron: 1 coffin handle. Curved
	Iron: 3 nails. Coffin? Disc
	Iron: 5 frags. Disc
	Lead: 2 window frags
	Pottery: 8 sherds (small) Merida ware
	Pottery: 1 glazed body sherd. Llanstephan
	Pottery: 2 rim sherds green glazed. Same vessel white fabric. Med
	Pottery: 1 unglazed body sherd. Mica flecked (probably Merida ware)
	Pottery: 1 black glazed. Post med? Or could be Cistercian Ware?
	Pottery: 1 glazed base, NDGTW
	Tile: 5 frags of unglazed ridge tile
	Tile: 3 frags glazed ridge tile
	Tile: 5 frags floor tile. 2 of which join and are green glazed. Others worn
	Painted Plaster: 9 frags. Some show decoration. Photo 1700 on 1cm squares
108	Iron: 1 coffin handle straight
	Iron: 1 nail. Disk
	Iron: ½ down pipe clamp. Disc
	Iron: 1 cast decorated floral cross, top of grave surround. Disc
	Ash: 1 frag of coke or coal ash. Disc
	Cu alloy: 1 rod frag. Modern. Disc
	Lead: 1 small strip, roofing, modern. Disc
	Glass: 1 frag green glass. Very bubbly. Modern. Disc
	Glass: 1 frag window? Post med. Disc
	Shell: 1 oyster. Disc
	Clay pipe: 3 frags, 2 of which have spurs and start of boles
	China: 1 rim frag, grey exterior, white interior. Disc
	Pottery: 2 rim sherds. Glazed, 1 probably Llanstephan, other 1 NDGTW
	Pottery: 2 body sherds. Glazed, NDGTW
	Pottery: 1 body. Un-glazed
	Tile: 2 frags green glazed floor tile (worn)
	Tile: 1 frag floor tile
	Brick?: 1 frag
	Tile?: 1 frag
	Roof tile: 2 frags. Unglazed. Med
	Roof tile: 1 frag. Green glazed. Med
109	Lead: 1 frag
	Slate: 1 complete roof slate with mortar. Size 230mm x 120mm with top corner cut out 60mm x 40mm
	Pottery: 2 green glazed body sherds, 1 Llanstephan? Other 1 med
112	Iron: 1 nail

	Pottery: 2 green glazed body sherds. 1 NDGTW post med other 1 med?
	Brick: 1 frag. Modern. Disc
	Tile: 1 frag. Modern. Disc
	Tile: 2 frags ridge tile green glazed. Med
	Tile: 1 frag worn floor tile. Med
117	Iron: 1 frag of iron/wood coffin. Disc
119	Glass: 1 Jar, modern. Disc
	Glass: 1 modern frag. Disc
	Pottery: 1 rim sherd of a bowl. NDGTW?
	Clay pipe: 4 stem frags
	Tile: 1 frag green glazed floor tile. Med
	Tile: 7 frags green glazed ridge tile. Med/post med
	Tile: 1 frag unglazed ridge tile
	Iron: 2 cast? Iron frags
	Iron: 1 frag coffin handle, straight
	Iron: 1 frag
120	Tile: 2 frags green glazed ridge tile
	Tile: 1 frag unglazed ridge tile
	Tile: 2 frags green glazed floor tile
	Tile: 1 frag floor tile, worn
	Tile: 3 frags
123	Iron: 2 frags roof tile
127	Cu alloy: 1 coffin fitting small? Disc
	Iron: 1 coffin handle, curved
	Iron: 3 coffin handles, curved, Disc
	Iron: 1 frag of curved coffin handle? Disc
	Iron: 15 frags, nails? Disc
129 (403)	Iron: 3 to 10 frags of Iron/wood coffin. Disc
	Iron: 11 nails. Disc
	Iron: c. 20 frags, nails? Disc
131	Iron: 1 object/clamp?
	Pottery: 1 frag NDGTW?
133	Iron: 8 frags nails? Disc
134	Pottery: 1 frag green glazed, possibly Llanstephan ware?
136	Iron: 5 Nails? Disc
	Iron: 9 frags. Disc
	Glass: 1 very small frag
409	Cu alloy: 1 pin found with or near skull
301 (107)	Cu alloy: Pin, silvered
302 (104)	Stone window jamb. Left on site to be built into retaining wall
303 (130)	Cu alloy button, silvered. Post med
304 (131)	Cu alloy tweezers?



