BOOK OF DEER PROJECT

EXCAVATIONS 2012

OLD DEER

ABERDEENSHIRE

- Archaeological Excavation and Field Walking-

Carried out 10th- 14th September 2012

by

Murray Archaeological Services Ltd

Report No: MAS 2012-26

by

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1. Background

1.1 As part of the Book of Deer Project there have been a series of archaeological interventions to assess and identify any evidence that may indicate the original site and characteristics of the early medieval Monastery of Deer. In 2009 a desk-based assessment and field evaluation of the lower ground to the E of the Old Kirk was undertaken by Olivia Lelong on behalf of GUARD (Lelong 2011). One of the recommendations of Lelong's report was that a geophysical survey should be undertaken; this was implemented in 2010 (Rennie and Lelong 2010).

In 2011 the Book of Deer Project contracted Murray Archaeological Services Ltd to undertake a further field evaluation of other areas of the village of Old Deer, developing upon the results of the earlier interventions.

As part of the evaluation certain remaining areas in the village were identified as having potential for archaeological survival (Murray and Murray 2011).

1.2 In 2012, Murray Archaeological Services Ltd was commissioned by the Book of Deer Project to pursue three objectives following from the previous work:

- A community excavation in one of these areas with potential survival- the open grassed area in front of St Drostan's Episcopal Church.
- A field walking project with local schools
- Further targeted geophysical work in the Old Parish Church

1.3 The excavation in the grassed area to the N of St Drostan's Episcopal Church took place took place between the 10th and 13th September with the assistance of local volunteers and members of the Book of Deer Project. We are grateful to the Rector of St Drostan's, the Rev Richard O'Sullivan and to the congregation for permission to excavate.

1.4 The field walking project took place on 14th September and involved over 100 local children from Stuartfield, Fetterangus, Longside, New Pitsligo and Pitfour schools. It took place in a field at the W edge of the village by courtesy of the farmer, Eric Scott and was organised with the help of local volunteers and members of the Book of Deer Project.

1.5 In 2011 a keyhole excavation was undertaken in the Old Parish Church (Scheduled Ancient Monument HS no: 7123) with Scheduled Monument Consent to investigate the nature of an anomaly shown in the geophysical survey undertaken by GUARD in 2010 (Rennie and Lelong 2010, fig 5, anomaly B). The excavation revealed the anomaly to be a wall extending E/W through the chancel arch. As the GUARD survey did not indicate this feature beyond the arch within the nave, it was decided that a new small scale GPR (Ground Penetrating Radar) survey should be undertaken by Rose Geophysical Consultants in an attempt to ascertain the full extent of the wall to aid in its interpretation. This survey was undertaken on 15th September 2012 with Section 42 consent from Historic Scotland.

2. Documentary sources

2.1 A full discussion of the documentary sources was undertaken by Lelong (2011) as part of the Desk Based Assessment undertaken in 2009-2010.

3. The Excavation

3.1 **The Site**

A trench (Trench 1) was excavated in the open grassed area between St Drostan's Episcopal Church and the pavement of Abbey Street (Illus 16, 18). It ran parallel to the road and some 4m back from the wall of the St Drostan's churchyard at the inner edge of the pavement. The E end of the trench was 7.6m from the W end of the building to the E (No 1 Abbey Street) and the W end of the trench was 13.8m from the E end of the building to the W (No 5 Abbey Street).

Parish: Old Deer

GPS: 397827, 847670.

This was one of the largest surviving areas of archaeological potential in the E end of the village nearest to the Old Parish Church and the graveyard. On the 1st OS map of 1870 (Aberdeen Sheet XXI.4 (Old Deer) published 1873) this area is shown as open ground with a path around the outside of the church and some trees near the wall between the grass and the street. The evidence shows that this had been open ground at that time and probably from the construction of the Episcopal Church in 1851. It also fronted on the wide E end of Abbey Street where the market would have been held, probably from the medieval period. It was hoped that in this core area there might be some evidence of the medieval village contemporary with the 13th century church and possibly of the earlier medieval monastery of Deer.

3.2 **Methodology**

The trench was excavated by hand.

All features were planned (Illus 2, 3), photographed (Appendix 1) and recorded (Appendix 2).

All artefacts were retained on site, labelled and bagged. They have been examined, sorted and catalogued during post-excavation work. 19th/20th century artefacts have not been retained.

3.3 **Results**

Trench 1

GPS: W end: 397821, 847671. E end: 397828, 847671

Dimensions: 9 x 1m

Summary of results

The excavation revealed the foundations of two solid clay walls (Illus 2: 7 & 12) which extended N/S across the trench. The surviving parts of the walls were between 550 and 800mm wide and up to 300mm high; the section cut through the least disturbed N end of wall 7 suggests that the true width was probably around 750-800mm. Although there were a few small stones in the clay mix it was essentially a solid clay wall. There was no evidence of a stone foundation course.

Between the walls there was a 2.8m wide band of closely set cobbles. The upper surfaces of the cobbles were worn smooth from use although, when a section of the cobbles were removed, the base and sides of the stones were sharp and angular. The cobbles were set directly into the top of clean natural boulder clay. There was no evidence of any earlier features below the area of cobbles that was removed and there were no finds below the cobbles to assist in dating when they were laid down.

To the E of wall 12 and to the W of wall 7 there were trodden surfaces which were interpreted as floors, suggesting that the walls belonged to two separate buildings either side of a cobbled pend or path.

Building 1 (E building)

Bounded on the W by wall 12, only 1.5m of the interior of this structure was within the trench. The earliest floor (15) was the trampled top of the natural boulder clay with 1-2mm of ash and charcoal trodden into it. A single sherd of white china and a brass escutcheon plate from a keyhole of a door or piece of furniture, both of probable 19th century date, were found in the floor. Above this there was a horizontal layer of clean clay 20mm thick (14) with trampled charcoal on its upper surface but no finds; this appeared to be a deliberately laid secondary floor. A thin layer of loam (16) which merged into a patch of flattish stones (13) may have been late features in the building but appeared unstructured and are more likely to be part of the demolition debris. All of these layers and the remains of wall 12 were sealed by a deposit of stoney clay and topsoil (4, 5) which is interpreted as the spread of the demolished wall 12. Finds in these demolition layers included window and bottle glass, some brick fragments and sherds of 19th century china and redware.

Building 2 (W building)

The W building was bounded on the E by wall 7 and just over 3m of the interior was within the trench. A deposit of trodden ash and charcoal 2-5mm thick (8) lay on a thin spread of small pebbles (9) set in the top of the natural boulder clay. There were no finds in these layers and no trace of any earlier features in the top of the natural. A well edged squared block of clay and stones (10) was set on the natural with the floor layers 8 and 9 extending around it; it would appear to be a structural feature of the building such as a partition wall but its function was unclear. It extended into the N section of the trench. A more amorphous area of clay (11) lay on the floor and may be part of the demolition debris. The base of wall 7, feature 10 and the floor were all covered by yellow clay with random stones (2) and a clay/topsoil mix (3) both of which are interpreted as the demolition spread of wall 7. Finds in these layers included window and bottle glass, some brick fragments and sherds of 19th century china and redware.

Topsoil levelling

Humic topsoil (1) had been spread over the demolition rubble of both buildings and directly over the cobbles between them. The range of finds in this deposit was predominantly of 19th century date and included china, redware, glass and a clay tobacco pipe, a 1877 sixpence and a 1863 half penny. Some china of 20th century date suggests occasional additional soil may have been added to level the grass or during gardening.

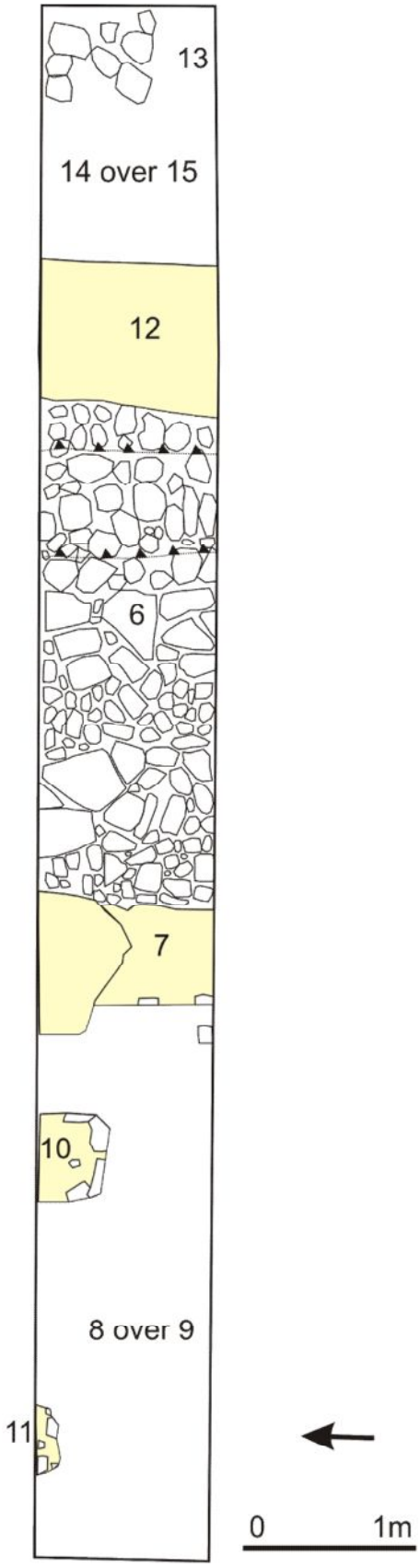
Discussion

Buildings 1 and 2 appear to have stood on the street frontage of Abbey Street on either side of a pend through to their back gardens. The full width of the frontage of the church property is just over 30m. From the E edge of the pend between the excavated buildings to the wall of no 1 Abbey street is c. 9m, so it would appear likely that there had originally been three properties of c 10m width (including pends) on the site. There is no direct evidence for the function of the buildings but nothing to suggest that they were not domestic houses.

There is ample evidence of the use of clay walled building construction in the NE of Scotland (Walker, 1977, 28-34, Walker & McGregor, 1996, 45-53), not only for cottages but even for buildings such as the 17th century manses at Methlick (c. 1620), Tarves (by 1684) and King Edward (1626) or Crudie School (c.1840). While the documentary sources range between the 17th and mid 19th century, archaeological evidence shows the use of clay walling in Aberdeenshire in the medieval period with

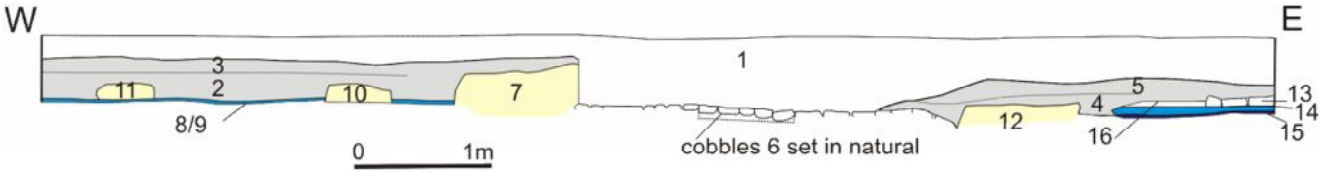
several clay walled buildings of 14th century date having been excavated in the medieval burgh of Rattray (Murray and Murray, 1993, 141).

Illus 1 Trench 1, looking E. Vertical ranging rods frame each of the clay walls. Horizontal rod lies across the cobbles.



