

**St Clement's Aisle, Dingwall Parish Church,  
Dingwall, Highland**

**Report on Geophysical Survey  
Electrical Resistance**



OJT SURVEYS

October 2011

## REPORT DETAILS SHEET

*National Grid Reference* NH 5493 5898

*Address* St Clement's Parish Church, Church Street, Dingwall

*Parish* Dingwall

*Council* Highland

*NMRS* NH55NW 5

*Client* Highland Council & Dingwall History Society

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*Fieldwork* Dr Oliver J T O'Grady

*Schedule*

*Fieldwork* September 2011

*Report* October 2011



Checked by: .....

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## **1.0 Introduction**

This document describes the results of an electrical resistance survey that was undertaken by OJT Surveys at St Clement's Aisle on the north side of St Clement's parish church graveyard, Dingwall. The survey aimed at locating buried archaeological remains of Dingwall's late medieval parish church, of which the aisle is thought to be the only upstanding fragment. The survey also formed part of a wider project seeking to address key issues as to the character and origins of Dingwall's Viking assembly site or *thing*. This is because the medieval church is likely to have been an element in the overall *thing* complex (O'Grady & MacDonald 2011). The project also involved radar survey at the Comartie Memorial Car Park, the results of which are detailed in a separate report. The survey results from St Clement's graveyard are presented here, covering the identification of possible fragmentary foundation remains of the old church, with interpretation and recommendations for further work. The author wishes to express sincere thanks to Ms Liz Cowie (Highland Council), David and Sandra MacDonald, and Jonathan McColl of Dingwall History Society. Warm thanks also to members of the local community for assistance during the fieldwork.

## **2.0 Location**

The site is located within an historic graveyard, at approximately 4m OD, amongst urban development on the northern edge of Dingwall town centre (Figure 1). The graveyard is bordered to the south by Church Street and Cromartie Memorial Car Park, Tulloch Street to the east and a supermarket car park to the north and west. In the wider landscape, St Clement's Parish church and Dingwall are located at the head of Strathpeffer in the county of Ross-shire, on the south side of the channelised River Peffery, 1.5km from its confluence with the Cromarty Firth.

## **3.0 Archaeological Background**

### *3.1 Description*

The current parish church of St Clement's was built between 1801-1803 to plans by George Burn in 1799 (A-Listed, Index No. 24516). Historical records indicate that a former church existed at Dingwall from at least the high medieval period (Scott *et al* 1915-61: 32). In addition, the irregular plan of the churchyard enclosure and the discovery of a Pictish symbol stone, found during refurbishment work to the latest church in 1878, suggest that the site may derive from an early medieval foundation. The parish church was in the possession of the Priory of Urquhart before 1455

AD when it was recorded to have included a chapel dedicated to St. Clement (*ibid*). The only upstanding remains of this late-medieval chapel appear to be a small building known as St Clement's Aisle. This rectangular dressed-stone building is currently in a derelict condition, surviving as a roofless shell at the north side of the graveyard. The aisle was probably appended to the north side of the late-medieval church nave following the Reformation, as commonly occurred at Scottish parish churches from the late 16<sup>th</sup> century AD.

The aisle was adapted into a family mausoleum and the southern aperture blocked, most likely at the demolition of the previously adjoining church. The building measures 10.2m x 7.2m and 3.0m in height (Figure 2). Unfortunately, the southern vault has recently collapsed, obscuring internal features of a formerly roofed arched recess. The aisle is currently in a rapidly deteriorating condition and the wall core has become exposed at the south-west interior. A rectangular doorway is located in the middle of the west wall. At the base of the interior of the north wall is the low arch of further small recess, probably late-medieval in date and intended for burial. Several other structural features are evident encased in the exterior walls, such as a possible window south of the current doorway. A detailed standing building survey is likely to be productive for understanding the aisle's structural history and development.

A modern fence has been erected for safety surround the exterior circumference of the aisle, which has restricted access to a 2m buffer zone around the building. At the north-east a 19<sup>th</sup>-century burial enclosure extends approximately 4m from the outer face (Figure 2). Two adjoining burial enclosures that date to the post-medieval period are located to the south-west of the aisle. These enclosures are apparently on the site of a church tower built in the 17<sup>th</sup>-century (Figure 4). Between the aisle and the current church is a further burial enclosure, which is surrounded by a stone wall with iron railings. The surrounding churchyard contains several 19<sup>th</sup> and 18<sup>th</sup>-century gravestones. These memorials are generally laid out in rows aligned north to south. To the south-east of the aisle there are notable undulations in the turf, which may indicate *in-situ* remains of the old church's wall foundations, possibly parts of the medieval chancel.

Two plans of the old church exist, the first dating from 1776, prior to demolition, and the second, from 1849, based on retrospective accounts. The 1776 plan shows a simple nave with a small northern aisle and two doorways on the southern wall (Figure 3). The apparent lack of details on this plan, in comparison to the 1849 plan, may be because it is largely concerned with contemporary arrangements for seating within the church. Although the 1849 plan was based on retrospective accounts, it does appear to add information about the location of the square tower on the north-west corner, the Tulloch enclosure on the north-east side of the aisle, a northern external staircase and indicates an overall bicameral arrangement with a square chancel to the east (Figure 4).

### *3.2 Previous archaeological work*

Apart from a visit by RCAHMS surveyors noted in 1963, when a photographic record appears to have been taken of the southern interior recess prior to its collapse, no other archaeological work has taken place at the aisle or site of the old parish church (NMRS site index NH55NW 5).

## **4.0 Methodology**

Electrical resistance survey was selected as a technique to maximise coverage of the aisle environs within the graveyard. Affective fluxgate-gradiometer survey was precluded by the concentration of burial monuments and the density of vegetation that is growing around the borders of the graveyard. The geophysical survey was intended to evaluate the area south of the aisle for buried archaeological remains of the old parish church building. This was intended to help interpret how the aisle related to the medieval parish church, and help understand its original function and layout. The results were also intended to help inform subsequent research and conservation priorities for the aisle, which is currently in a derelict condition. A Geoscan RM15 advanced meter was utilised with a 0.5m probe separation PA5 frame. The sample density was 1m x 0.5m. Where necessary, null readings were recorded when trees, gravestones and other obstacles precluded probe insertion. The southern side of the churchyard was not included in the survey area as this was deemed outside the area of interest for the old parish church remains and is within a protected Scheduled Monument area surrounding the repositioned Pictish symbol stone. The fieldwork was undertaken in changeable weather conditions with occasional showers between Thursday 8th to Saturday 10th September 2011.

## **5.0 Results**

The resistance survey produced good quality data and although substantial disturbance was evident from vegetation and burial activity around the site's perimeter, the survey was not adversely affected by geological deposits or poor ground conditions. This section describes the findings that may relate to archaeological remains in the area surrounding St Clement's Aisle.

### *5.1 Description*

The immediate environs of the aisle and the centre of the graveyard are generally associated with a low resistance zone in comparison with the northern and western periphery (Figure 5-6). This most probably

indicates accretion of moisture into an area of levelling and against the foundations for the original parish church and aisle. Moreover, the burials in this zone and adjacent trees may have accentuated this effect.

