

Kirby, Great Broughton and Ingleby Greenhow Local History Group

St Augustine's, Kirkby-in-Cleveland Search for the Foundations of the Saxon Church



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and
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1. Introduction and Acknowledgements

This short report is the result of archaeological work carried out in 2011 and 2012 by members of the Kirby, Great Broughton and Ingleby Greenhow Local History Group. The work was supported by Dr Jon Kenny the community archaeologist at York Archaeological Trust and members of community archaeology groups located near York who had experience of using geophysical equipment in particular.

The work set out to add to our understanding of part of the graveyard at St Augustine's, Kirkby-in-Cleveland to the north of the church. The investigation took the form of a geophysical survey that was then followed up with carefully located test pits to evaluate the potential for earlier church building foundations.

Acknowledgements

We would like to thank the Parish of Kirkby-in-Cleveland and the Diocese of York for our faculty and support.

We are very grateful to Brian Elsey (Archaeology North Duffield) and Roger Weatherill (Bilbrough Local History Group) for their help with the geophysical surveying.

2. Historical Background by Roy Parsonage.

Introduction

It has been believed, for many years, that the original church in the village was of Saxon origin and that the foundations were probably located in the churchyard to the north of the present building. The Local History Group proposed a detailed examination of the site; this was accepted by the PCC with some enthusiasm and a number of non-invasive surveys were undertaken in 2010 and 2011. In 2012, a faculty for exploratory test pitting was approved by the Diocese of York.

Background

The parish church of St Augustine's, Kirkby-in-Cleveland stands on an elevated site, close to the crossroads at the centre of the village. The present building comprises a Nave with a tower at the west end, built in 1815, and a Chancel which was re-built in 1905.

The village is recorded in the Domesday Survey; the name Kirkby is derived from the Viking and means "where the church is". This suggests that the original church pre-dated the Conquest and would have been of Saxon construction. This is given some credence by the incorporation of some Saxon stone carvings in the interior wall of the Chancel and Saxon crosses on the exterior gables; it is reasonable to presume that the builders found the stones on the site and made use of them.

It is fairly certain that the Saxon church would have been replaced by a Norman building as this was the practice following the Conquest, and that this, in turn was replaced by a mediaeval structure.

Graves History of 1805 identifies this latter building as cruciform in shape with a central tower, suggesting that it was a relatively important church in the area; records show that the parish was served by both a rector and a vicar for more than 500 years. Vestry meeting minutes for 1813 indicate that the building had become dilapidated and that a decision was made to replace it with the present church building. There is no record of a re-consecration following the re-building of 1815, so it can be safely accepted that the mediaeval church occupied exactly the same site as the present building.

In 1951 the sexton uncovered some roughly dressed foundations whilst digging a grave some 25 yards to the north of the church. Although the north churchyard has a gentle slope down and away from the church, there is a relatively level portion in the general area of the grave excavation; it was thought that this would have been the location of the original Saxon building and, possibly, it's Norman replacement. It may be significant that this area contains the churchyard's most ancient monument, a greatly weathered pair of effigies thought to be a memorial, dating from the 14th century, to the Eure family who were for a long time lords of the Manor of Kirkby. This discovery is recorded in a history of the area, published in 1977, and in a brief history of the church written about 20 years ago.

The Local History Group delegated a small team to investigate the site and approached the York Archaeological Trust for advice. Dr Jon Kenny, the

Community Archaeologist, agreed to undertake a geophysical survey of the level section of the north churchyard and the initial results indicated the presence of possible foundation material for a building approximately 50 feet long and 17 feet wide. The dimensions are not dis-similar to the Saxon church at Escomb in County Durham. It was agreed that corroborative evidence might be derived from the excavation of 4 test pits and approval for this work was given by the Diocese of York in June 2012.

Roy Parsonage
14 January 2013

3. Geophysical Survey

Geophysical survey involves the use of instruments at the ground surface which are sensitive to variations in the physical properties of the underlying soil, such as its magnetism or electrical conductivity. Variations within the sample area, mapped as 'anomalies' can be interpreted in terms of their likely archaeological origin (Hey & Lacey, 2001).