Illus 2 Plan of trench 1

Structurally therefore the clay walled buildings excavated in Trench 1 could have been built at any time between the medieval period and the early to mid 19th century. The lack of early artefacts within floor levels is not diagnostic as the floors were relatively 'clean' and would be most likely to include material of the most recent occupation- prior to 1850 when it would appear they were demolished. Equally the 19th century material in the demolition material is what might be expected. However, while it is possible that these were medieval or late medieval buildings, it is perhaps most likely that they date from the 17th/18th century. This small site gives a fascinating glimpse of the type of buildings that must have bordered the market place prior to the re-building of the village in the 19th century. These houses may well have been occupied prior to 1788-9 when the present Parish Church replaced the much altered medieval church (the Old Parish Church).



Illus 3 N section of trench 1

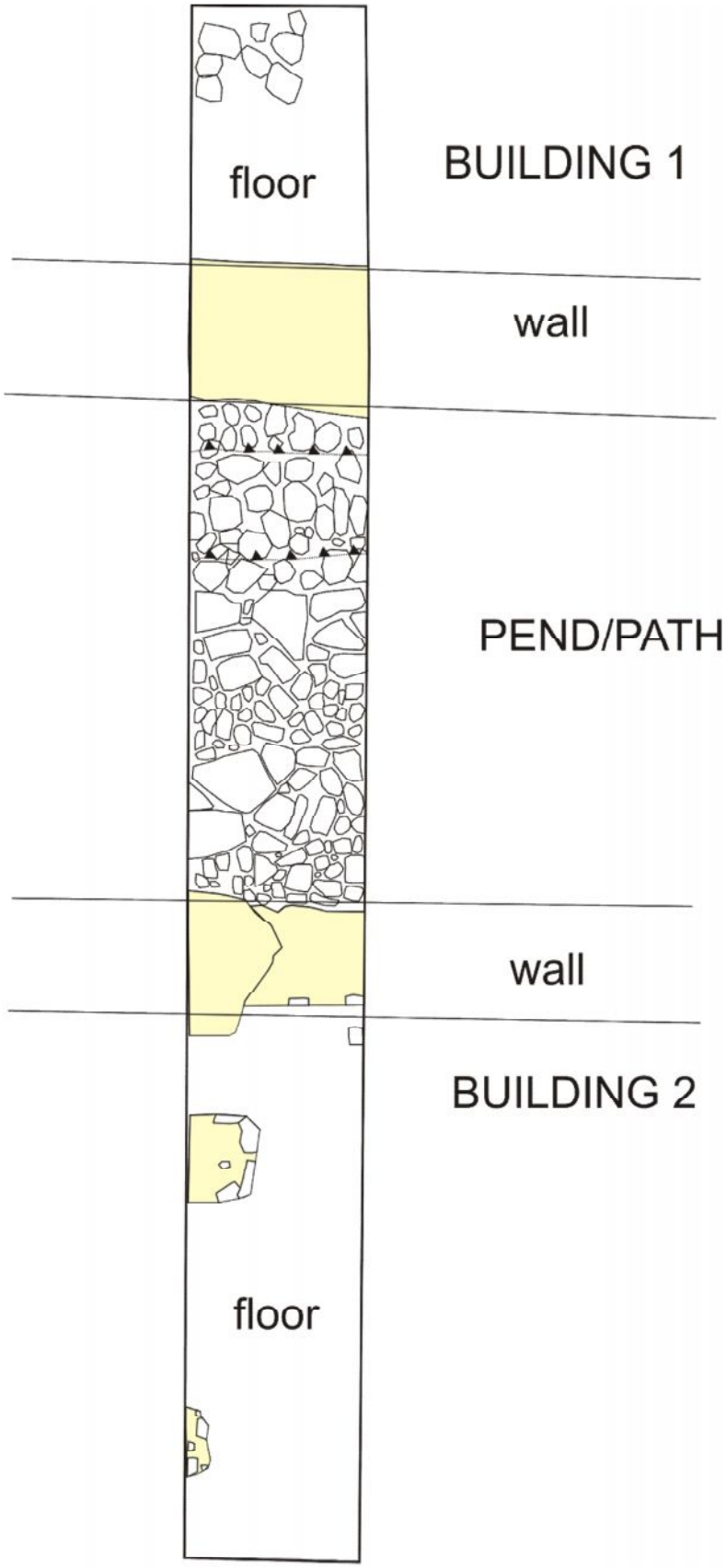
Illus 4 Detail of cobbles 6 set in natural

The map of Aberdeenshire published by Thomson's Atlas in 1832 was first printed in 1820 and shows Old Deer simply drawn but with the parish church at one end of Abbey Street with houses on either side of Abbey Street and on the W side of Kirk Street opposite the church – very much the same as shown on the 1st OS map of 1870. Groome (1885) recorded that Old Deer was mostly rebuilt some 50 years earlier, *i.e*. in the 1820s or 1830s, so it is arguable as to whether Thomson's map shows the village before or after the changes.

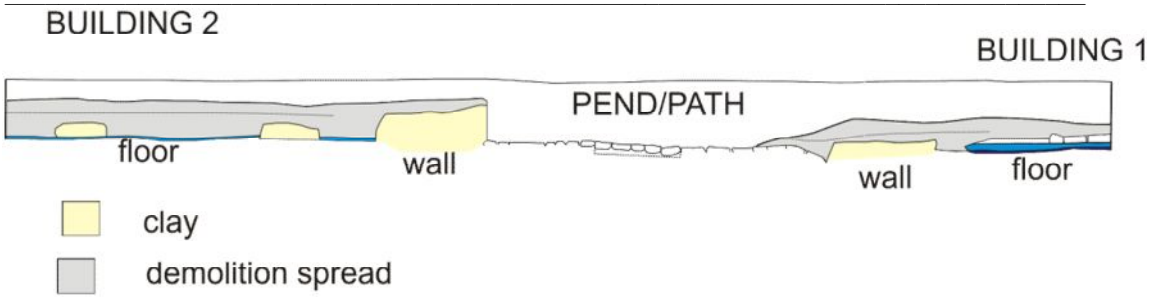
Historic Scotland in their catalogue of Listed Buildings date Nos 1 and 3-5 Abbey Street as early 19th century, with Nos 2-4 as early to mid 19th century. The old Post-Office is the earliest surviving building, dated as late 18th or early 19th century. These buildings are all built of stone and in general would appear to be part of the early 19th century changes recorded by Groome. They may replace more clay walled buildings of the type excavated.

In 1851 the Episcopal Church of St Drostan's was built by architects Mackenzie and Mathews (McKean1990, 89). It can be assumed that at that time or shortly before, the site was cleared of existing buildings, the remains of which were excavated.

Illus 5 Trench 1 looking W. Building 2 in background with cobbles in foreground



Illus 6 Interpretation of the excavated features

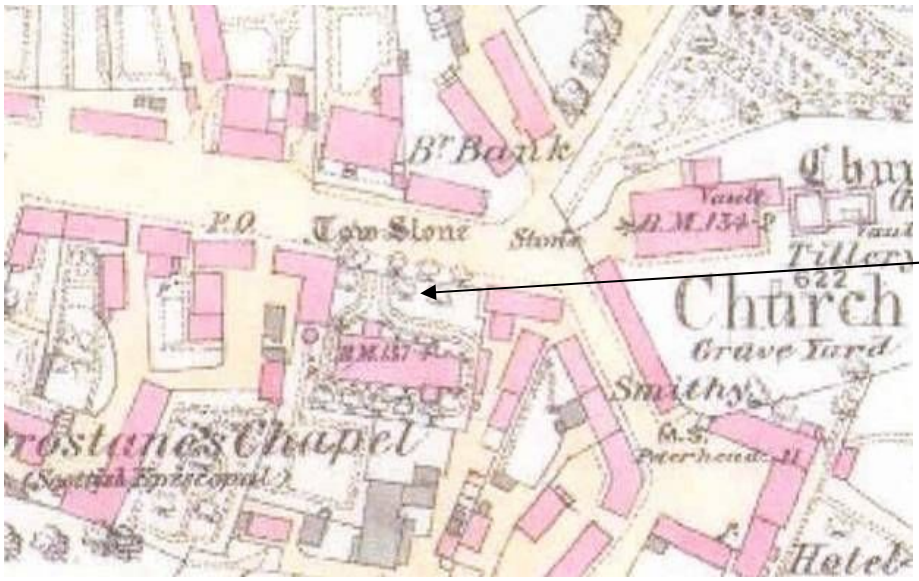


Illus 7 N section of trench 1 with interpretation

Illus 8 Clay wall 7 (RHS of ranging rod) and feature 10 (LHS) in section

The lack of evidence of any earlier activity on the site is disappointing. No early features were found dug into the top of natural where it was exposed in the trench. It has been suggested above that the clay walled buildings most probably were built in the 18th or possibly the 17th century but there are no finds earlier than the 19th century in date. It appears strange that there is a lack of earlier finds, at least from the late and post-medieval period, especially as this area would have been beside the market place and road. It is possible that the top of the natural had been leveled or scarped prior to the building of these excavated houses although there was no indication of this.

Illus 9 Trench 1 completed, with Parish Church in background



Illus 10 Location of the site shown on the 1st OS map of 1870 (www.nls.co.uk)

3.4 The Finds

The majority of the finds were from topsoil (1, 3, 5) or from the destruction spreads from the clay walls (2, 4) and were of 19th-20th century date. They included some

fragments of building materials such as fragments of brick, slate, nails and window glass; these may derive from the demolished structures but are as likely to have derived from brought-in soil used to level the site. The same could apply to much of the china and redware from the site. These are catalogued in the Data Structure Report (Appendix 2) but have not been retained.

Two coins from the topsoil are dated 1863 and 1877 respectively and may simply have been dropped in the churchyard at any time since its construction in 1851.

Two clay tobacco pipe bowls were retained; both appear to be of 19th century type.

4 The Field Walking

Over 100 children and staff from five local primary schools took part in a day of field walking in the field on the W side of the village and to the S of the Old Deer to Maud road. The W side of the field was laid out in a series of E/W plots and each school walked one plot (Illus 16, 17). The plots were all c. 120m long and varied in width between 14 and 20m depending on the size of the group. After each session the children recorded what they had found. Subsequently the finds have been sorted and recorded (Appendix 3).

GPS co-ordinates of field walking plots (from N to S) (see Illus 17)

Plot	NE	NW	SE	SW
Stuartfield	397421,847776	397297,847784	397421,847756	397301,847762
Fetterangus	397421,847756	397301,847762	397420,847758	397301,847761
Longside	397420,847758	397301,847761	397423,847727	397304,847733
New Pitsligo	397424,847708	397306,847711	397427,847682	397309,847686
Pitfour	397427,847682	397309,847686	397428,847649	397313,847654

Illus 11 School at object handling and recognition session

Illus 12 School field walking

The majority of the finds were of 19th-20th century date. These are catalogued in Appendix 3 but have not been retained. They included 19th and 20th century redwares, stoneware, china and bottle and vessel glass. There were also quantities of fuel debris from domestic hearths. All this material has almost certainly derived from spreading midden material from the village onto the fields. Perhaps not surprisingly there appeared to be a reduction in quantity as the field walking moved S, further from the road.

A number of fragments of clay tobacco pipe of probable 19th century date were retained but none can be more closely dated.

Flints

A total of 12 flints were found. These comprised 6 pebble fragments, 3 amorphous chunks and 3 struck flakes. Four of the flints had been burnt.