#### 5.1.1 *Anomaly A*

This linear high resistance anomaly is aligned north to south, with the northern end located approximately 10m south-west of the aisle's south-west corner (Figure 5-6). The size (8m x 2.5m) and location of this anomaly suggest that it may correlate with the remains of the old parish church's west wall. The high resistance response may also signify *in situ* wall footings or foundations. Interruption of the anomaly to the north and south may be a result of damage caused by grave cutting and the building of burial enclosures on the site of the church tower and the 18<sup>th</sup>-century parish church adjacent to the south. A possible eastward dog-leg of the wall is apparent in a further high resistance anomaly beside the southern end of anomaly A; this may be part of the south wall of the old church (Figure 7). In contrast a high resistance anomaly to the south-west of anomaly A relates to a group of mature yew trees.

#### 5.1.2 *Anomaly B*

Anomaly B is a poorly resolved high resistance reading and roughly linear in plan (Figure 5-6). The centre of anomaly B is located 7.5m south-east of the south-eastern corner of the aisle. Although relatively diffuse, perhaps severely affected by post-medieval burial memorials, this anomaly's size and north to south extent indicate that it may relate to the remains of a wall. This is interpreted here as robbed foundations of the old church nave's east gable end wall and site of the chancel arch, based on comparison with the location of anomaly A (Figure 7).

#### 5.1.3 *Anomaly C*

This linear high resistance anomaly is aligned roughly north to south and may represent the remains of a further wall of the old church, 15m south-east of the aisle's south-eastern corner (Figure 5-6). Based on the position of this anomaly in relation to anomaly A and B, this may be the foundations of the old church's chancel, specifically the eastern gable end wall. On the enhanced interpolated data, a further pairing of moderately high linear anomalies extend westward from anomaly C, perhaps indicating additional robber foundations relating to the chancel (Figure 7).

#### 5.1.4 *Anomaly D*

Anomaly D is a grouping of four globular-shaped high resistance readings at the eastern edge of the survey area (Figure 5-6). Their size and apparent discrete concentration in this area suggest that these do not relate to post-medieval burials or tree plantation. Rather, these may indicate the remains of demolition

material relating to a building or large wall, such as an old graveyard enclosure wall or part of an early church, perhaps pre-dating the late medieval building (Figure 7).

#### *5.1.5 Anomaly E and F*

These linear and roughly curvilinear anomalies are prominent high resistance readings, which may be remains of an old enclosure wall around the graveyard (Figure 5-7). However, this interpretation is made less certain by the presence of extensive geophysical disturbance around the perimeter of the graveyard, in particular on the north-west side where several mature deciduous trees are located.

#### *5.2 Interpretation*

When considered together the anomalies described above (A to C) can be interpreted as fragmentary remains of the old parish church of Dingwall (Figure 7). On this basis, the group of linear high resistance anomalies are indicative of the main north-south structural walls of the old church, the west and east walls of the nave and parts of a rectangular chancel. The site of the east wall and chancel appear to correlate with a low earthwork visible south-east of the aisle. The overall plan this interpretation provides appears to be a combination of the layout suggested by the 1776 and 1849 plans (compare Figure 3, 4, 7). The variable and sometimes diffuse characteristics of the geophysical readings would suggest that the archaeological remains are generally in a poor state of preservation, and partially robbed-out and damaged by grave digging. The relative absence of readings from the presumed south wall of the church may be accounted for by removal of masonry during the construction of the new parish church in the late 18<sup>th</sup> century (Figure 7). Similarly, the site of the presumed north wall of the old church was not available for survey due to the presence of temporary fencing and the location of post-medieval burial enclosures, the construction of which may have removed much of the north wall in this area. The location of possible doorways and other apertures in the old church could not be accurately assessed because of the variable quality of the readings and probable disturbance of the archaeological deposits.

Furthermore, the slight off-alignment of the aisle with the apparent old church's plan may suggest that the aisle has been substantially reconstructed when converted to a post-medieval mausoleum. Moreover, the site of the old church tower is postulated to coincide with the footprint of post-medieval burial enclosures located at the north-west corner of the interpreted old church plan (Figure 7). However, on the 1849 plan the west wall is shown joining the south-east corner of the tower and this might suggest that the west wall of the church is actually east of anomaly A (Figure 4-7). Nevertheless, this would not account for the presence of anomaly A, which appears to be indicative of a wall, and the original location of the tower cannot be accurately assessed based on visual examination of the surface remains or the 1849 plan (Figure 5-7).

The interpretation of anomaly D may also be significant for understanding the archaeology of the old parish church. Anomaly D may derive from remains of an earlier medieval church underlying the east end of the late medieval building or alternatively this could represent stone debris from an earlier curvilinear graveyard wall that predated post-medieval straightening of the enclosure. Anomalies E and F may be further remains of this earlier boundary wall (Figure 7).

## 6.0 Recommendation

The resistance survey has provided useful information about the archaeological remains of Dingwall's old parish church, indicating the potential condition of the archaeological remains and revealing how the upstanding aisle may have fitted into the overall plan. These key findings help to highlight the importance of the surviving fabric of St Clement's Aisle which, although perhaps reorganised in the post-medieval period, are a rare tangible link to Dingwall's medieval history and in urgent need of conservation. Several recommendations are advised based on the survey results, including further archaeological investigation:

### 1. *Further geophysical survey:*

There are limited grounds for undertaking further geophysical survey in the graveyard. The resistance survey could be expanded to cover the southern quadrant of the graveyard including the scheduled area around the Pictish symbol stone, but there is little basis to expect significant additional findings. The ground conditions in the graveyard are not conducive to effective radar survey, unless the floor of the aisle was cleared of debris. A magnetometer survey could be undertaken over the graveyard using a basic manually-triggered device, but magnetic disturbance from post-medieval memorials are likely to obscure readings from earlier deposits (O'Grady & MacDonald 2011). The value in undertaking further geophysical survey should be reviewed in five to ten years to accommodate advances in technology.

### 2. *Excavation:*

The resistance results now make it possible to accurately investigate specific targets in the old church plan using relatively small excavation trenches. For instance, the condition of the buried foundations of the west and east walls of the old church could be assessed using two hand-excavated 4m x 1m trenches. This would help assess the veracity of the geophysics interpretation and confirm the preservation and arrangement of the old church's remains in relation to St Clement's aisle. Archaeological excavation within a historic graveyard is always likely to encounter burial deposits in the form of inhumation graves, dating from the medieval to modern

periods. The small size of trenches that it is now possible to use would, however, minimise possible disturbance to historic graves.

### 3. *Standing Building Survey:*

A rapid photographic standing building survey should be undertaken of St Clement's Aisle to complement the geophysical results. This would produce a photographic record of the building's current condition before further dilapidation or wall collapse occurs. The survey should include general views of the building and specific detailed photographs of historic structural features and fixtures on both the exterior and interior. In addition, advice should be sought from a conservation architect and Historic Scotland regarding completion of vegetation clearance from the aisle walls. Following clearance and stabilisation a detailed standing building record should also be undertaken of the wall faces, in the form of a scaled drawing, in order to produce a record of the surviving fabric and to assist understanding of the building's structural history.