Photo. 1: Trench north of north aisle as fully excavated. View W



Photo. 2: Trench north of north aisle as fully excavated. View W





Photo. 3: Skeleton 407. View N. Scale 0.5m



Photo. 4: Skeleton 401. View S. Scale 1m





Photo. 5: Skeleton 402. View S. Scales 0.5m and 1m



Photo. 6: Skeleton 403. View S. Scale 0.5





Photo. 7: Skeleton 408. View S. Scale 1m



Photo. 8: Skeleton 406. View S. Scale 0.5





Photo. 9: Skeleton? 409. View SW. Scale 1m



Photo. 10: Skeleton 404 in brick lined grave 111. View N





Photo. 11: Skeleton 105 in brick lined grave 116. Scale 0.5m



Photo. 12: Trench west of church, watching brief area as excavated. View W. Scales 1m





Photo. 13: Trench west of church, watching brief area as excavated. View NE. Scales 1m



Photo. 14: Skeleton 412 in section and skeleton 411 in base of trench. Both not lifted. View S. Scale 1m



Photo. 15: Skeleton 411. View W



Photo. 16. Grave 139. View W. Scales 0.5m and 1m





Photo. 17: Top of coffin in grave in 140. View W. Scale 0.5m

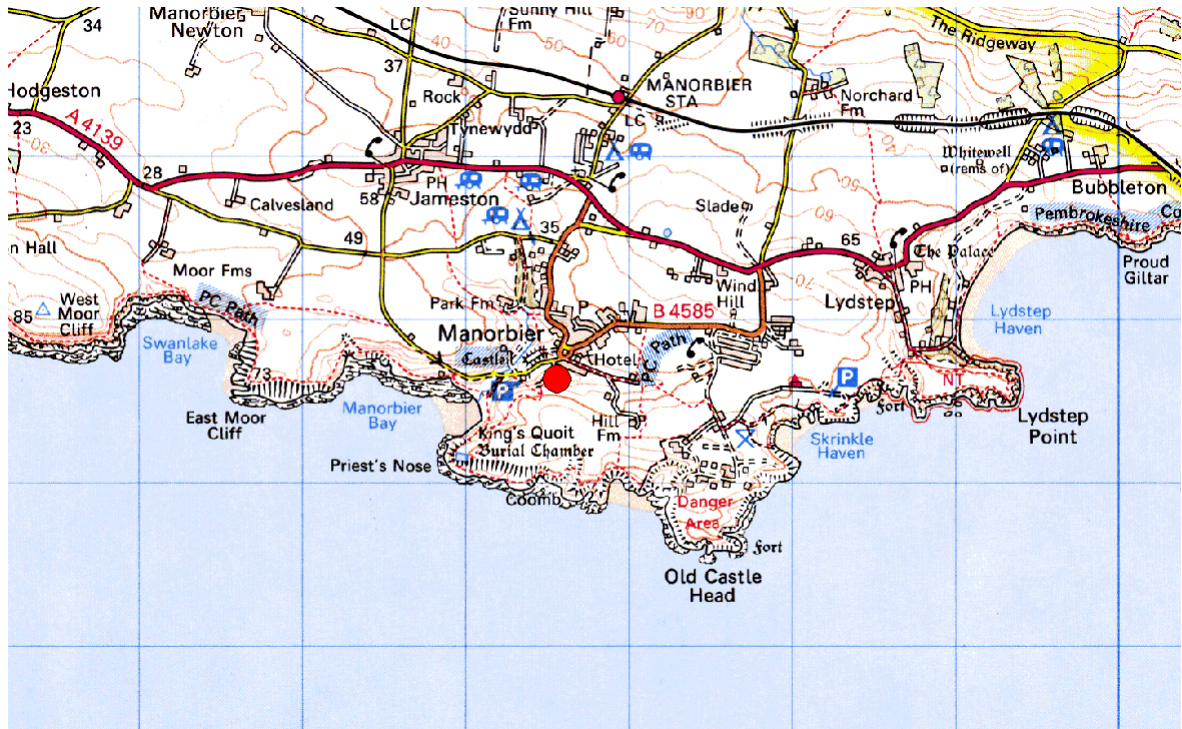


Photo. 18: Painted plaster. 1cm squares



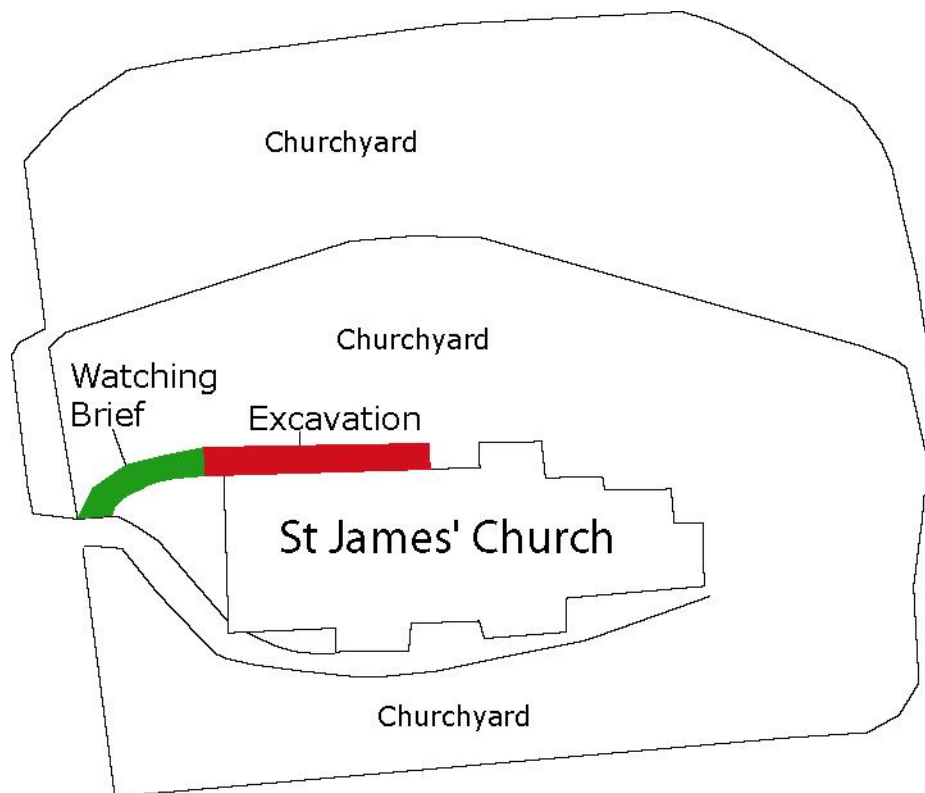
Photo. 19: Tweezers 304





**Figure 1: Location of St James' Church, Manorbier.**

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**Figure 2: Location of excavation and watching brief trenches**