There was no clear indication that any of this flint had been deliberately struck as opposed to naturally flaked by ploughing etc. This site lies some 3 miles NNW of Skelmuir Hill where flint quarrying had taken place in the Neolithic (Saville 2008) and may simply be part of the natural scatter of flint on the W edge of the flint rich Buchan Ridge Gravels. The burnt flints may also have derived from surface burning of straw and stubble in the past.

However the presence of flint and the known presence of prehistoric activity in the general area, indicates that a more extensive programme of field walking after ploughing in this field would be a worthwhile exercise.

The Late Medieval/ Post-medieval Pottery

A total of 9 sherds of very abraded pottery of probable 15th-17th century date were found. These are also likely to have derived from the spread of midden material from the village.

Illus 13 School children sorting objects from field walking

5 The Geophysical Survey

Parish: Old Deer NGR: NJ 97910 47685 (church). NMRS ref: NJ94NE 3.0.

In 2011, one trench was excavated within the chancel of the ruined Old Parish Church, Old Deer in accordance with the terms of the Scheduled Monument Consent. This identified as a wall an anomaly shown in the 2010 geophysical survey of the church undertaken by GUARD. It was argued (Murray & Murray, 2011) that, as the wall appeared to run through the chancel arch into the nave, it might predate the use of the chancel arch and the original form of the nave and chancel. The church, now much modified, is normally dated to the 15th century; although Fawcett (2008, 459) considers the two-compartment plan to be possibly derived from the 13th century building, he describes the surviving fabric as late medieval. If the present parts of the original fabric date to the 15th century, then the wall could be of 13th century date. If the 15th century church is, as Fawcett appears to suggest, on the plan of its 13th century predecessor, the excavated wall could possibly be pre-13th century in date but this is highly speculative. However due to the restrictions of the area that could be excavated and the presence of articulated burials it was not possible to date the wall or to excavate further to see how far it extended into the nave area. As a result it was suggested that a second, more targeted GPR (Ground Penetrating Radar) survey should be undertaken in 2012 in an attempt to see how far the wall extended into the nave area and if there were any associated walls.

The survey was undertaken by Rose Geophysical Consultants on the 15th September 2012 with Section 42 consent from Historic Scotland.
The full report by Rose Geophysical Consultants is in Appendix 4 (Ovenden 2012). The survey clearly identified the excavated wall (Ovenden, 2012, figs 4, 5 & 6). One trend at a depth of 1-1.25m (Ovenden, 2012, fig 6: 10, 11) suggests a possible continuation of the wall to the E, with a return wall to the N, forming a possible SE corner. However, the Geophysical Consultant stresses that any such interpretation must remain very tentative (Ovenden, 2012, para 3.6.3) as it is below the burial enclosure. There is no clear continuation of the wall to the W of the chancel arch although weak trends (Ovenden, 2012, fig 6: 12; fig 8: 13 & fig 9: 16) might suggest such a

continuation with a NW corner formed by the trend turning to the S. Again it is stressed (Ovenden, 2012, para 3.82) that the trends are ephemeral.

Any further interpretation of either of these possible features must be cautious. However, the trends in the SE corner of the nave may perhaps relate to the possibility of a late medieval nave altar below the possible rood screen as suggested by Fawcett (2008, 466). The geophysical anomaly 'encloses' the SE corner, appearing to link to the S wall near the piscina and blocked opening/window.

It is also important to stress that even prior to the 18th century rebuilding of the chancel and foreshortening of the nave, there had been considerable post-Reformation changes such as the building of a new pulpit in 1649 and the use at that time of the E end of the building as a school room (Gibbon, 1927, 178).

Illus 14 GPR survey in nave of Old Parish Church

The possible return wall to the E of the excavated wall (Ovenden, 2012, fig 6: 10, 11) is also intriguing. It may be illusory but if it is a wall it could indicate the SE corner of an earlier structure. However, it must be stressed that the burials in this area mitigate against any further excavation. If at any time in the future the raised internal levels are removed the question may be solved.

9 Discussion

There is no evidence from the excavation outside St Drostan's church contemporary to the possible early monastery of Deer. The total lack of finds or activity from the documented medieval and post-medieval settlement of Old Deer does however suggest that there may have been a degree of scarping of the top of natural at this part of Abbey Street, possibly removing earlier features. It is also possible that if the early monastic settlement was in Old Deer, that it may have been smaller than suggested by Lelong and others (Lelong 2010) and focused entirely within the area of the present graveyard. The 2012 GPR survey results (Appendix 4), the results of the earlier survey by GUARD (Rennie, & Lelong 2010) and the known distribution of graves within the graveyard suggest that further examination of this area to be difficult if not impossible. However, the results of the 2011 and 2012 excavations and the earlier excavations by Lelong (2010) as well as the 2012 field walking show that even limited sites within and around the village are capable of yielding interesting fragments of information about the development of the settlement. The interest and enthusiasm shown by the local volunteers, the school children and passing village residents show the value of public involvement in unearthing local history.

8 References

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Acknowledgements

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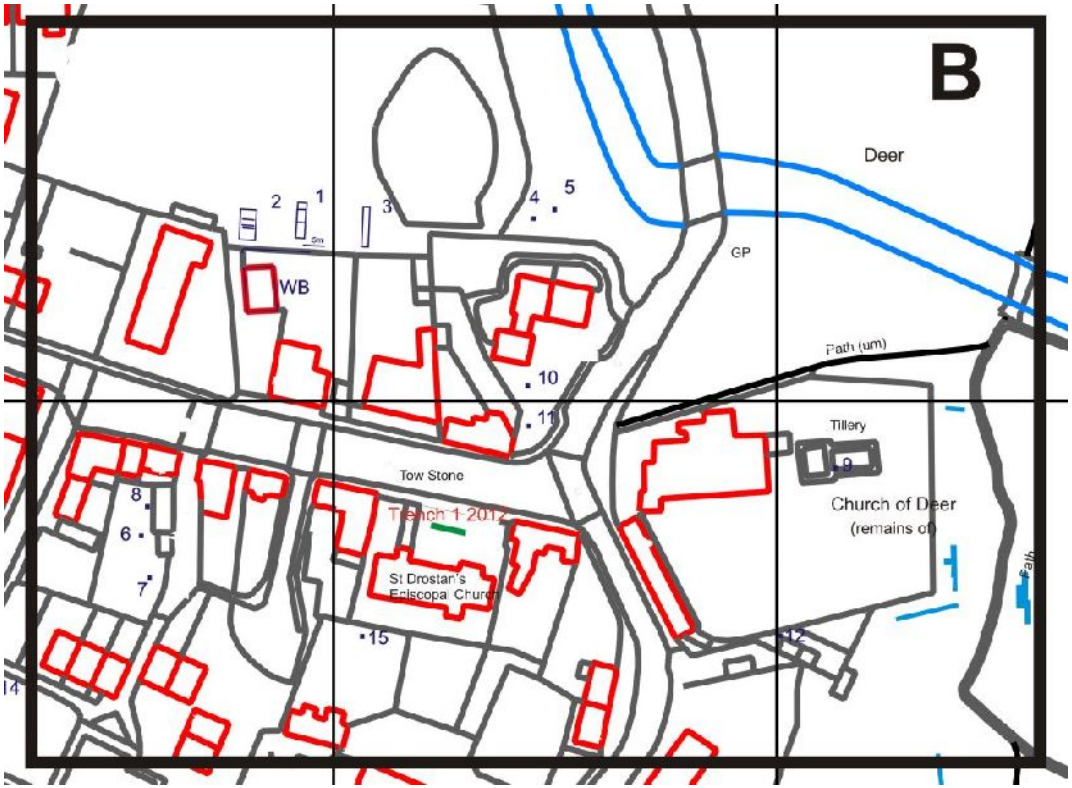
Illus 15 Volunteers working on site

Without the volunteers it would not have been possible- many thanks to: Joyce Brown, Emma Gibson, Jackie Gough, Derek Jennings and Jim Leel for their hard work on the excavation.

The following schools enthusiastically joined in the field walking: Pitfour, Longside, Fetterangus, Stuartfield and New Pitsligo. Thanks are also due to Joyce Brown, Derek Jennings, Heather Jennings and Andrew Kelloch for their help with the schools and to Derek Mackie for the loan of a marquee.

Illus 16 Old Deer. Box A (Illus 17) : field walking area. Box B (Illus 18): area of trench excavated in 2012.Sites excavated in 2011 = bright blue. Sites excavated by GUARD in 2010 = light blue. (Reproduced from Ordnance Survey digital map data, © Crown Copyright, All rights reserved. 2011. License No 0100031673)

Illus 17 Detail of field walking area (Reproduced from Ordnance Survey digital map data, © Crown Copyright, All rights reserved. 2011. License No 0100031673)



Illus 18 Detail of location of trench 1, 2012 (green, numbered in red) (Reproduced from Ordnance Survey digital map data, © Crown Copyright, All rights reserved. 2011. License No 0100031673)

Appendices

Appendix 1: Catalogue of digital photographic record (supplied to SMR and NMRS)

Digital frame number	Content
Old Deer 2012	
1-2	General views looking E down Abbey Street with site in front of Episcopal Church on RHS
3-4	Trench 1 looking W
5-6	Trench 1 looking E
7-9	Trench 1 looking S with church behind
10-14	General views of people working, cobbles of pend being cleaned
15-18	Trench looking E. Foreground LHS context 10, wall 7 by vertical ranging rod. Cobbles of pend (6) behind.
19-20	Detail of cobbles 6 and wall 7, looking E
21	N section at W end showing context 10 and wall 7
22-28	N section details of cobbles 6
29-37	Trench 1 looking W with cobbles (6) in foreground, wall (7) and context 10 behind
38-43	Trench 1, details of n section with cobbles 6, wall 7 and context 10
44-49	Trench 1 fully excavated looking E. Clay walls 7 (foreground) and 12 (background) marked by paired vertical rods. Cobbles (6) between.
50-51	Detail of clay walls 7 (foreground) and 12 (background) marked by paired vertical rods. Cobbles (6) between.
52-60	Trench 1 fully excavated looking W. Clay walls 12 (foreground) and 7 (background) marked by paired vertical rods. Cobbles (6) between. Clay floor 14 in foreground.
61-63	Details of clay wall 12
64-71	Trench 1 fully excavated looking NE

72-73	Details of wall 7 and context 10 after surface inside W building cleaned to natural
74-77	Detail of section through cobbles 6 showing how they were set into natural
78-80	Detail of N section through wall 7
Old Deer 2012 backfill	
1-3	Trench 1 after back filling
Old Deer 2012. Schools and GPR	
1-5	School at object handling session before field walking
6-7	Ranging rods showing layout for field walking
8-12	School (Pitfour) at object handling session before field walking
13	School (Pitfour) preparing to field walk
14-16	School (Pitfour) field walking
17	School (Pitfour) sorting and logging finds
18-20	Rose Geophysical Surveys using GPR in Old Parish Church. 16th September 2012