### 4. *Interpretation:*

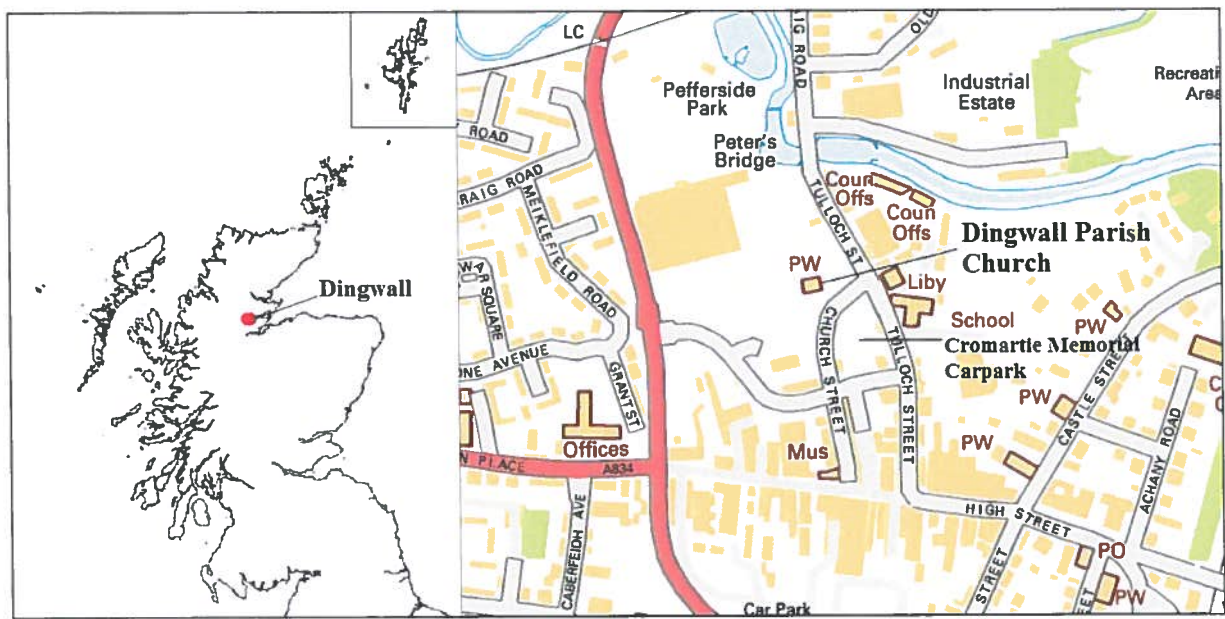
A heritage interpretation plan should be developed for the aisle and graveyard. This should be developed to integrate with public interpretation of the adjacent Cromartie Memorial Car Park, the site of Dingwall's Viking 'thing' mound. Interpretation of the aisle could include installation of an information board within the graveyard that would explain and illustrate the old church's history and archaeology, perhaps with the aid of a reconstruction drawing. In parallel to this additional publication material could be usefully developed such as an information leaflet and popular guide booklet. Also digital media could help disseminate understanding of the site's history more widely, which in the first instance might simply include making this report available through the Dingwall Parish Church website.

## 7.0 Bibliography

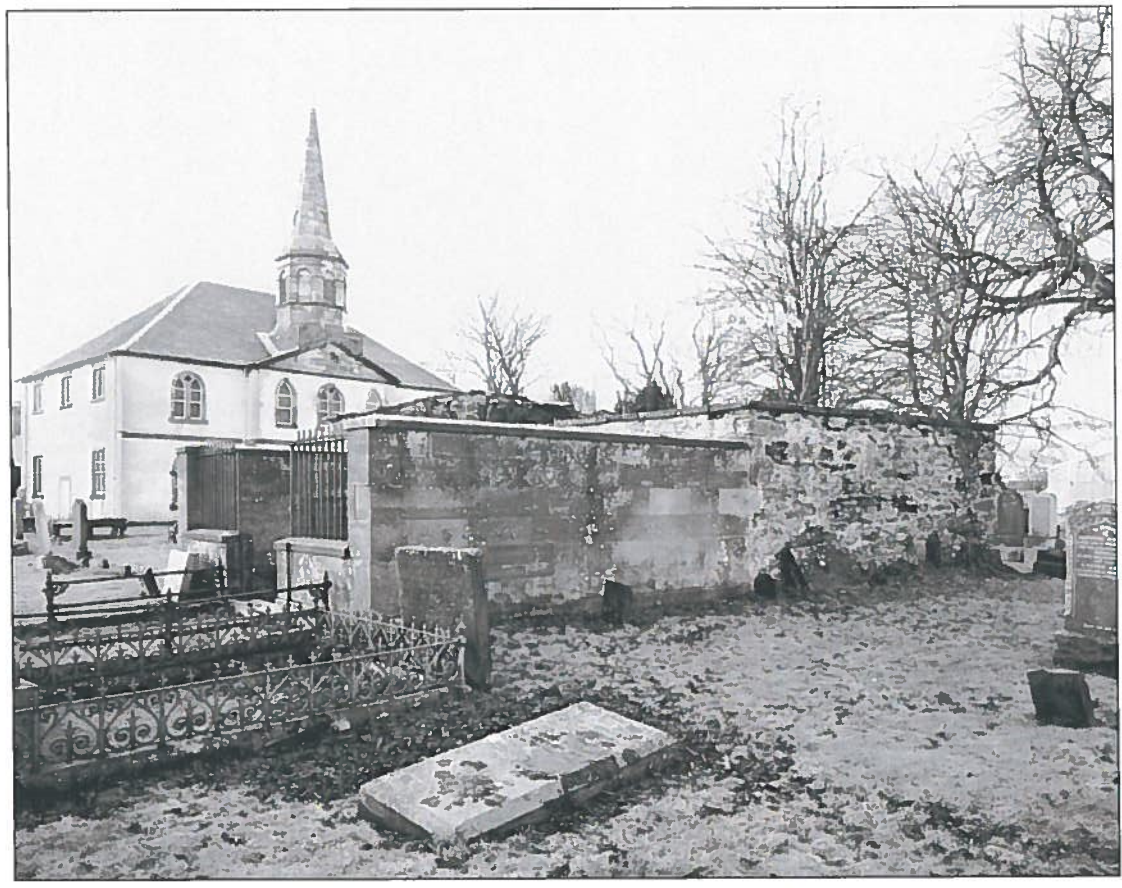
Jones, D.M. (ed.) 2008 *Geophysical Survey in Archaeological Field Evaluation*, Swindon: English Heritage.

O'Grady, O.J.T. & MacDonald, D. 2011 *Cromartie Memorial Car Park & Dingwall Old Parish Church, Dingwall, Highland: Project Design for Geophysical Survey*, unpublished document.

Scott, H. *et al* (eds.) 1915-61 *Fasti ecclesiae Scoticae: the succession of ministers in the Church of Scotland from the Reformation*, Revision, Edinburgh, vol. 7.



**Figure 1.** Site location  
 Background mapping ©Crown Copyright, courtesy Highland Council.



**Figure 2.** General view of St Clement's Aisle from the north-east in 1963.  
 ©Crown copyright (NMRS Item SC 917841) / Dingwall Museum Trust.