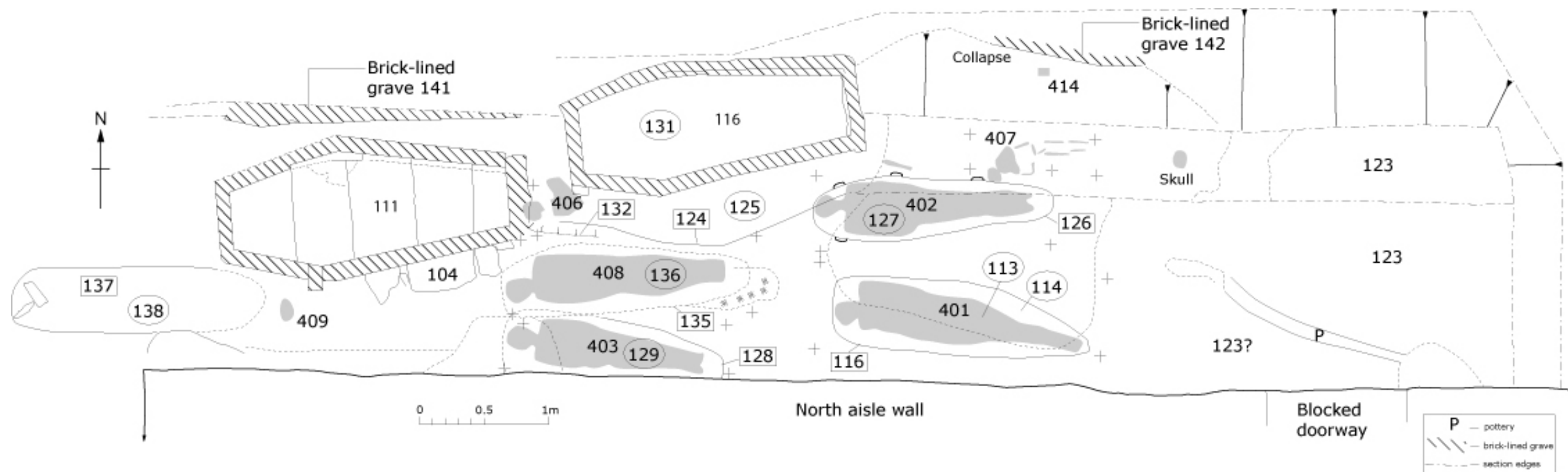


Figure 3: Plan of area north of north aisle

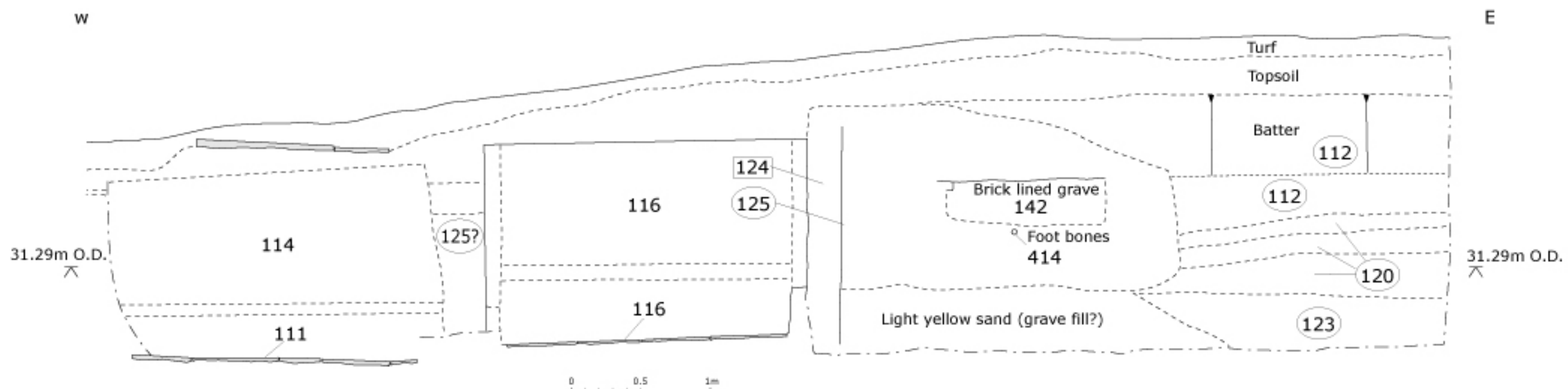