Appendix 2: Context data

Context No	Trench	Description	Finds	Interpretation
1	1	Mid brown loam	Window glass, bottle glass, brick, slate. 14 sherds white china, 4 sherds cream glazed redware, 1 sherd black glazed redware. 1877 sixpence. 1863 half penny. Bullet	Topsoil/garden earth

			frag. Clay tobacco pipe with bowl stamped 'P' and stem frag.	
2	1	Yellow clay with some random stones	Window glass, bottle glass, slate. 22 sherds white and transfer pattern china, 5 sherds cream glazed. Clay tobacco pipe with bowl. redware, 2 sherds black glazed redware.. 14 nails.	Upper destruction spread from wall 7
3	1	Lower topsoil W end-slighly more clayey due bioturbation between layers 1 and 2	Window glass, brick, slate. 26 sherds white and transfer pattern china, 3 sherds cream glazed redware, 3 sherds black glazed redware. 7 nail frags. Pewter spoon.	Topsoil
4	1	Stoney clay with some mix of topsoil and several; brick fragments	Window glass, bottle glass, brick, slate. 11 sherds white and transfer pattern china, 4 sherds cream glazed redware, 3 sherds black glazed redware, 14 sherds of redware glazed flower pot (?), 4 iron nail frags	Destruction spread wall 12
5	1	Clay/topsoil mix around wall 12	Bottle glass frags and glass perfume bottle, brick, slate, pantile. 32 sherds white and transfer pattern china, 8 sherds cream glazed redware bowl, 16 sherds striped pattern china bowl,	Similar to 3

			12 sherds thick white china bowl, part of black glazed earthern ware jug(?) 2 sherd stoneware jar, 3 lumps iron, bullet.	
6	1	N/S band of cobbles between walls 7 and 12. 2.8m wide	Slate frags from surface.	Path/pend between buildings
7	1	Thick clay band with some small stones to 200mm. Width 550-800mm. Lies N/S extends to both sections		Clay wall
8	1	W of wall 7. Thin purple/grey trodden surface of ash and charcoal. c.2-5mm thick		Occupation surface on floor 9
9	1	V small pebbles in top of natural to W of wall 7. Appears to be remains of floor surface below 8		Floor of W building
10	1	Clay block with small stones through it. Extends into N section. 450mm wide E/W. 300mm+ N/S. 100mm high above layers 8/9		Possibly internal wall/feature in W building
11	1	Clay and stone lump c 400mm wide extending into N section		Very amorphous compared to layer 10. Probably just a part of the rubble spread

12	1	Thick clay band with some stones through it. Directly on natural. Width 750mm. Lies N/S extends to both sections		Clay wall of E building
13	1	Small group of stones set on floor 14 in E building. Angular stones but set with flat upper surface. 500mm + N/S, 430mm+ E/W. Extends into both sections		Possibly part of demolition debris- merges to 16
14	1	Thin horizontal layer clay in E building. 20mm thick some trampled charcoal on upper surface		Secondary floor E building
15	1	Trampled top of natural with 1-2mm charcoal and ash on surface	Key escutcheon plate, 1 sherd white china	Primary floor E building
16	1	Thin humic loam, merges into 13		

Appendix 3: Finds from Field walking

SCHOOL	Glass	Brick	Slate	Fuel debris	Iron frags	19th/20thC stoneware	19th/20thC redwares	19th/20thC china	Clay tobacco pipe	Other	Late or post-medieval pottery	Flint
Stuartfield	*	*	*	*	1 nail+ frag	*	*	*		Golf ball	Base, rim and body sherds v abraded. 1 body sherd purple glazed, possibly 16th/17th C	1 pebble, 1 chunk, 2 frags struck flake
Fetterangus	*	*	*	*	1 frag	*	*	*	1 stem frag		Rim sherd and bodysherd, fine red fabric with internal orange glaze. Possibly 16th C	2 pebble frags, 1 chunk burnt, 1 struck flake
Longside	*	*	*	*	2 frags	*	*	*	2 stem frags,1 bowl frag	Metal button	1 v abraded bodysherd	2 burnt flint pebble frags
New Pitsligo	*	*	*	*	1 nail	*	*	*	2 stem frags	2 clay marble frags	2 v abraded bodysherds	1 burnt chunk
Pitfour	*	*	*	*	1 nail, 1 agricultural frag	*	*	*	2 bowl frags, 1 stem			1 flint pebble

Appendix 4: Geophysical Survey Report by S M Ovenden Rose Geophysical Consultants

Geophysical Survey Report
Old Deer, Old Parish Church
RGC1248ODC

On Behalf of:

Murray Archaeological Services

Rose Geophysical Consultants:
Specialising in Archaeological Survey and Consultancy

Executive Summary

In 2011 a small excavation within the chancel of the old parish Church at Old Deer under SMC (Case ID: 201103430) by Murray Archaeological Services Ltd on behalf of the Book of Deer Project identified a stone wall. This feature had been identified in an earlier GPR survey by GUARD. However, the earlier GPR survey did not locate the anomaly in the nave or within the burial enclosure in the chancel. As the excavated evidence shows the wall extending through the chancel arch into the nave it was agreed by the Book of Deer Project that it would aid interpretation of this wall if its full extent could be explored by a further targeted GPR survey.

The GPR survey appears to have detected the wall revealed by excavation, although it is not very well-defined. Although, some ephemeral anomalies of possible archaeological interest have been noted, there is no clear indication of the wall extending west into the nave or east into the burial enclosure.

Survey:	Geophysical Survey at Old Parish Church, Old Deer (RGC1248/ODC)
Client:	Murray Archaeological Services
Date of Survey:	15th September 2012
Survey Personnel:	Dr S M Ovenden and A S Wilson
Date of Report:	12th October 2012
Report Author:	Dr S M Ovenden

1. Introduction

1.1 In 2011 a small excavation within the chancel of the old parish Church at Old Deer under SMC (Case ID: 201103430) by Murray Archaeological Services Ltd on behalf of the Book of Deer Project identified a stone wall. This feature had been identified in an earlier GPR survey by GUARD. However, the earlier GPR survey did not locate the anomaly in the nave or within the burial enclosure in the chancel. As the excavated evidence shows the wall extending through the chancel arch into the nave it was agreed by the Book of Deer Project that it would aid interpretation of this wall if its full extent could be explored by a further targeted GPR survey.

1.2 Although detailed survey has been undertaken, interpretation of the results is cautious given the restricted survey areas which make it difficult to view anomalies within a wider context.

2. Methodology

2.1 Prior to data collection a series of markers were established across the site and tied-in to hard features.

2.2 The Ground Penetrating Radar (GPR) survey was carried out using a Mala Ramac X3M system with a 500MHz antenna. This antenna was selected on the basis of ground conditions, the nature of the soils and expected targets. Data was collected at 0.02m intervals along traverses 0.25m apart. Given the small size of the areas data was collected on an orthogonal grid, where possible, to provide as much coverage and resolution as possible within the confined areas.

2.3 In GPR surveys pulses of electromagnetic energy are directed downwards into the earth. The transmitted wave is affected by variations

in the electrical properties of the subsurface, specifically the dielectric constant and the conductivity of the subsurface.

2.4 Contrasts in these properties cause differential reflection of the energy wave creating an anomaly. The subsurface is mapped by recording the amplitude of this reflected energy and its travel time. The travel times were converted to depth using a calculated constant velocity. While the depths provided should be a reasonable estimation of the depth of features, there may be some variation as a constant value has been applied and the velocity can vary vertically and laterally within the subsurface.

2.5 GPR Data were processed using GPRSlice software package. The data were collected and processed as individual traverses, a selection of which are shown in Figures 11 and 16. All the traverses were then assembled into a block of data and processed and displayed as a series of time slice or depth maps in Figures 2 - 9. This type of data processing and visualisation allows more subtle features and relationships between features to be analysed more easily.

3. Results of Ground Penetrating Radar Survey

Anomaly numbers referred to below are shown on the GPR Interpretation diagrams (Figures 2 - 9) and selected radargrams (Figures 11 - 16)

3.1 The data are displayed as a series of depth maps. These maps display 25cm spits through the ground. Two data images are provided for each depth. These are simply plotted at different levels and with different colour schemes to enhance different potential anomalies. Red/black indicates a strong response i.e. stone work, path, compact or well drained soil, while dark blue/white indicates attenuation of the signal which one would expect from a pit or similar.

3.2 Depth Slice: 0.00m - 0.25m (Figure 2)

3.2.1 This slice is dominated by near surface changes. These include strong anomalies (1) caused by burial slabs visible on the surface. These are clearly visible in the selected radargrams for Lines 78, 104 and 109 (Figures 14 - 16).

3.2.2 Weaker, more amorphous, areas of strong reflection (2) are thought to be due to compaction of the soil, or natural variations within the subsoil. The response in the east of the nave lies beneath the chancel arch. This has also been noted as the result of natural variations in the soil due to compaction, and drier conditions due to shelter provided by the arch. These responses are clearly visible in the radiogram from Line 13, Figure 11.

3.2.3 The high amplitude reflection in the west of the chancel (3) is also noted as being due to natural variations. However, interpretation is cautious as this is the general area of recent excavations and the response may partly be due to recent ground disturbance. These near surface variations are visible in the radagram from Line 96, Figure 15.

3.2.4 The response (4) is very clear, about 0.5m wide and could be a wall footing of some sort. However, it only appears clearly in this near surface slice suggesting it has a shallow depth and therefore a fairly recent origin. It is very well-defined in the radargrams for Lines 57, 59 and 60, Figures 13 & 14. It may be the remnants of a burial slab, or a piece of masonry.

3.2.5 Several other discrete anomalies are apparent in the northeast of the chancel. These are not visible in later slices and are most likely due to stone/rubble/foundations or additional burials slabs within the topsoil/subsoil.

3.3 Depth Slice: 0.25m - 0.50m (Figure 3)

3.3.1 The strong responses (1) from burial slabs visible on the surface are no longer apparent in this depth slice although the background response, in general, is more varied as can be seen with the changing form of anomaly (2). It seems likely that this is due to variations within the building debris used to build up the current floor level.

3.3.2 The amorphous anomaly (3) in the vicinity of the recent excavations is still apparent. There is a suggestion of a linear anomaly (5) in the location of the known wall. However, this appears shallow and could be due to more general variations e.g. rubble in the subsoil.

3.3.3 In the southeast of the chancel strong reflections (6) are apparent, which may indicate burials slabs, or other masonry. These well-defined reflections are clear in the radagrams e.g. Line 109, Figure 16.

3.4 Depth Slice: 0.50m - 0.75m (Figure 4)

3.4.1 The strong reflections (3) and (5) seen in the previous depth slices are stronger and more coherent within this slice, although again interpretation is cautious due to recent excavations.

3.4.2 The data suggest two linear trends within the data. Response (5) appears to indicate the known wall. The suggestion of a further linear response (7), immediately to the north, may be of interest. However, the southern edge of (7) coincides with the northern edge of the excavation trench. It may simply be that (5) & (7) are one anomaly generated by the wall and associated rubble. The complexity of reflections is apparent in Line 96, Figure 15.

3.4.3 The anomaly (5) appears to have a well-defined southern edge which appears to correspond with the southern edge of the wall. However, within this slice there is no indication of the wall extending west into the nave or into the burial enclosure to the east.

3.4.4 There is a suggestion of a north-south aligned anomaly extending to the south of (5). However, this is not apparent in deeper slices and its western edge coincides with the trench edge making a precise interpretation difficult.

3.4.5 The origin of the strong reflections (6) in the southeast of the chancel remain unclear; they may indicate in-situ features like burials or they may be due to general debris within the made-up floor.

3.4.6 The origin of response (8) in the west of the nave is similarly unclear. However, it is very clear in the radargram for Line 20, Figure 11, suggesting a possible foundation, floor level, or more deeply buried burial slab.

3.5 Depth Slice: 0.75m - 1.00m (Figure 5)

3.5.1 Within this slice the high amplitude linear reflection (5) is very coherent and coincides with the excavated wall. However, within this slice there is still no clear indication of the wall extending west into the nave or into the burial enclosure to the east.