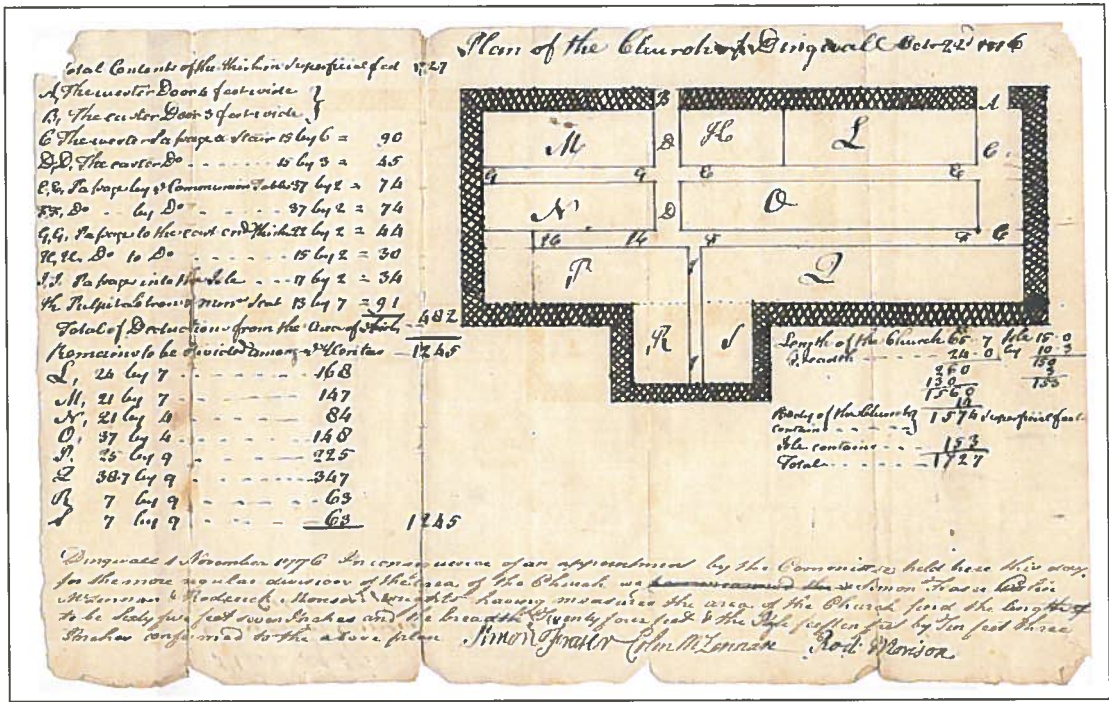


Figure 3. Plan of St Clement's Old Parish Church, Dingwall 1776 (north aligned to base).  
 Courtesy of Dingwall History Society.