Electrical earth resistance survey involves measuring the resistance between two mobile probes inserted into the ground, and records the resistance between them in Ohms. This is compared with two fixed remote electrodes, positioned outside the survey area as a baseline at a distance recommended by English Heritage (EH) best practice guidance (EH, 2008, 26). The baseline reading is compared with readings taken at the mobile probes to form a weighted average of higher or lower resistances. A survey image is achieved by passing the raw data through a software program which distributes the readings spatially and assigns them colour or intensity based on their value relative to the baseline.

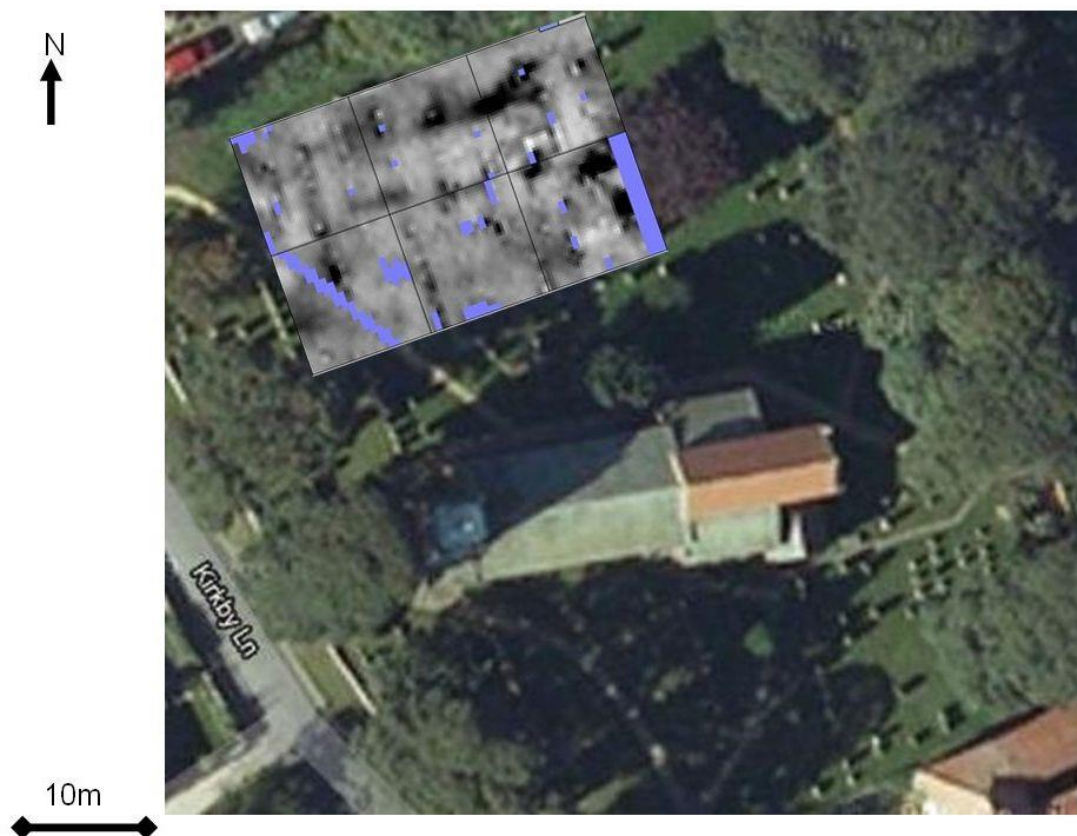


Figure 1: Grid area in relation to the church.

Methodology of survey

The survey was carried using an RM 15-D Resistance Meter. The survey was conducted in a zigzag pattern over an area comprised of six partial 10m x 10m grids situated on the flat area in the north west of the grave yard. Readings were taken at 0.5m intervals and 1m transects. Where readings went over range, or obstacles prevented survey, 'dummy' readings were taken. The survey grids were located on a site grid measuring 30m x 20m (see Figure 1) that is also used on a topographic survey using existing structures as reference points.

Data Processing

The results were processed using Geoplot 3.0. Despiking, interpolation and a high pass filter were used to create the survey image. Despiking removes any unusually high or low individual readings which can occur in resistivity survey due to metal objects or water. Interpolation is used to smooth the curve on the X and Y axis; this produces a clearer image by adding data points between measured points of an average value thereby artificially increasing the resolution of the survey image. The high pass filter takes into account possible variations in geomorphology by removing low frequency changes over the whole dataset (Geoplot 2004, 2). This processing was conducted by YAT.