3.5.2 Anomalies within the nave are more amorphous in nature and consistent with a natural/rubble origin. However, there is some suggestion of a more discrete (9) response just beyond the chancel arch which may be of interest, although interpretation is extremely cautious. Although some reflections are apparent in the radargrams (e.g. Line 7, Figure 11) they are extremely ephemeral.

3.5.3 The strong reflections (6) in the southeast of the chancel and along the northern edge of the nave (8) are still evident.

3.6 Depth Slice: 1.00m - 1.25m (Figure 6)

3.6.1 The level of background response varies greatly within this depth slice. Interpretation is cautious as one can generate any number of patterns within the data and the small size of the survey areas has to be taken into consideration.

3.6.2 The wall (5) detected by a previous GPR survey and revealed by excavations is not particularly clear, although there is a suggestion of a southern edge which is consistent with the southern edge of the wall.

3.6.3 The data suggests that the wall extends eastwards into the burial enclosure (10) within this depth slice. Although its eastern termination appears clear in the data this coincides with the western limit of the burial slabs (1) visible on the surface and any associated reflections from the postulated wall may be being masked by the strong near surface reflections. One can argue that there appears to be a turn with a linear trend (11) apparent in the data. However, such an interpretation is extremely tentative. Although a weak reflection is visible in the radargram from Line 60 (figure 14) it is not clear and could be due to an isolated piece of rubble.

3.6.4 Although excavation suggests a clear western continuation of the wall into the nave, it is not clear within the GPR data. While there is a trend in the data (12) it is by no means clearly defined and a further trend is visible just to the south.

3.7 Depth Slice: 1.25m - 1.50m (Figure 7)

3.7 By this depth the area of the known wall (5) is a general area of high reflections, perhaps suggesting rubble or a floor level.

3.8 Depth Slice: 1.50m - 1.75m (Figure 8)

3.8.1 The known extent of wall (5) is not coherent within this depth slice, although the postulated eastern extension (10) is still visible. Although as stated above such an interpretation is extremely cautious. This could simply be due to stark changes caused by the surface burial slabs in the east of the burial enclosure.

3.8.2 The high amplitude trends (12) thought to possibly indicate a potential western extension of the wall into the nave are no longer apparent at this depth. However, low amplitude trends (13) are just discernable within the data. These are off-set from (12) and are of a size, location and alignment consistent with the projected alignment of the known wall. The data suggest a possible return to the south. This may be significant suggesting a robber trench, however the anomaly is extremely ephemeral.

3.8.3 A well-defined area of high amplitude reflections (14) is visible in the western half of the nave. It is possible that this indicates a floor level, or perhaps natural out-with the possible earlier structure.

3.9 Depth Slice: 1.75m - 2.00m (Figure 9)

3.9.1 By this depth the area of the chancel is generally devoid of anomalies except for (15). However this has been visible intermittently throughout all the slices and may be associated with a burial or construction of the burial enclosure.

3.9.2 Numerous reflection are visible in the nave possibly indicating foundations, etc. As stated above one can generate any number of patterns within the data and the small size of the survey areas, and the depth, has to be taken into consideration. There is a suggestion of a continuation of (13) seen in the previous slice, but this time as strong reflections (16). However, interpretation is very cautious given the background level of variation within this area.

4. Conclusions

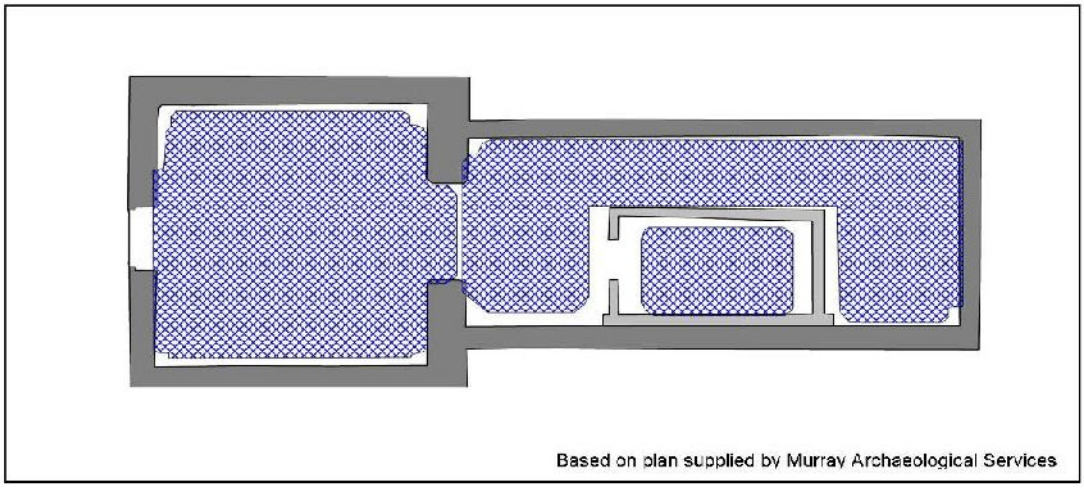
4.1 The GPR survey appears to have detected the wall revealed by excavation, although it is not very well-defined. Although, some ephemeral anomalies of possible archaeological interest have been noted, there is no clear indication of the wall extending west into the nave or east into the burial enclosure.