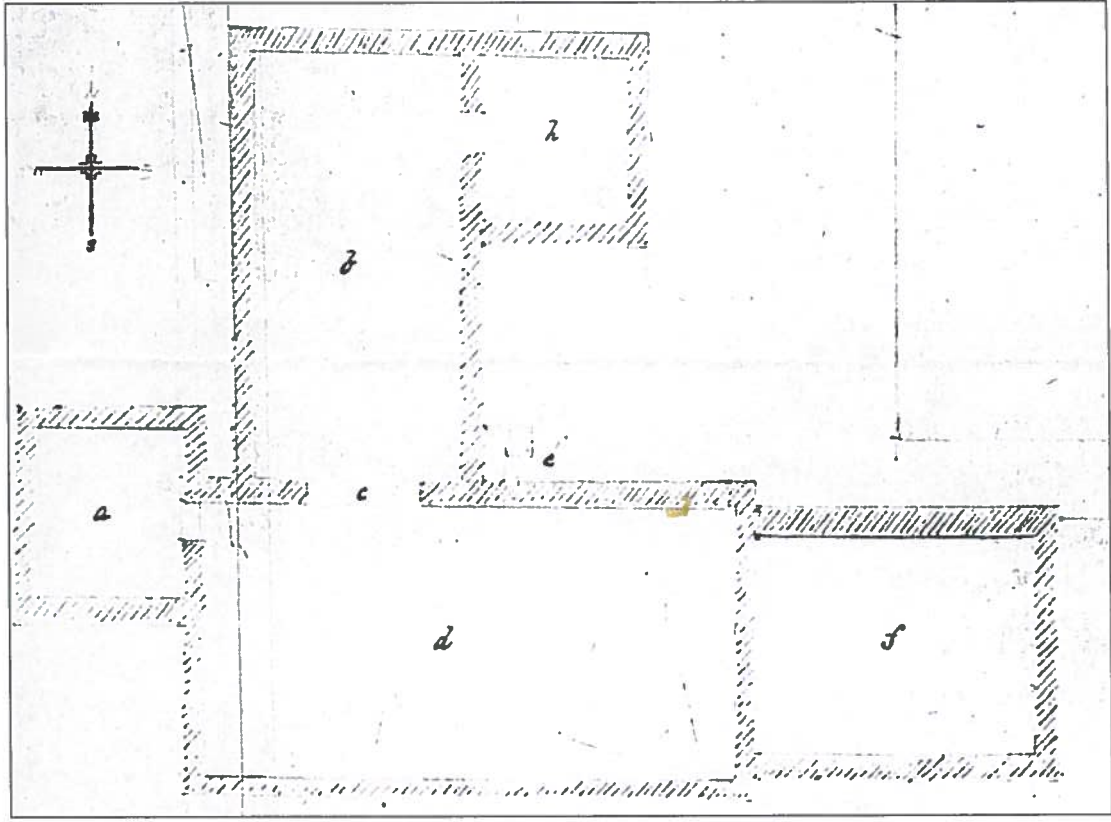
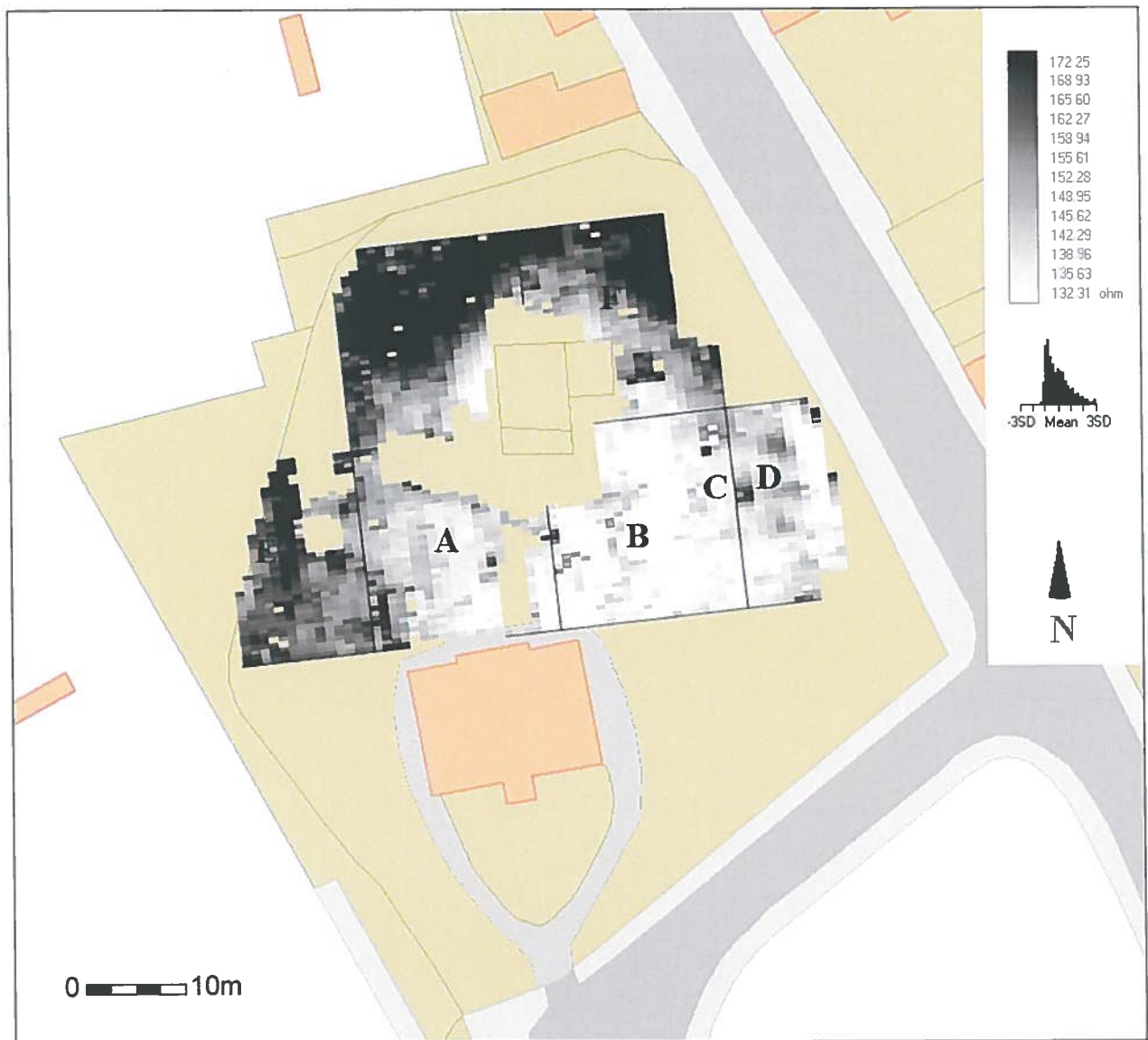
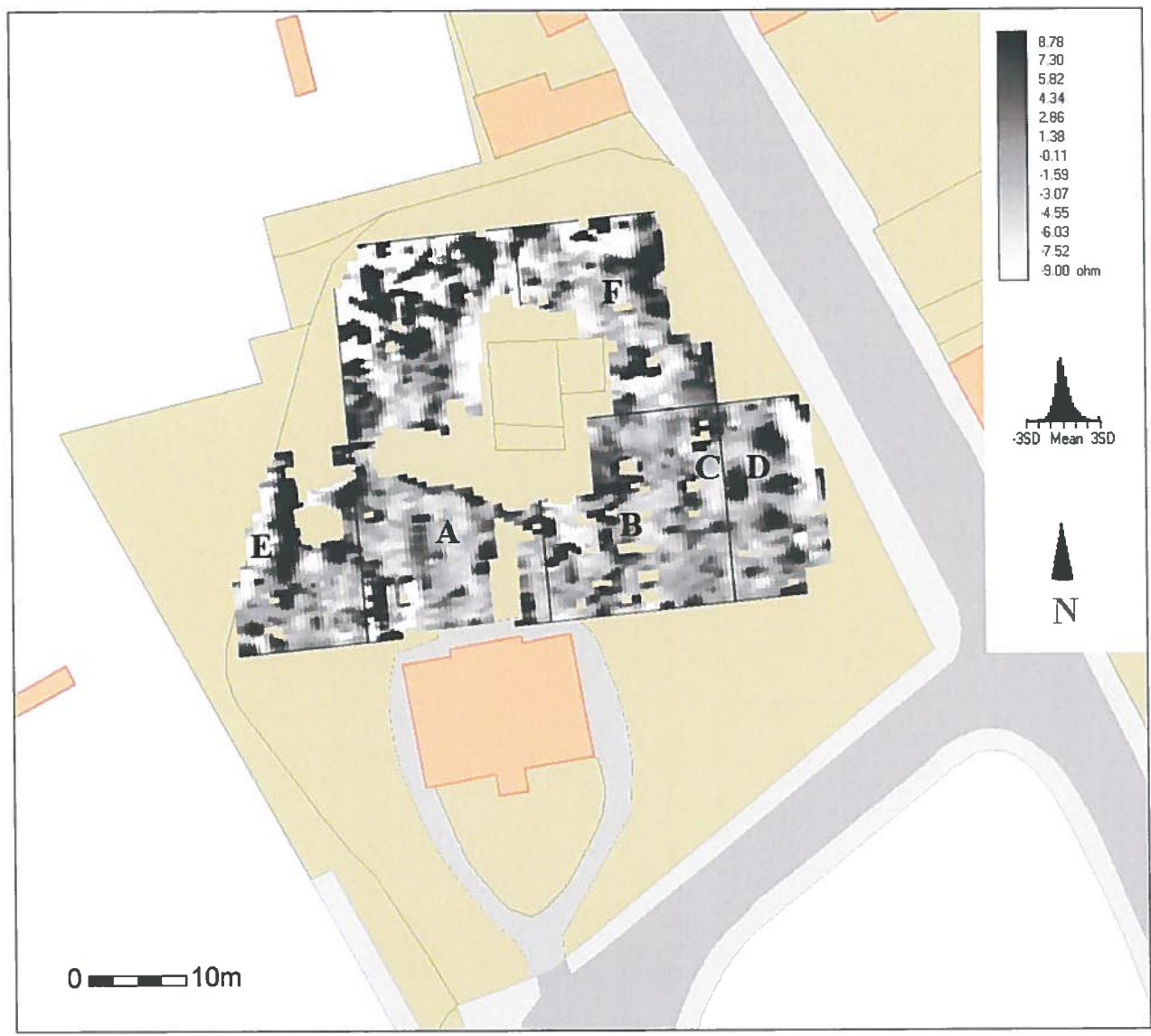