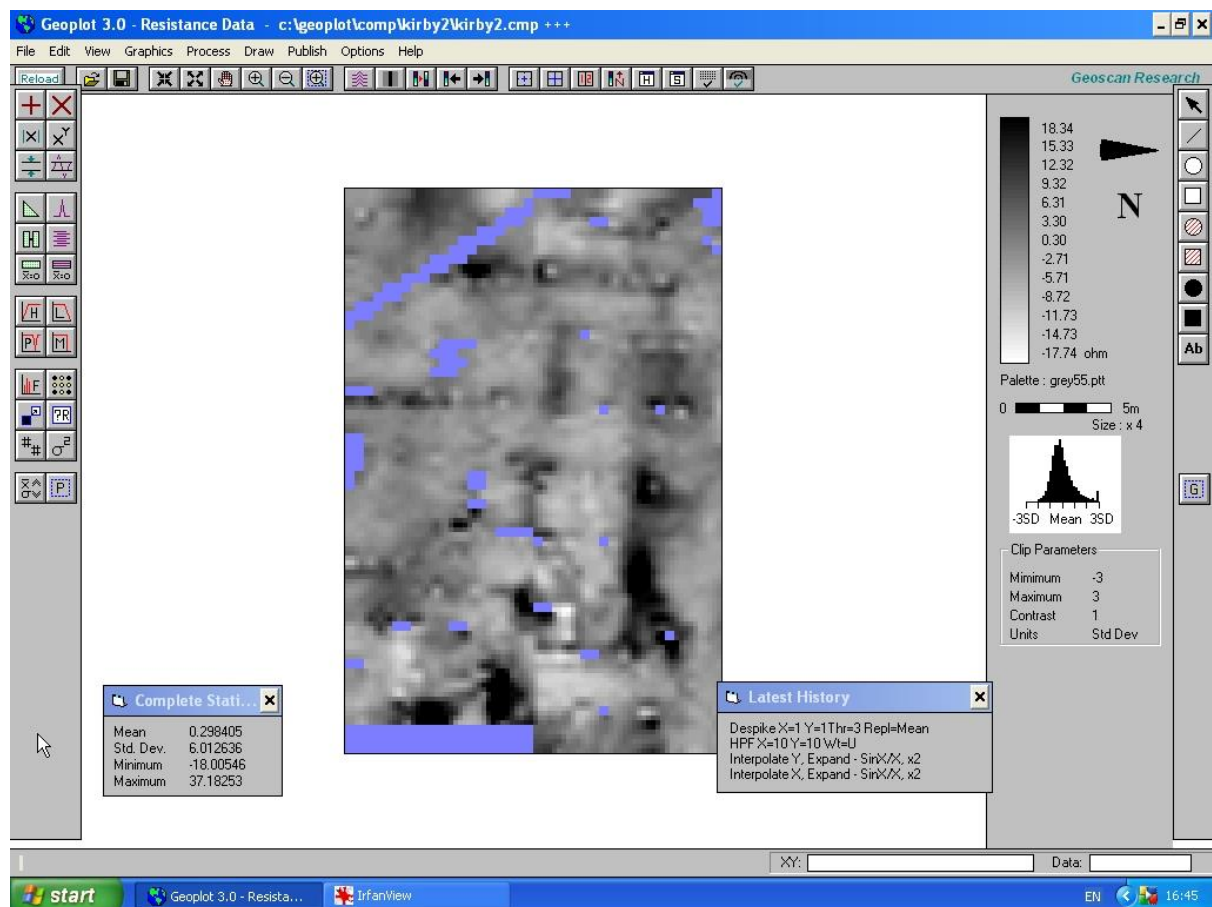


Figure 2: Plot of the data on Geoplot software.

Interpretation

The results of the survey shown in figure 2 above shows a rectangular feature made up of high resistance anomalies. The rectangle is made up of patches of high resistance and some gaps. This may represent spreads of high resistance material such as stone. The rectangular shape is about 20m in its east west axis and 6m on its north south. This feature might be the outline of an earlier church, possibly foundations and some collapse and tumble. The shape and size of the outline is reminiscent of the church still standing at Escomb in Northumberland See figure 3 below.