Figure 4: Main section of area north of north aisle

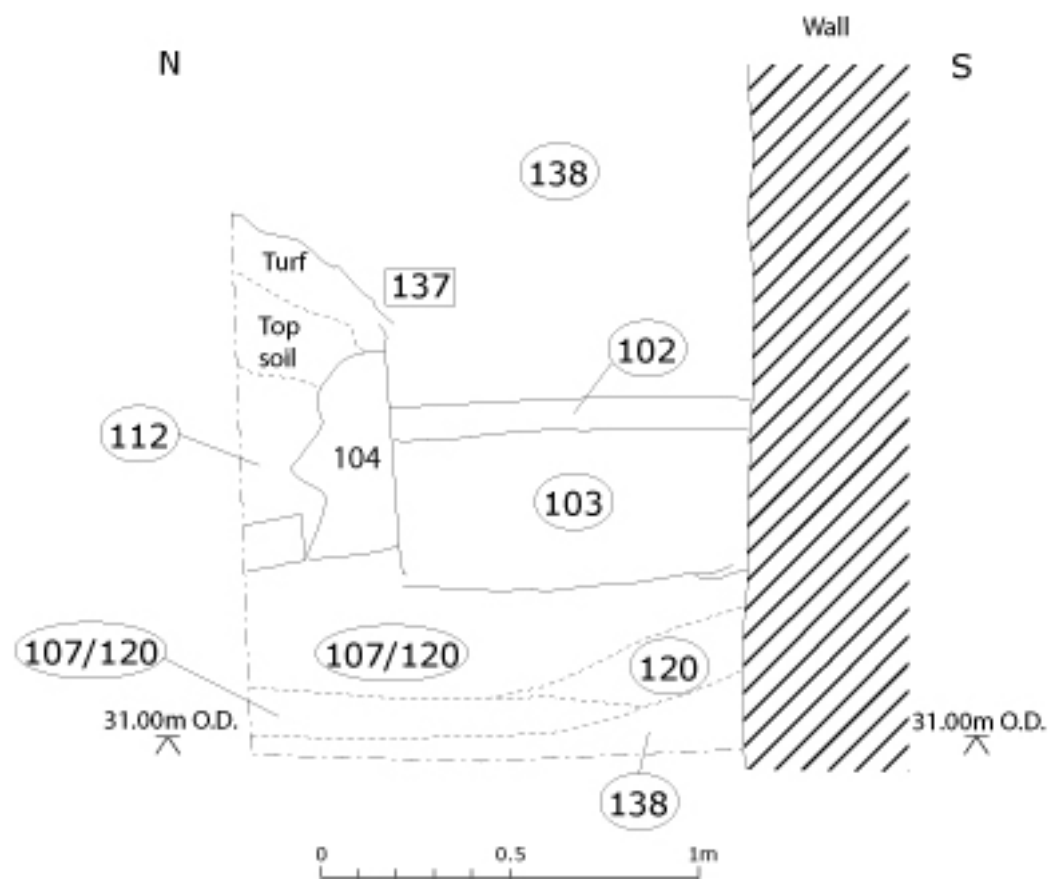