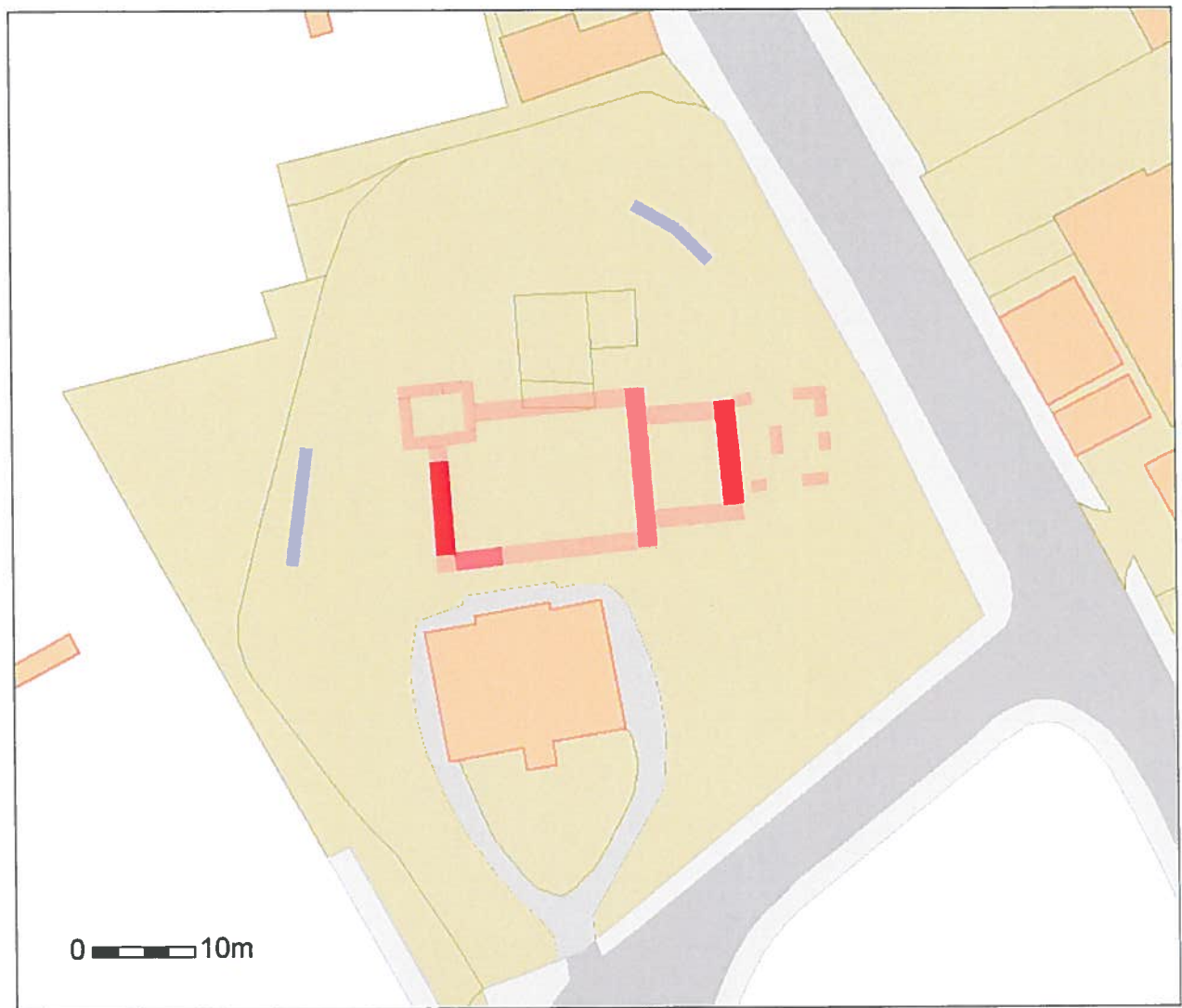
Figure 4. Plan of St Clement's Old Parish Church dating to 1849 after demolition.  
 Courtesy of Dingwall History Society.



**Figure 5.** Raw resistance data (0.5m probe) over map of St Clement's graveyard with aisle walls outlined. Survey grids are shown as black lines. Background mapping ©Crown Copyright, courtesy of Highland Council.



**Figure 6.** Interpolated resistance data (0.5m probe).  
 Background mapping ©Crown Copyright, courtesy of Highland Council.



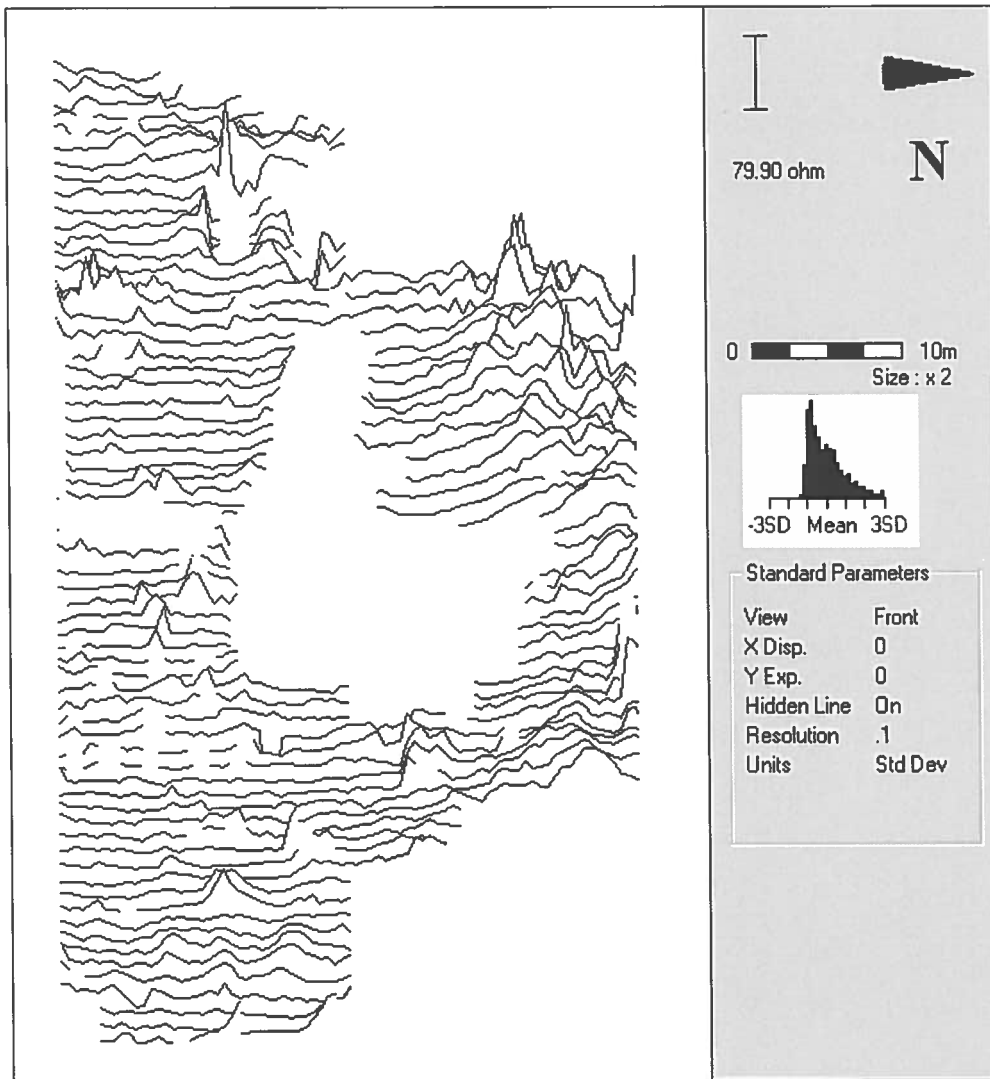
**Figure 7.** Interpretation based on resistance data.  
Red = old church walls (shading indicates hypothesised line). Blue = old graveyard wall?  
Background mapping ©Crown Copyright, courtesy of Highland Council.