Escomb measures
17.1m x 4.5

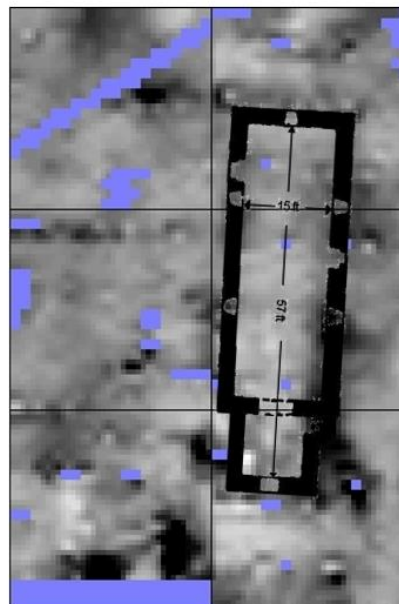


Figure 3: Rectangular feature with Escomb plan overlaid.

The interpretation of these features needed further investigation to ascertain whether the anomalies were stone and whether they did represent coherent archaeological features in the ground.

Bibliography (Geophysics Section)

English Heritage, 2008, Geophysical Survey in Archaeological Field Evaluation, Wyndehams

Geoplot, 2004, Chapter 6; Data Processing, [pdf] Available at:

<http://www.geoscan-research.co.uk/Gp300Proc3.pdf> [Accessed on 23/11/2011]

Hey, G. & Lacey, M with Linford, N., David, A. and Shepherd, N., 2001 Evaluation of Archaeological Decision-making Processes and Sampling Strategies; Alden Group Limited, Oxford.

4. Test Pitting

To substantiate the idea that the geophysics was showing a building or structure the team obtained a Faculty from the Diocese of York giving permission to excavate test pits on the areas where stone was indicated and avoiding graves. The test pits were excavated on 21st and 22nd August 2012 under the supervision of Dr Jon Kenny from York Archaeological Trust. Three test pits were completed on the proposed north east corner of the structure to investigate the nature of the deposits further (see figure 4 below). For full context description see Appendix.