Figure 5: Section at east end of area north of north aisle



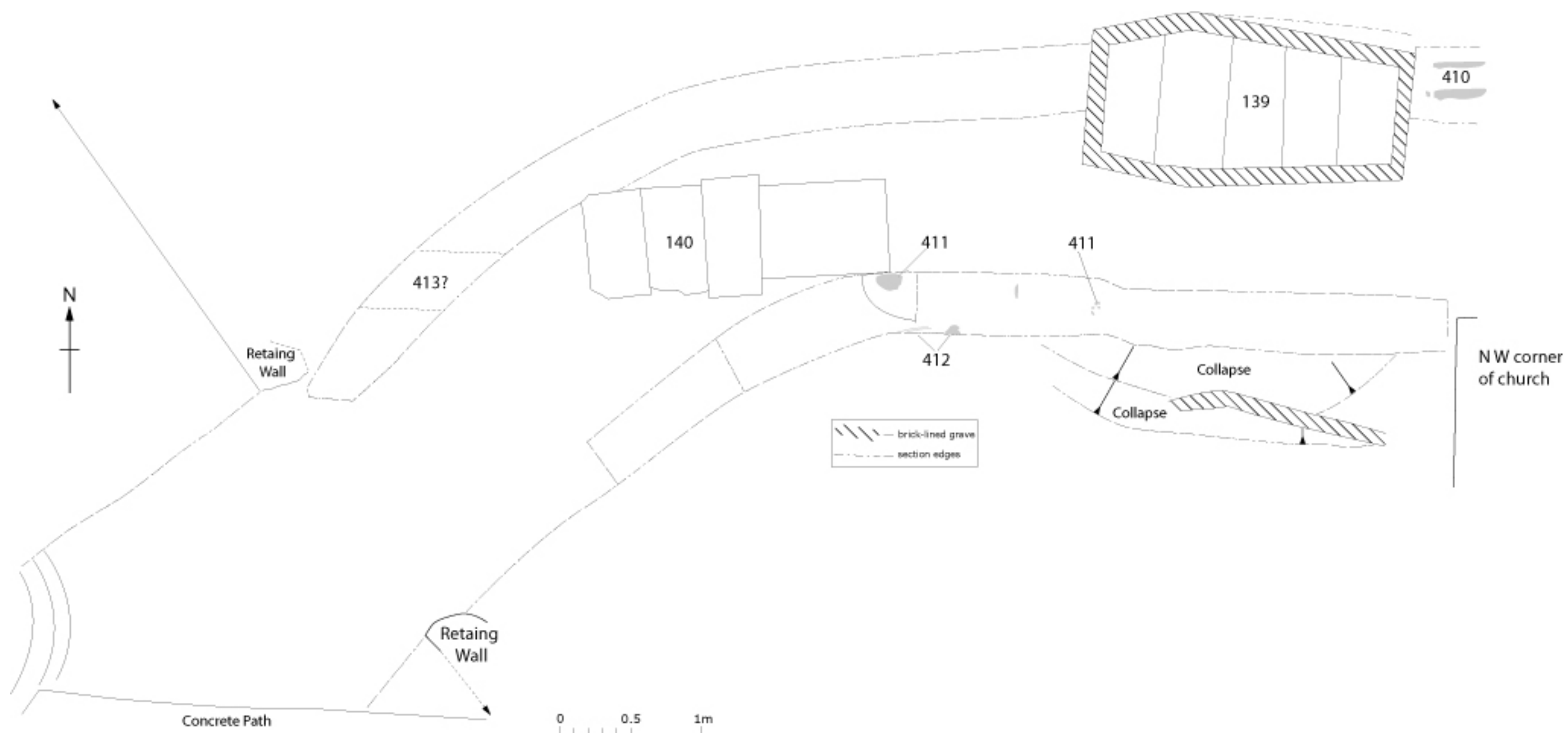


Figure 6: Area west of church