## Appendix

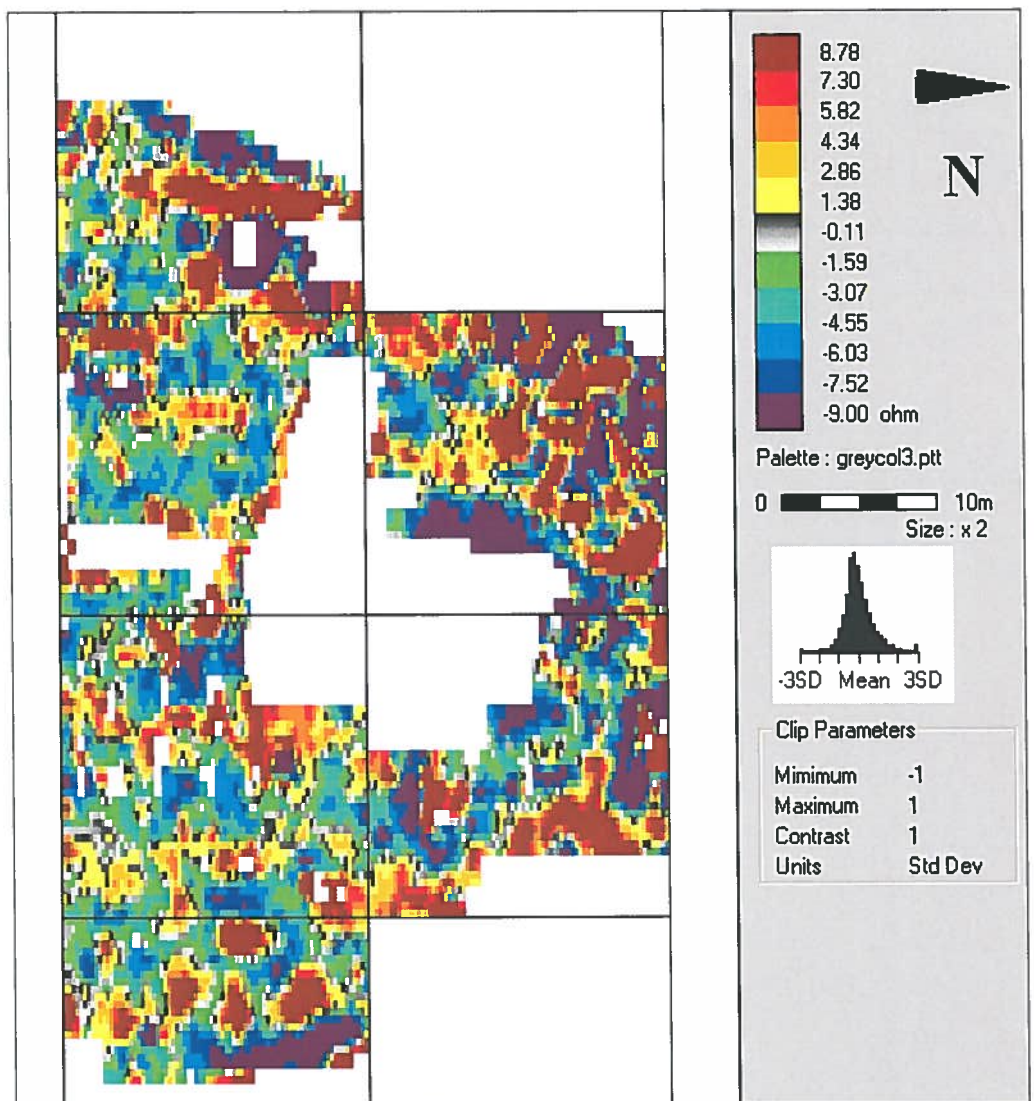
### A) Table of anomalies

ID	Location	Reading	Shape	Dimensions	Interpretation(s)	Condition
A	SW of aisle	High (prominent)	Linear (N>S)	8m x 2.5m	1) West wall of old church, stone foundations.	Moderate?
B	SE of aisle	High (prominent)	Linear (N>S)	16m x 3m	1) East wall of old church nave, chancel arch, robber stone foundations	Moderate-poor?
C	SE of aisle	High (moderate)	Linear (N>S)	9m x 2.5m	1) East wall of old church chancel, stone foundations.	Moderate?
D	ESE of aisle	High (prominent)	Globular x 4	c2.5m x c3m	1) Old graveyard wall, stone demolition remains? 2) Earlier church, demolition debris?	Poor?
E	SW of aisle	High (prominent)	Linear (N>S)	12m x 2.5m	1) Old graveyard wall, stone foundations?	Moderate?
F	NE of aisle	High (prominent)	Curvilinear (NW>SE)	9.5m x 2.5m	1) Old graveyard wall, stone foundations?	Moderate-poor?