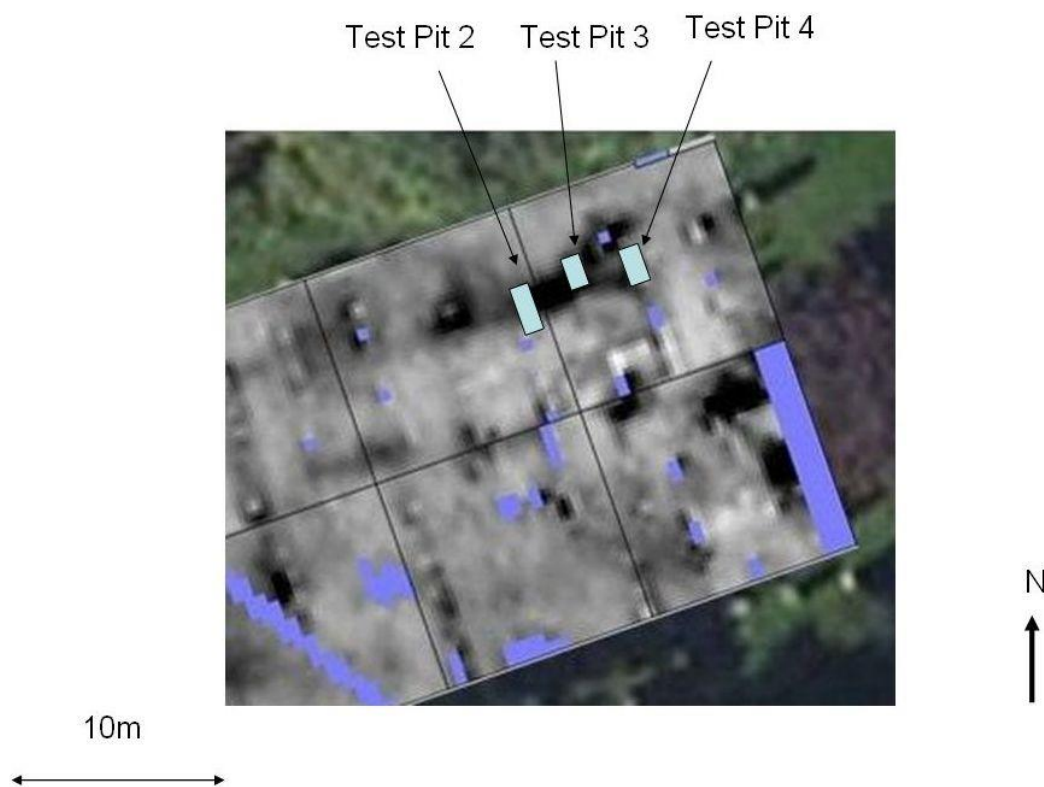


Figure 4: Location of Test Pits.

Test Pit 2

Test Pit 1 was abandoned because we realised, we had located it in the wrong place. Test Pit 2 measured 1m x 2m and was begun by removing a 10cm spit of top soil (200) which was underlain by further soil accumulation (201). The soil overburden contained broken cobbles and mortar fragments as well as some flecks of brick that suggest activity during the last 200 years, presumably the insertion of the graves visible today.

With the removal of the overburden two features were identified, a yellow brown sandy silt containing numerous stone fragments running east – west in the north end of the trench (202) and three flat stones laid along the eastern side on the trench (203). The yellow material containing stone (202), including one worked fragment appeared to be the core of a wall running east – west. The worked fragment was set across the wall, suggesting it had been reused. The stones arranged to the northern edge of the test pit appear to delimit the foot of a later grave the main fill of which was identified as (204). See figures 5 and 6 below.

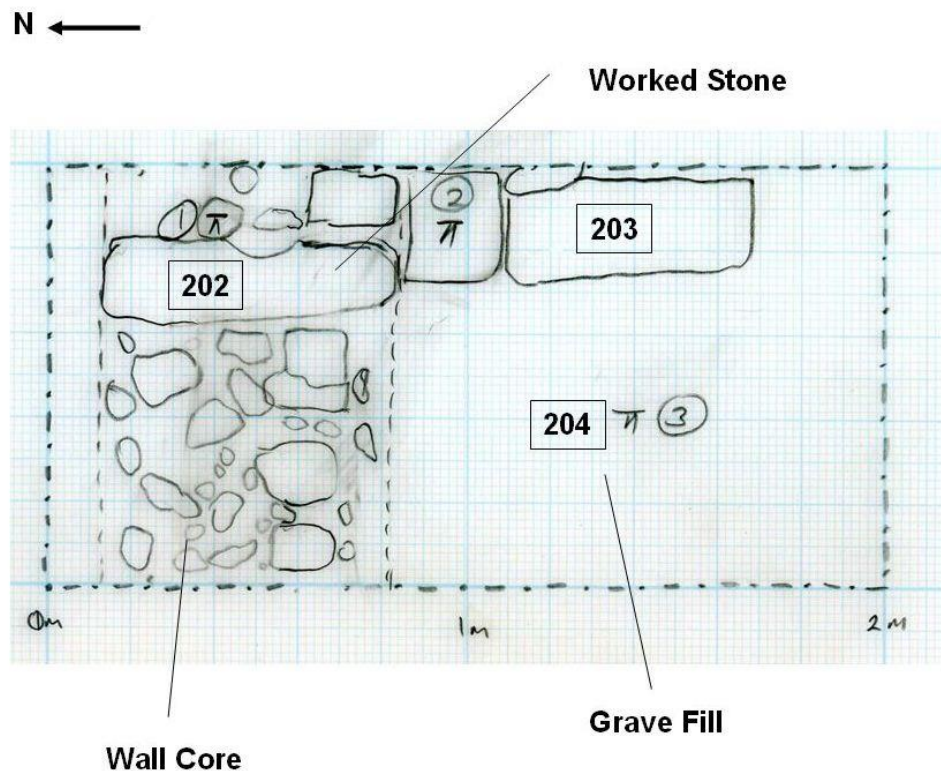


Figure 5: Plan showing possible wall core containing worked stone.