List of Figures

OLD PARISH CHURCH, OLD DEER

Ground Penetrating Radar Survey

Location Diagram



GPR Survey

N

0m 6m

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Figure 1

OLD PARISH CHURCH, OLD DEER

Ground Penetrating Radar Survey

Depth Slice: 0.00m—0.25m

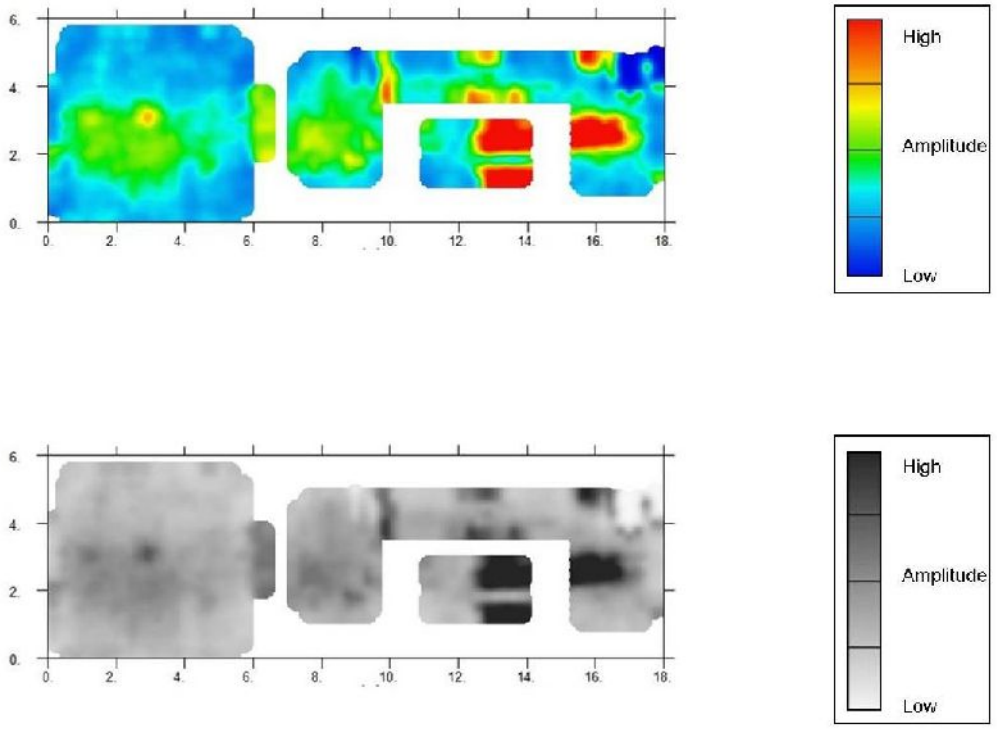

Figure 2

OLD PARISH CHURCH, OLD DEER

Ground Penetrating Radar Survey

Depth Slice: 0.25m—0.50m

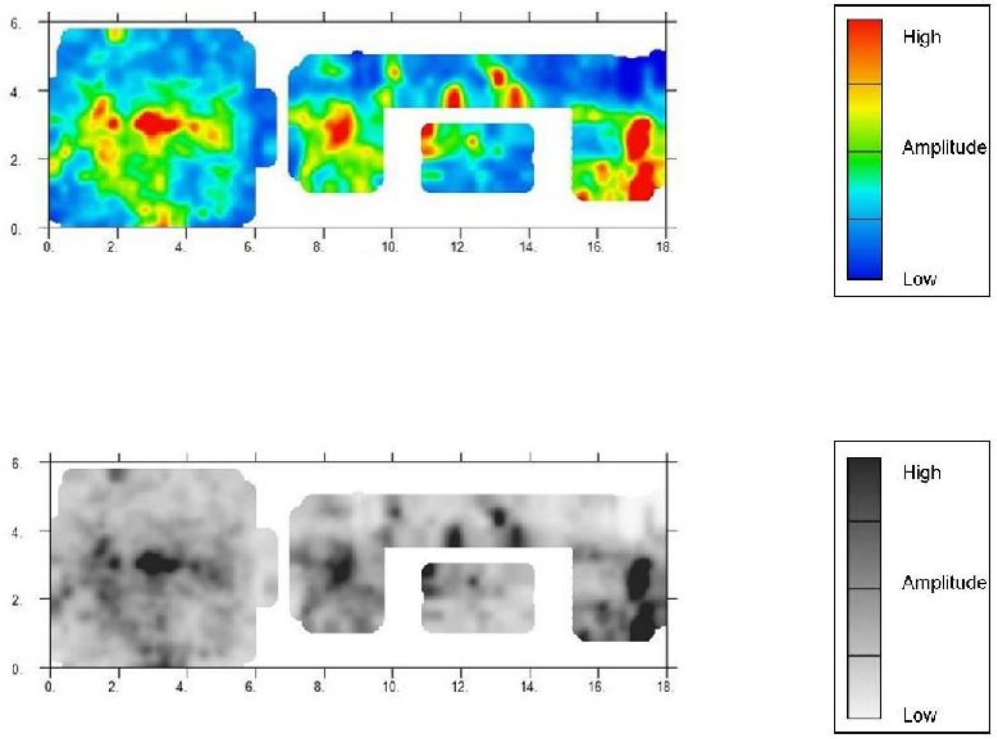

Figure 3

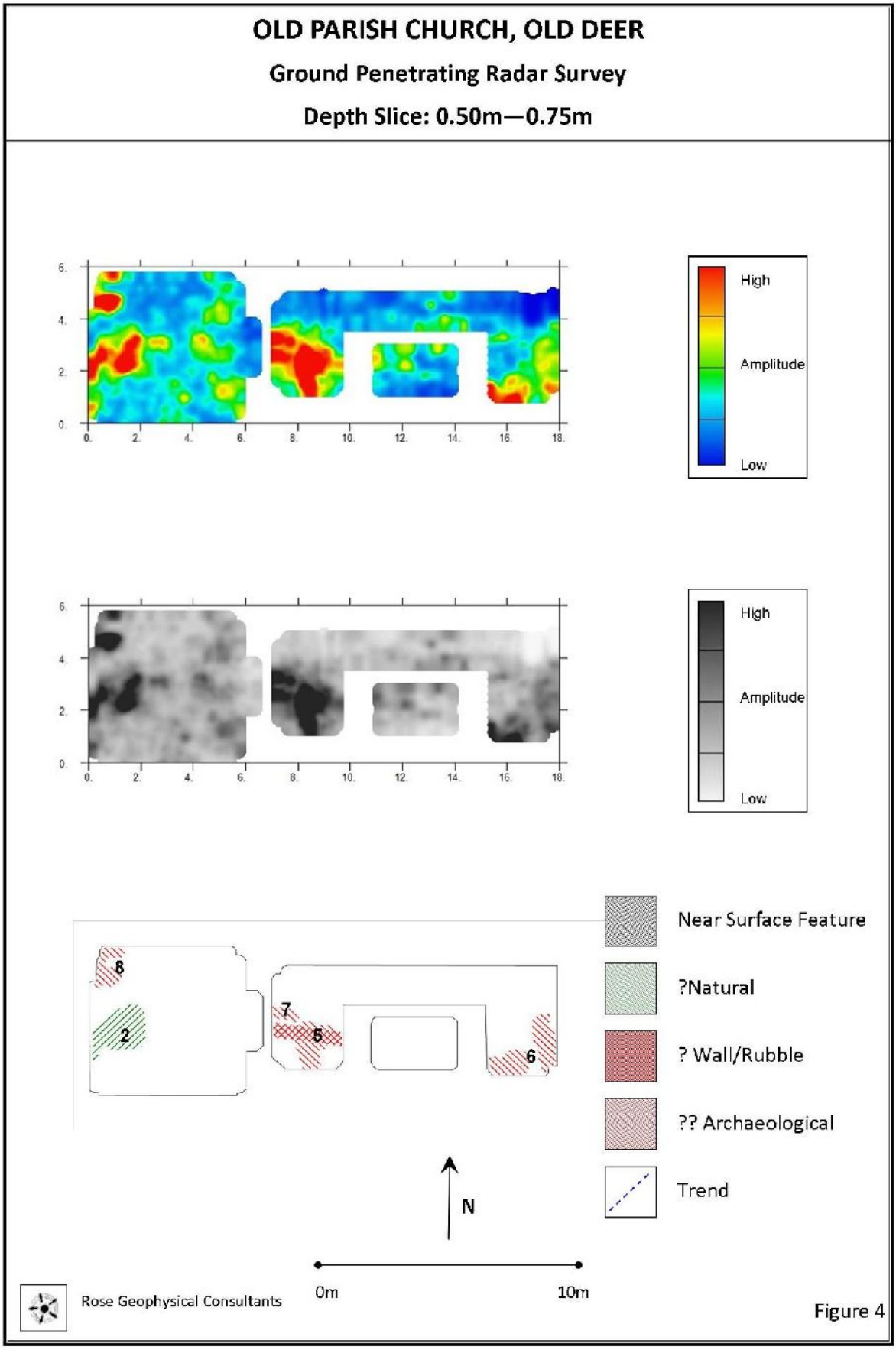

Figure 4

OLD PARISH CHURCH, OLD DEER

Ground Penetrating Radar Survey