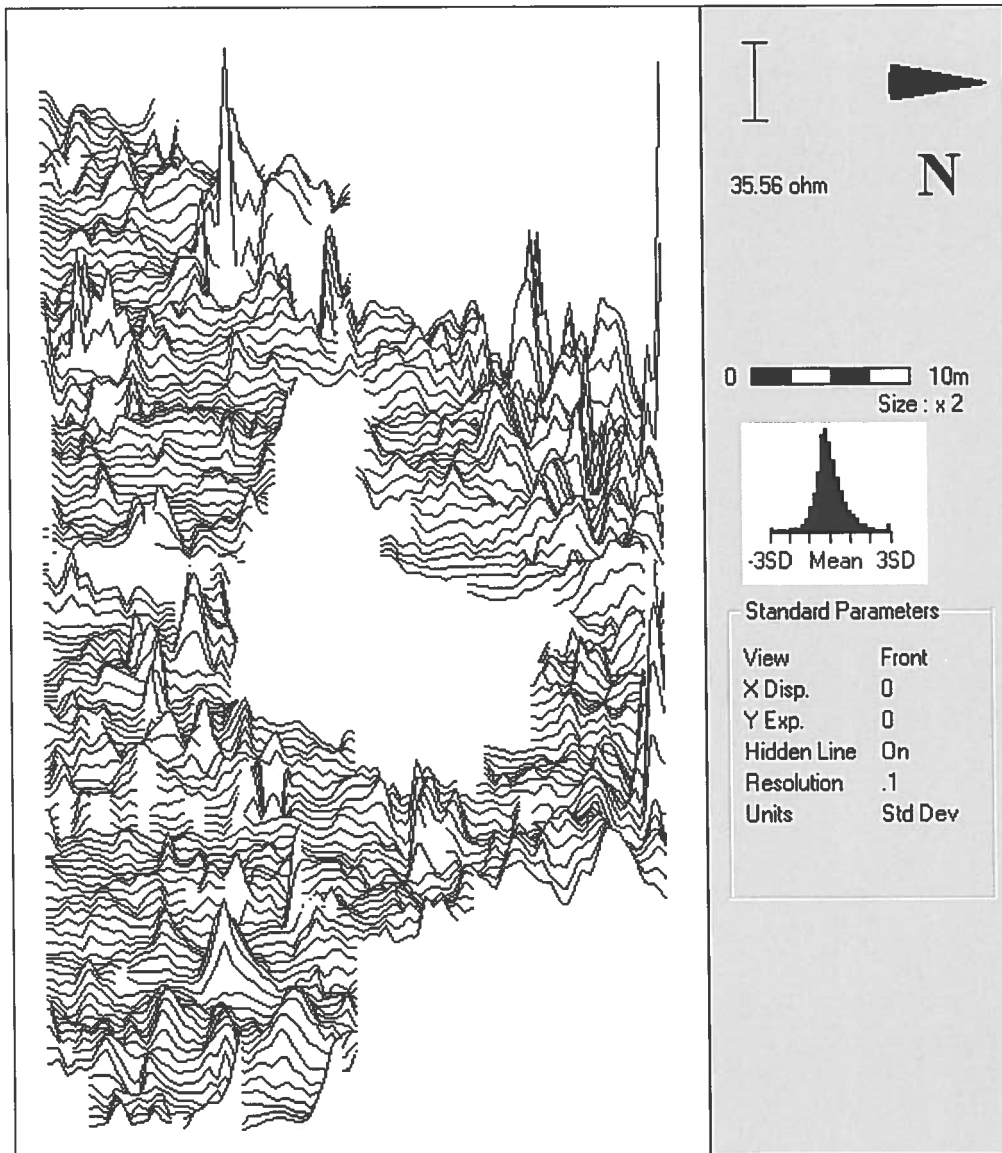
B) Archive data plots



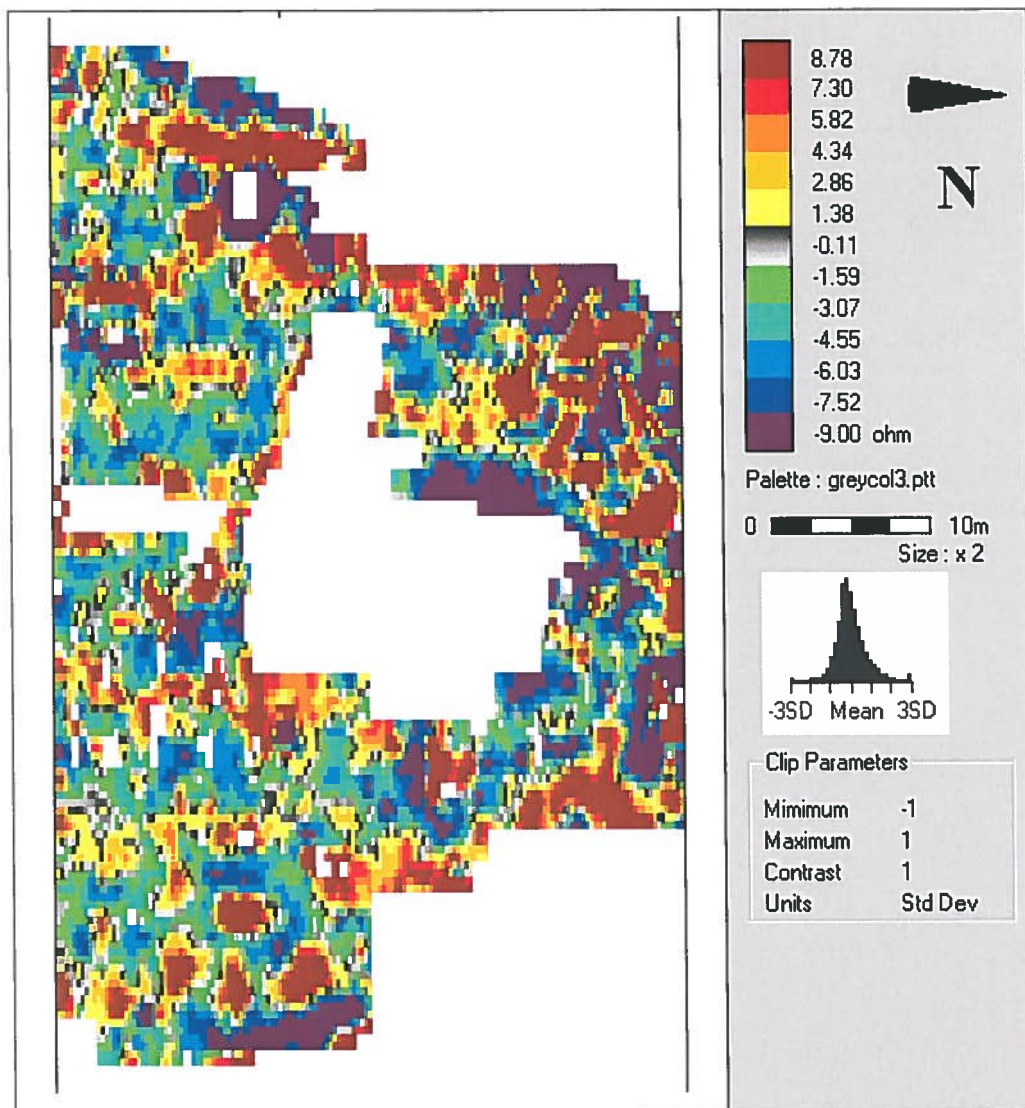
Raw resistance data (0.5m probe, trace plot).



Raw resistance data (0.5m probe, colour palette).



Interpolated resistance data (0.5m probe, trace plot).



Interpolated resistance data (0.5m probe, colour palette).

**Discovery & Excavation Scotland entry:**

<b>LOCAL AUTHORITY:</b>	Highland
<b>PROJECT TITLE/SITE NAME:</b>	Dingwall Thing Project / St Clement's Aisle, Dingwall Old Parish Church
<b>PROJECT CODE:</b>	
<b>PARISH:</b>	Dingwall
<b>NAME OF CONTRIBUTOR:</b>	Dr Oliver J T O'Grady
<b>NAME OF ORGANISATION:</b>	OJT Surveys
<b>TYPE(S) OF PROJECT:</b>	Geophysical survey
<b>NMRS NO(S):</b>	NH55NW 5
<b>SITE/MONUMENT TYPE(S):</b>	Burial ground, church, church aisle.
<b>SIGNIFICANT FINDS:</b>	
<b>NGR (2 letters, 8 or 10 figures)</b>	NH 54936 58988
<b>START DATE (this season)</b>	08/09/11
<b>END DATE (this season)</b>	10/09/11
<b>PREVIOUS WORK (incl. DES ref.)</b>	
<b>MAIN (NARRATIVE) DESCRIPTION:</b> (May include information from other fields)	A geophysical survey was undertaken in St Clement's Parish Church graveyard, Dingwall, as part of a research and community project investigating the archaeology of Dingwall's Viking assembly site or 'thing'. An electrical resistance survey was undertaken over the north side of the graveyard in the area surrounding St Clements's Aisle. The survey aimed to locate the remains of Dingwall Old Parish Church that was demolished at the end of the 18 <sup>th</sup> century, leaving only the north aisle. The sample density was 1m x 0.5m with probe separation 0.5m. Three linear high resistance anomalies aligned north to south were recorded to the south of the aisle. These were interpreted as truncated foundations of the west and east walls of the old church nave and site of a rectangular chancel. A low earthwork south-east of the aisle correlates with the geophysical results.
<b>PROPOSED FUTURE WORK:</b>	
<b>CAPTION(S) FOR ILLUSTRS:</b>	Local volunteer Jonathan McColl (Dingwall History Society) helps out with geophysical survey at St Clement's Aisle, Dingwall.
<b>SPONSOR OR FUNDING BODY:</b>	Highland Council, Dingwall History Society and Society of Antiquaries of Scotland
<b>ADDRESS OF MAIN CONTRIBUTOR:</b>	28B Wilson Street, Perth, PH2 OEX
<b>EMAIL ADDRESS:</b>	ojt.ogrady@gmail.com
<b>ARCHIVE LOCATION (intended/deposited)</b>	NMRS (intended), Highland Council (deposited)