Figure 6: Test Pit 2 showing deposit (202) and the worked stone.

Test Pit 3

Test Pit 3 measured 1.5m x 1m, it was located on the same anomaly as Test Pit 2 but further to the east in the hope of finding the corner of any structure. Excavation was begun by removing the top soil (300). As with test pit 2 the soil overburden contained broken cobbles and mortar fragments.

As the excavation of (301) progressed we found a lot of cobble and mortar with a patch of mortar some 15 cm thick identified within the deposit. On the northern side of the trench the deposit ran to a depth of 28cm. The excavation also revealed a set of worked stones set edge on running east – west (303). To the south of these stones deposit (301) extended deeper than we excavated (see figure 7 below).

To the north of the stones set on edge (303) was a yellow brown deposit containing cobbles that appeared to be wall core again. In this case the deposit is truncated to the north, possibly indicating the removal of facing stone on the northern side of the feature (see figures 7 and 8 below).

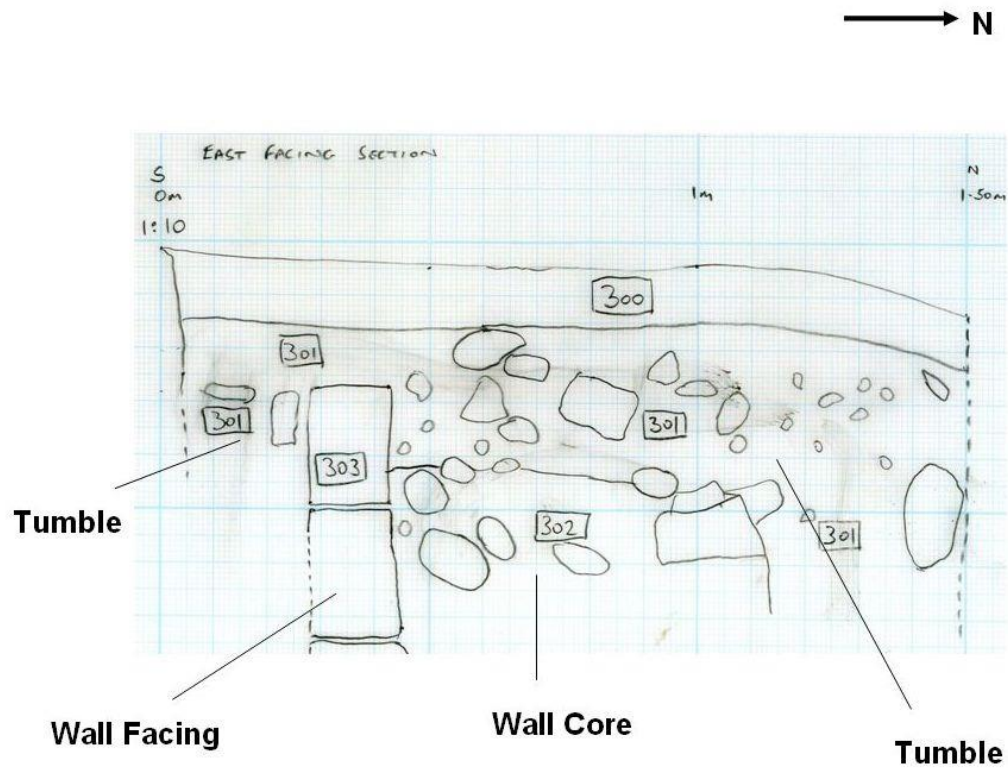


Figure 7: Section Drawing showing features in Test Pit 3 (east facing).