Depth Slice: 0.75m—1.00m

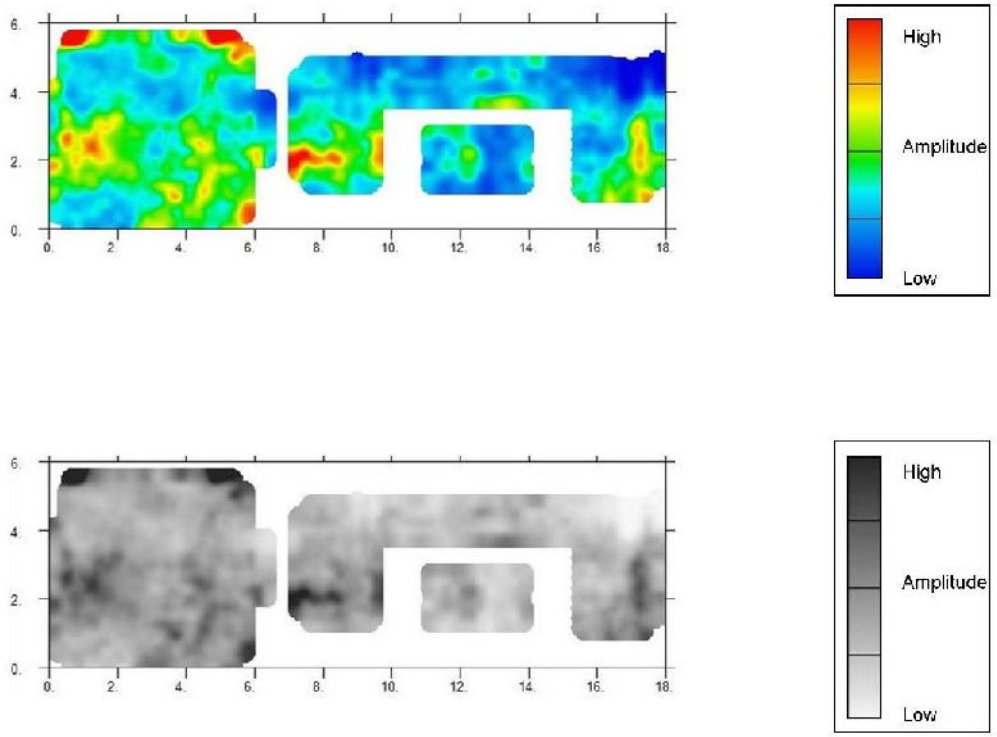

Figure 5

OLD PARISH CHURCH, OLD DEER

Ground Penetrating Radar Survey

Depth Slice: 1.00m—1.25m

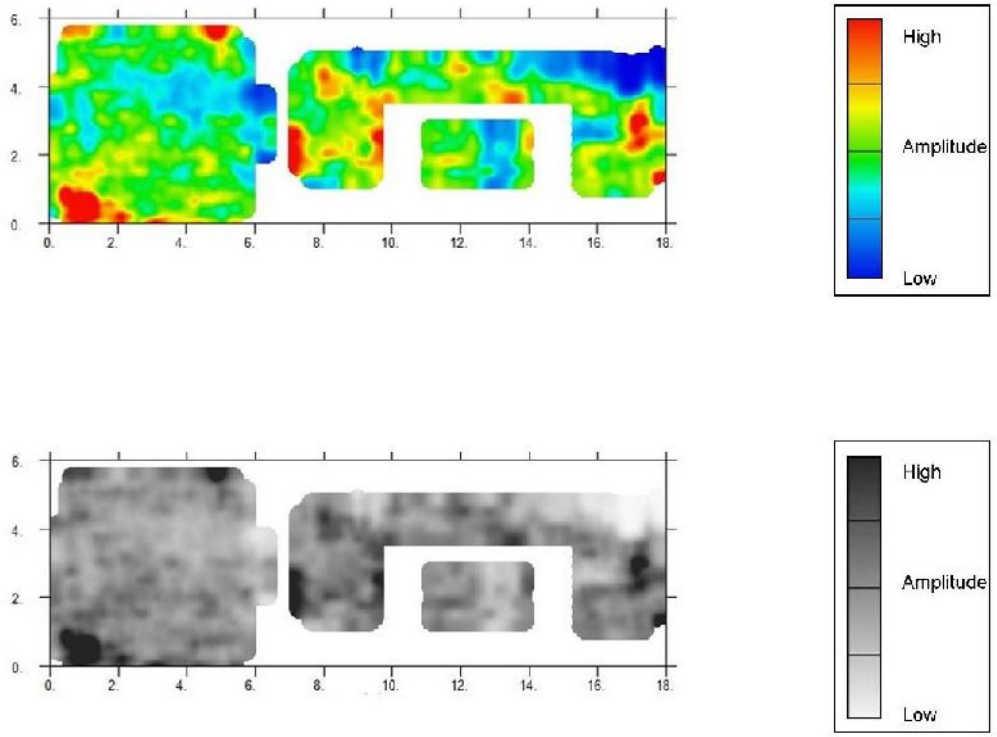

Figure 6

OLD PARISH CHURCH, OLD DEER

Ground Penetrating Radar Survey

Depth Slice: 1.25m—1.50m

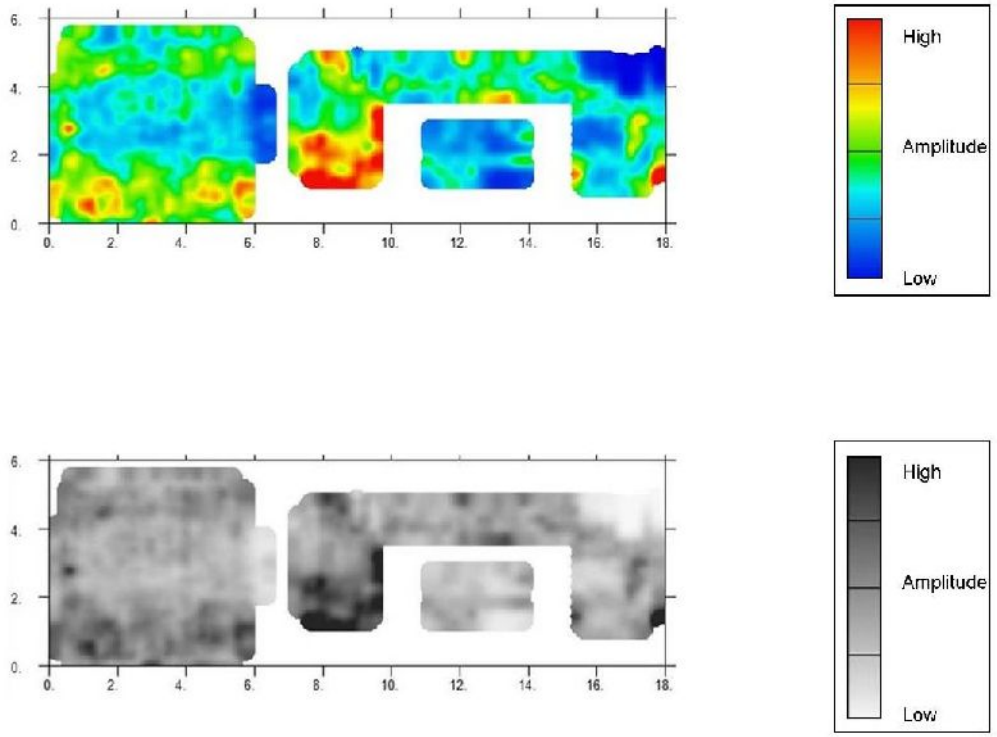

Figure 7

OLD PARISH CHURCH, OLD DEER

Ground Penetrating Radar Survey

Depth Slice: 1.50m—1.75m

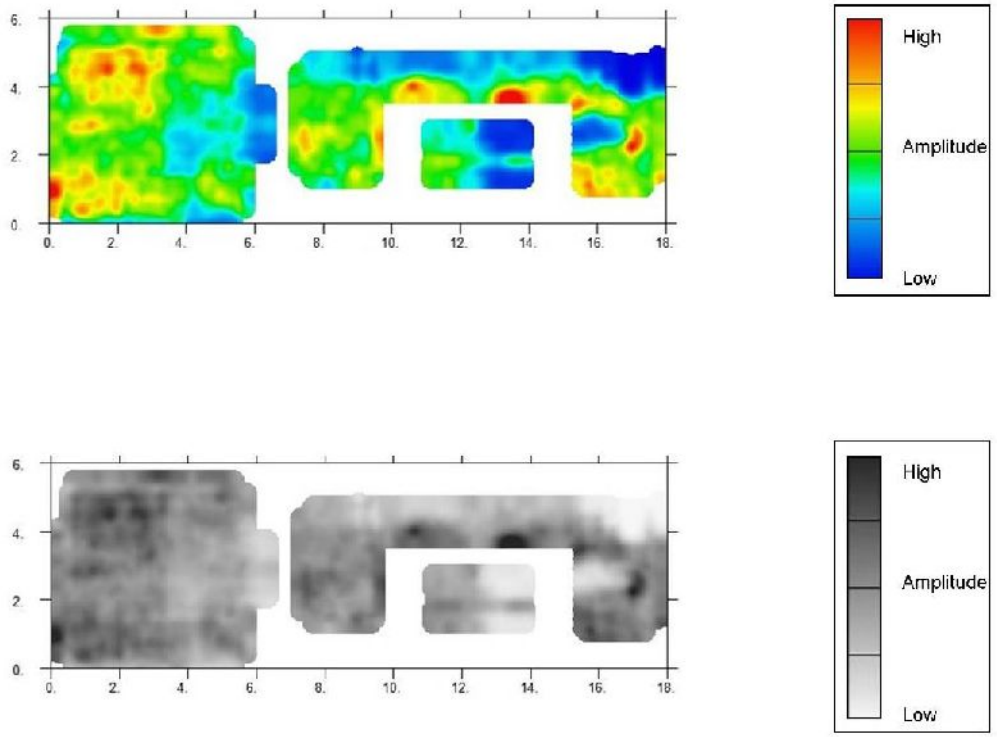

Figure 8

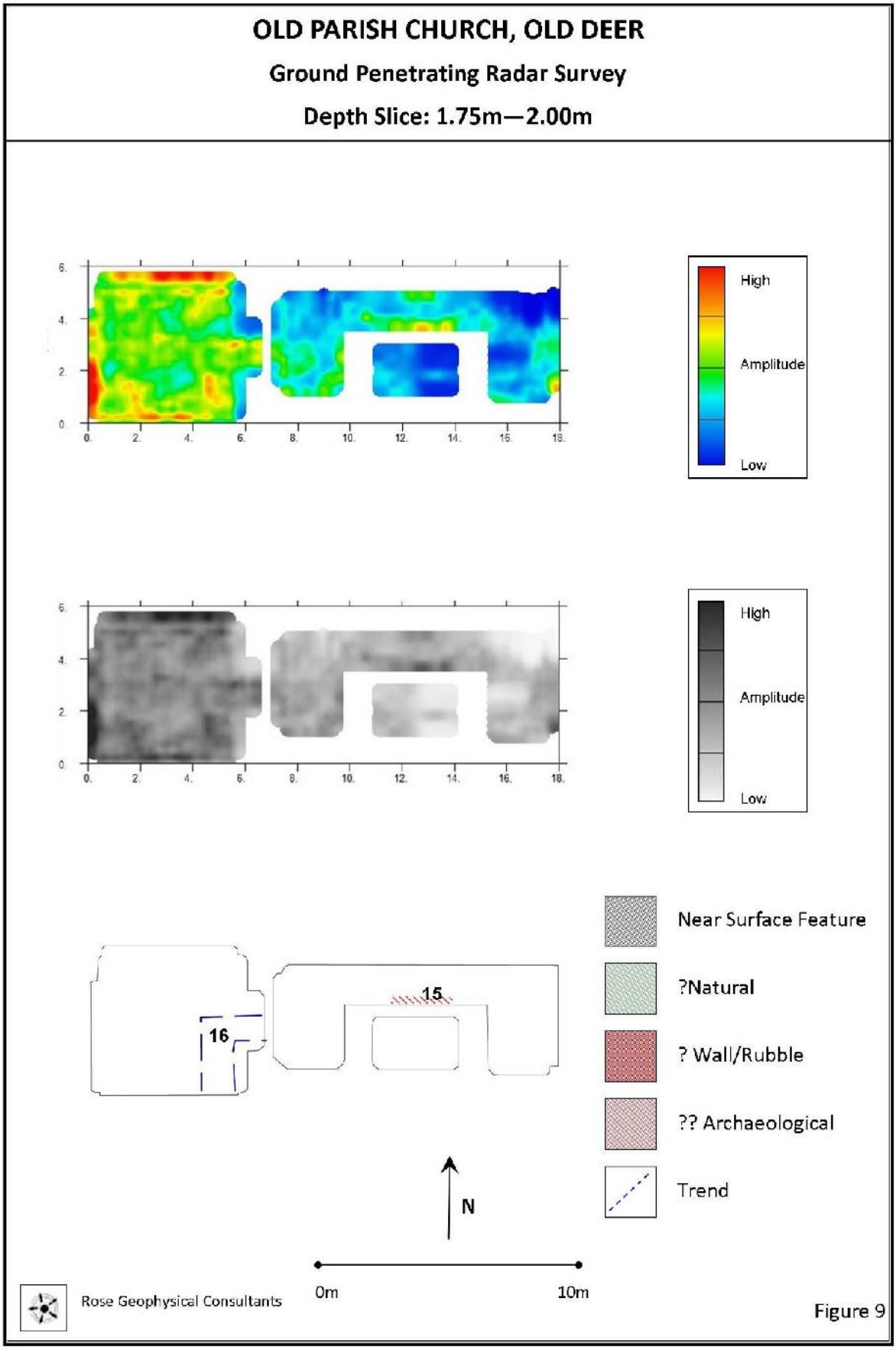

Figure 9

OLD PARISH CHURCH, OLD DEER