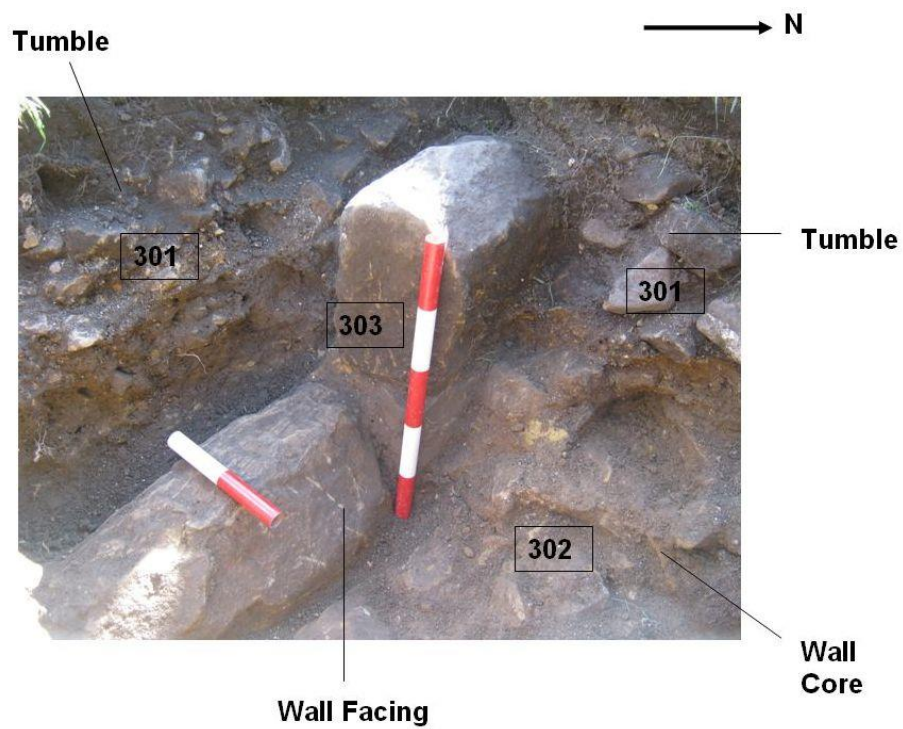


Figure 8: Wall facing and core in Test Pit 3.

The wall cores in Test Pit 3 aligns on the same east west axis as that in Test Pit 2 suggesting that the feature continues between the two deposits. It seems that in some places (such as Test Pit 3) facing stone remains and in others it has been robbed away.

Test Pit 4

Test Pit 4 measured 1.5 x 1.5m and was located at the eastern most extent of the anomaly identified in the geophysics as a structure or wall of a structure. Excavation was begun by removing the top soil (400). This test pit was located on a slope falling away from where the possible structure was suggested. The top soil was only 8 – 10 cm in depth. Beneath this we excavated (401) into a material very similar to that encountered in test pit 3 and identified as tumble. This pit was excavated to a depth of 40cm in the time available to us and we found cobble suggestive of wall core but no clear wall features.

5. Conclusions

The geophysical survey and test pits at St Augustine's church in Kirkby confirm that the church Sexton in 1951 had discovered the remains of a building otherwise unrecorded in the graveyard to the north of the church. The evidence from the test pitting suggests that this is a structure or building of some kind. We do not have clear dating evidence although we await comment on the worked stone fragments retained after the test pitting.

We can say that the geophysics suggests a building of similar size and shape to known Anglo-Saxon churches in the Northeast and Yorkshire. Test pitting suggests a construction with walls nearly 1 m thick with a cobble, clay and mortar core. This wall core is then faced with substantial work stone. We also have evidence that some worked stone has been reused.

When we combine the archaeological evidence with the carved stone reused in the present church and the early dedication of the church to St Augustine, we can suggest at least that there is an earlier church located to the north of the present structure.

Further Enquiry

Known churches from that period, Escomb to the north or recently identified Scrayingham to the south have reused stone from Roman buildings, it may be possible that such reuse took place at Kirkby too. It would be interesting to see the site in relation to evidence for Roman activity.

St John's in Escomb also has a circular graveyard. It would be interesting to further study the immediate landscape to look for evidence for a reflection of a different shaped graveyard.

Dating will throw better light on the archaeological work. The stone that was retained should be seen by a specialist to ascertain any dating evidence from working and stone used.

It is likely that although the facing stone was not entirely robbed away at ground or foundation level the church must have been a source of stone that might be located elsewhere in the landscape.

Appendix

Test Pit Context Descriptions

Test Pit No	Context	Description	Interpretation
2	200	Dark brown sandy silt containing broken cobble, charcoal, mortar and brick flecks.	Topsoil.
2	201	Dark brown sandy silt containing broken cobble and mortar fragments.	Soil accumulation.
2	202	Yellow sandy silt, containing large stone fragments.	Stone and cobble feature including a worked stone fragment. Possible wall core running E-W.
2	203	Set of 3 stones laid flat.	Stones laid flat to demark east end of later grave cut.
2	204	Dark brown sandy silt.	Fill of unexcavated grave.
3	300	Dark brown sandy silt. Containing modern gravestone fragment, mortar fragments and charcoal.	Topsoil
3	301	Dark brown friable silty sand. Containing large amounts of cobble and mortar fragments.	Demolition material, possibly collapse.
3	302	Light yellow brown friable sandy clay containing sandstone	Possible wall core running E-W.

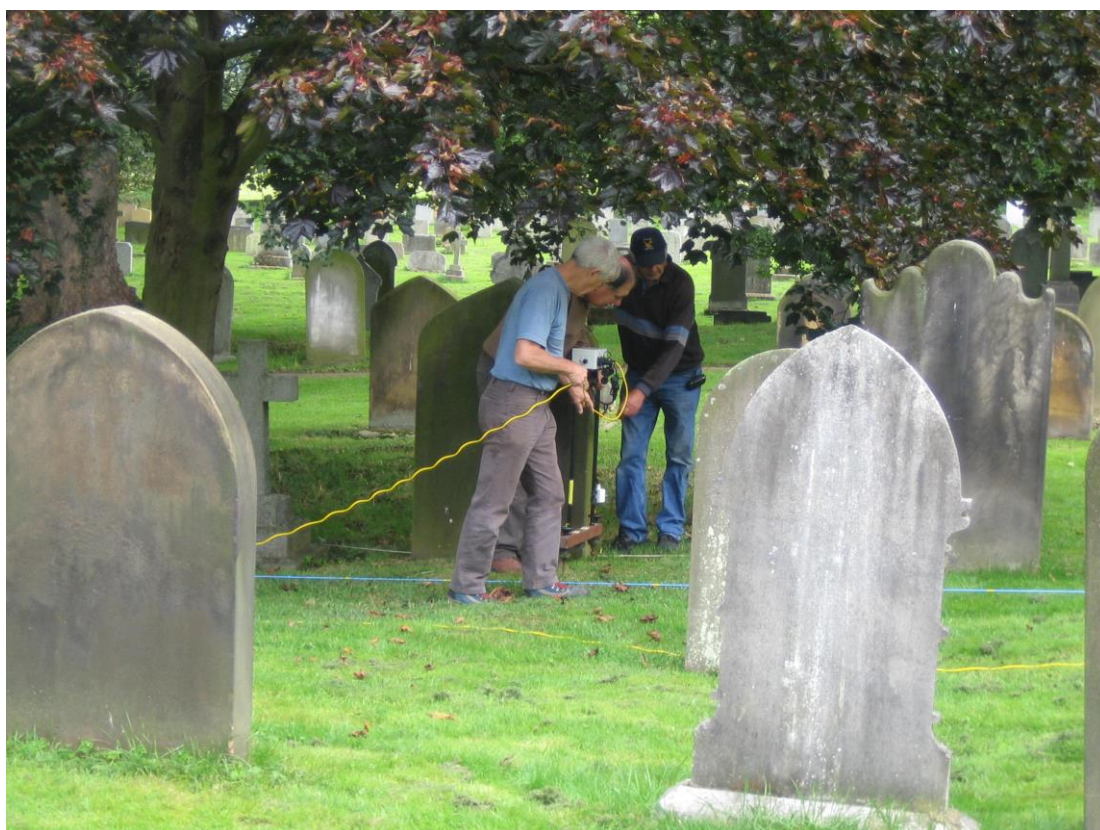
		cobbles and fragments and mortar some attached to cobbles.	
3	303	3 large (33 x 65 x 20cm) stones placed on top of or aligned with each other. Stones are faced sandstone.	Inner wall facing for high status building.
4	400	Dark brown sandy silt. Containing cobble and sandstone fragments.	Topsoil
4	401	Dark brown sandy silt containing sandstone fragments, cobbles and mortar, some attached to stone.	Tumble.



The Parish Church at St Augustine's, Kirkby in Cleveland



The Geophysics Team in Action





Excavating the Test Pits





Geophysical Survey at the Alum House above the village