Ground Penetrating Radar Survey

Location Diagram

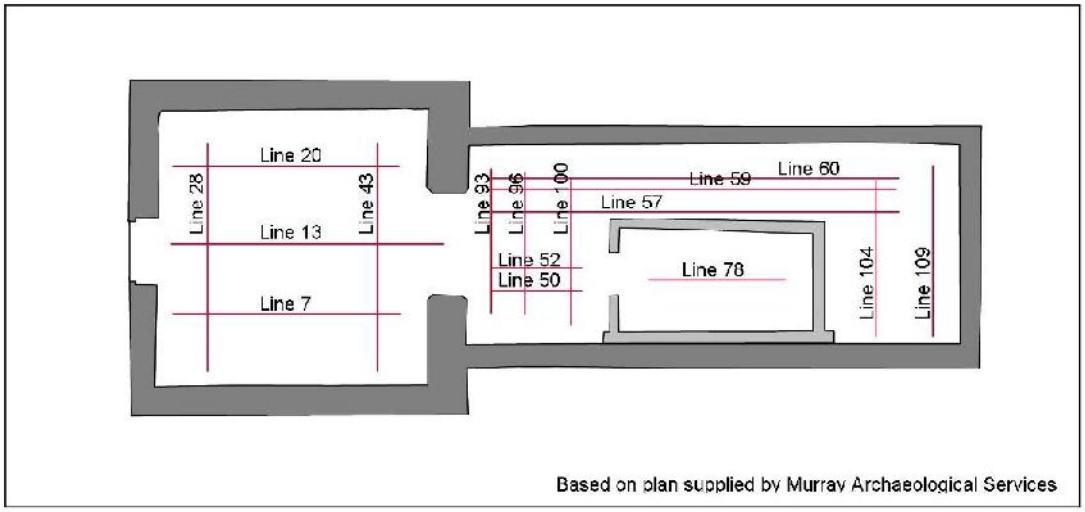

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Figure 10

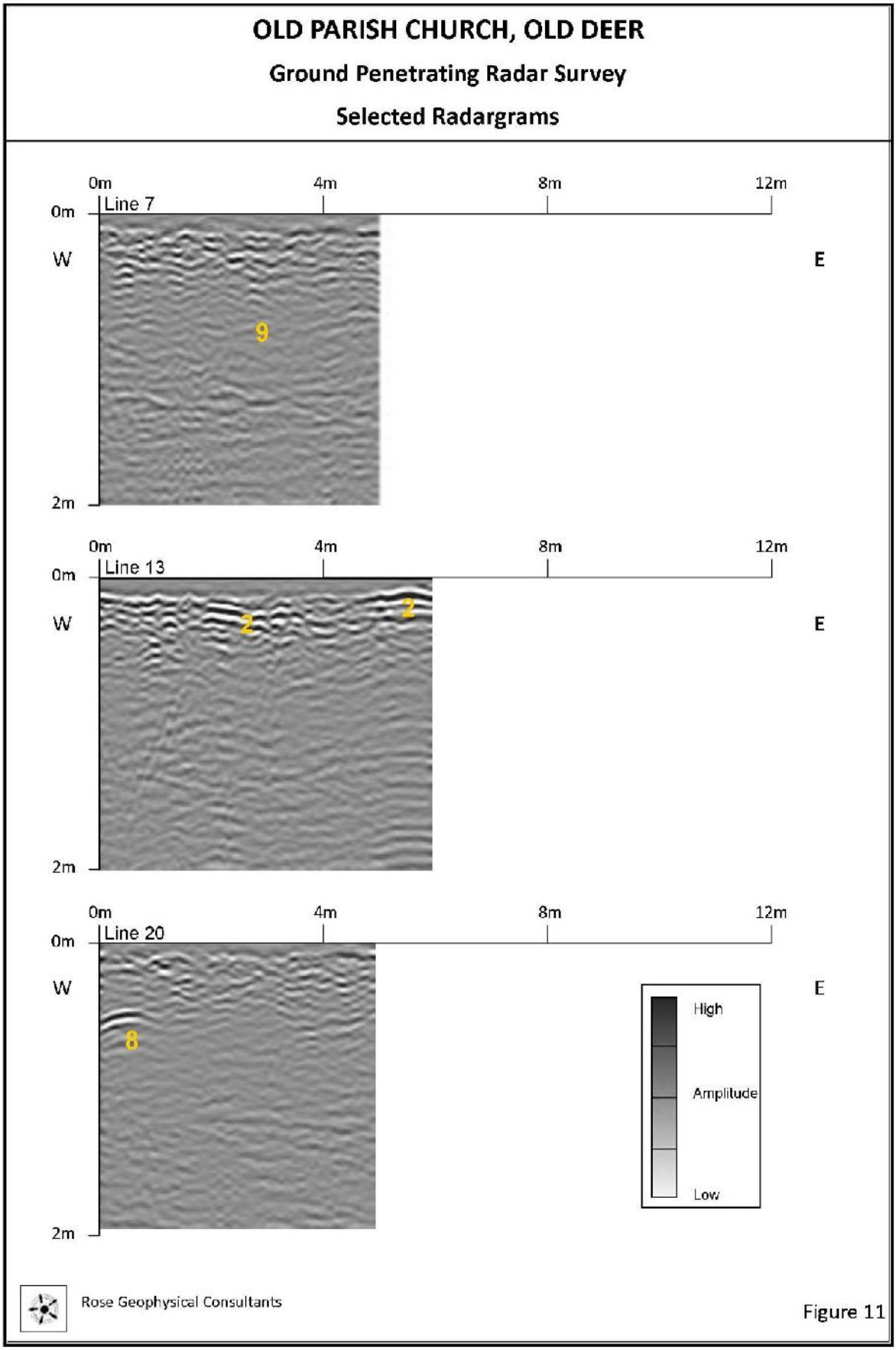

Figure 11

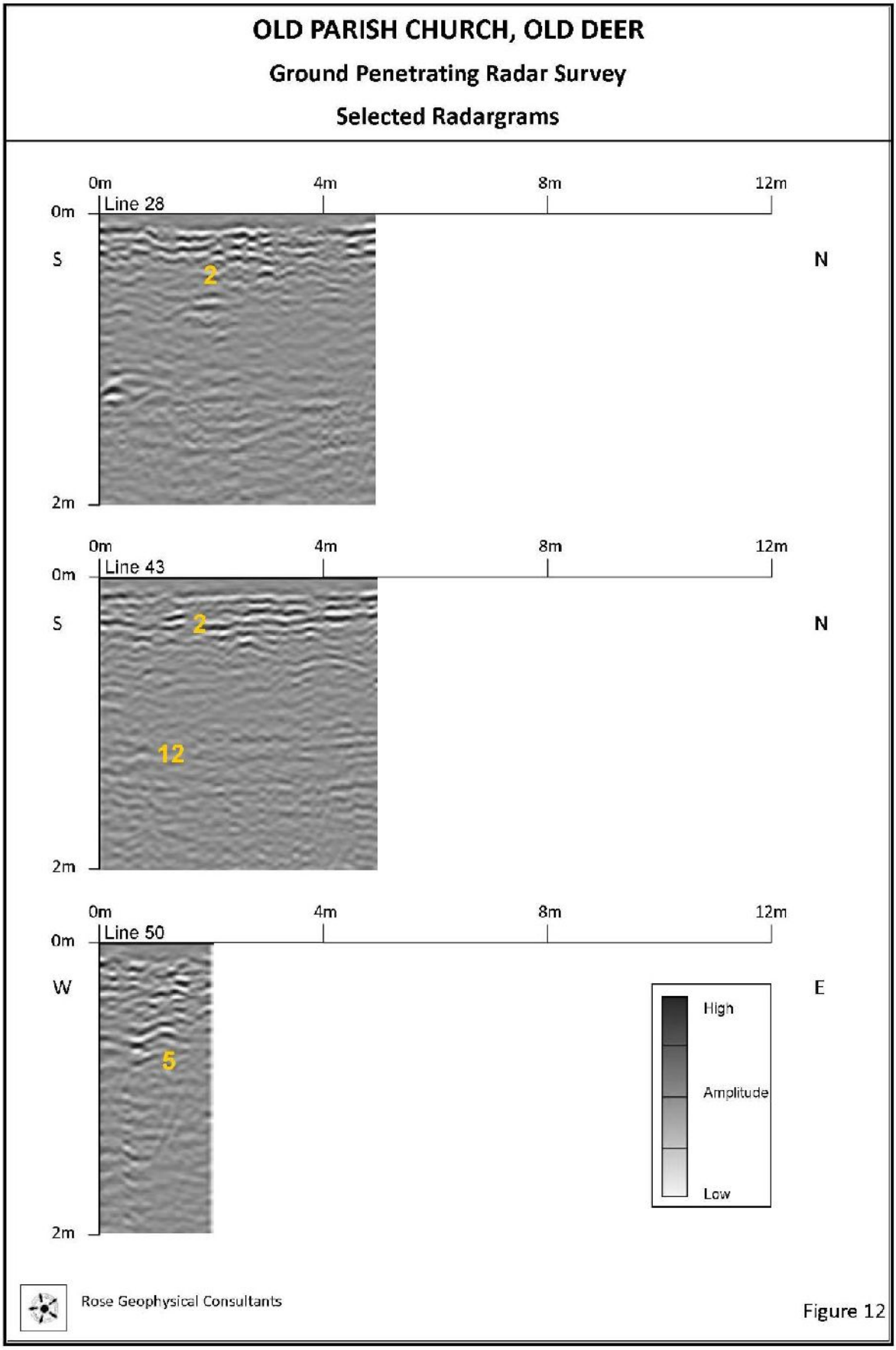

Figure 12

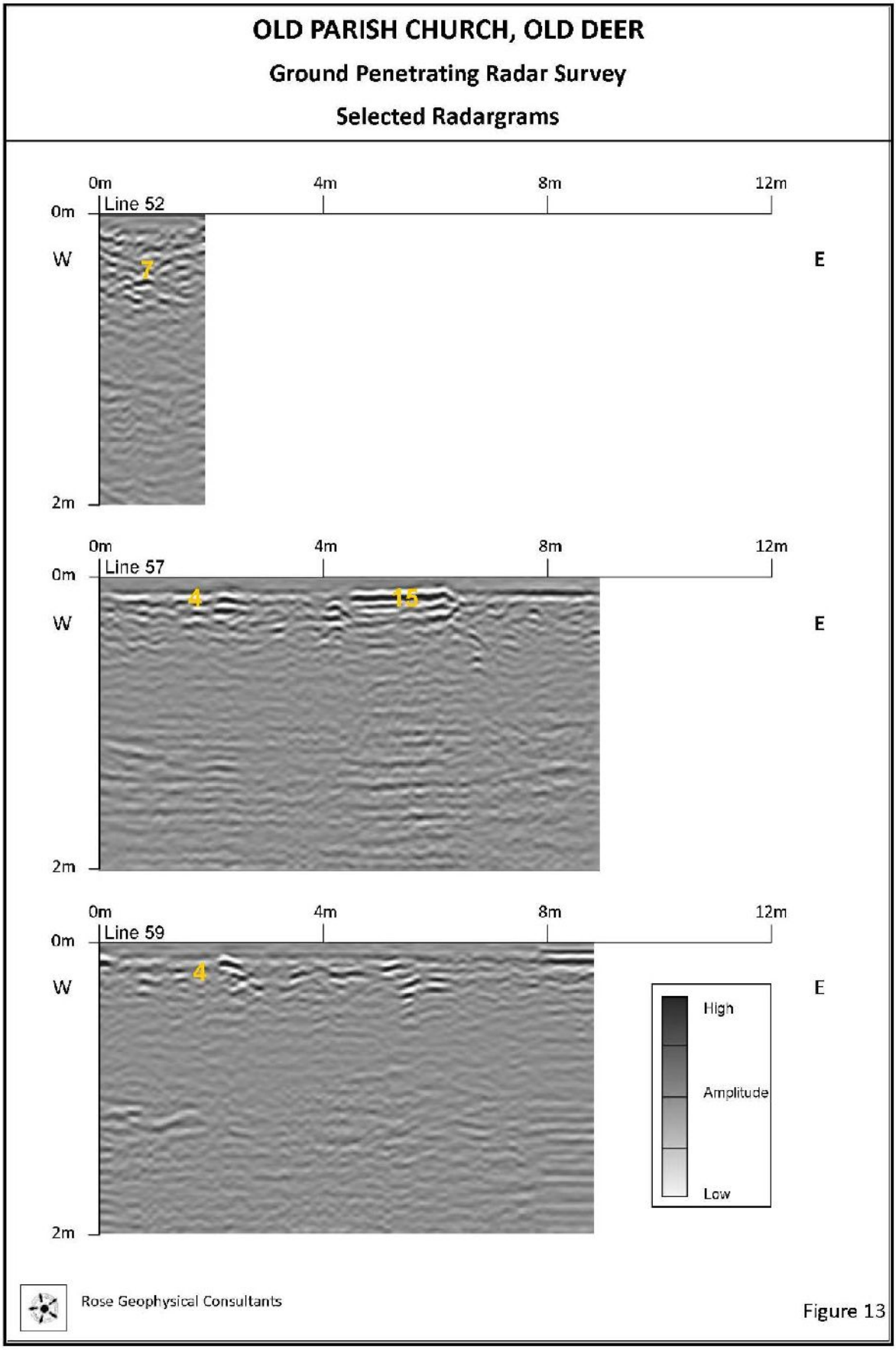

Figure 13

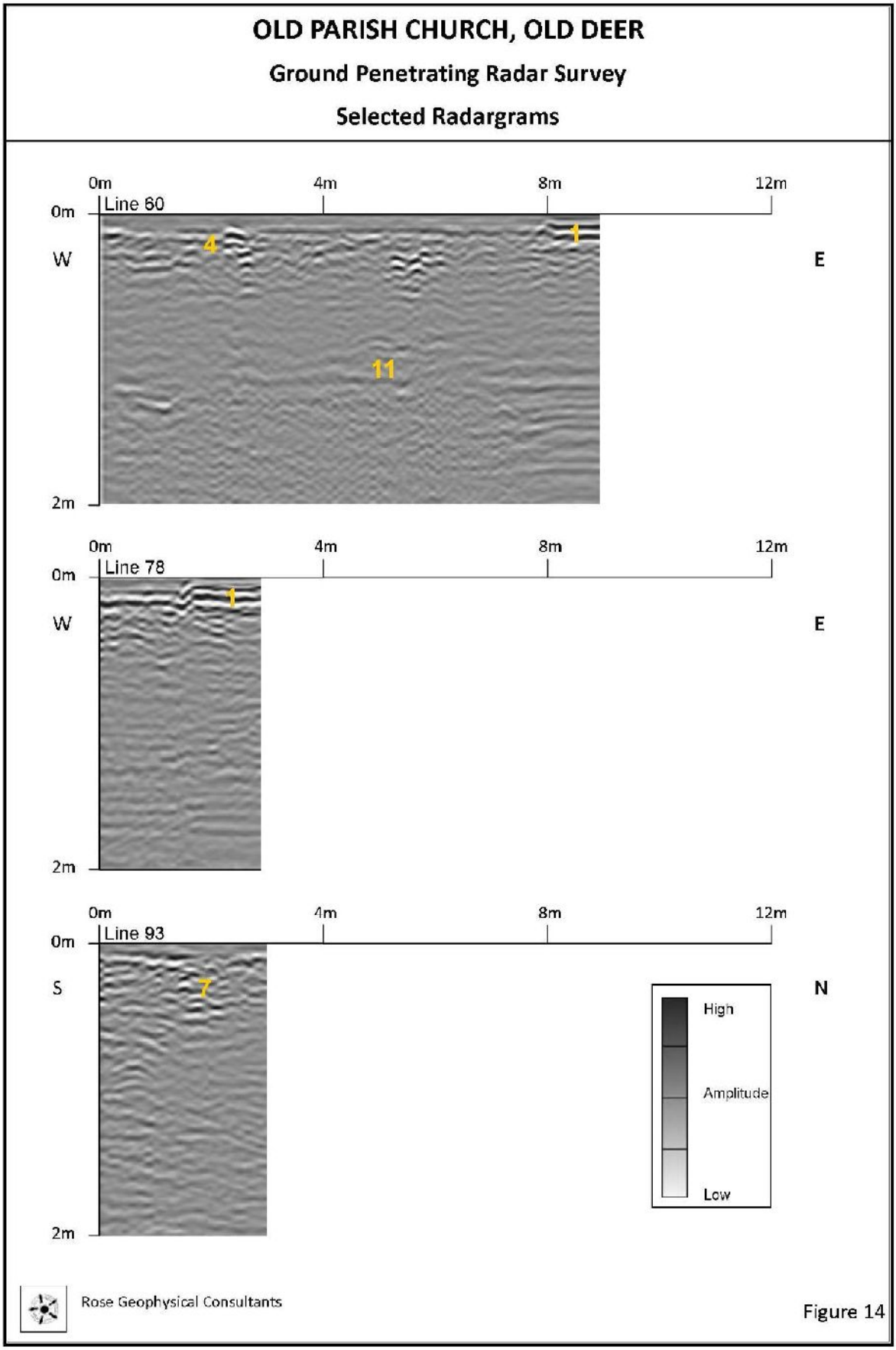
OLD PARISH CHURCH, OLD DEER
Ground Penetrating Radar Survey
Selected Radargrams
0m
4m
8m
12m
Line 60
0m
W
E
4
1
11
2m
Line 78
1
Line 93
S
N
7
High
Amplitude
Low
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Figure 14

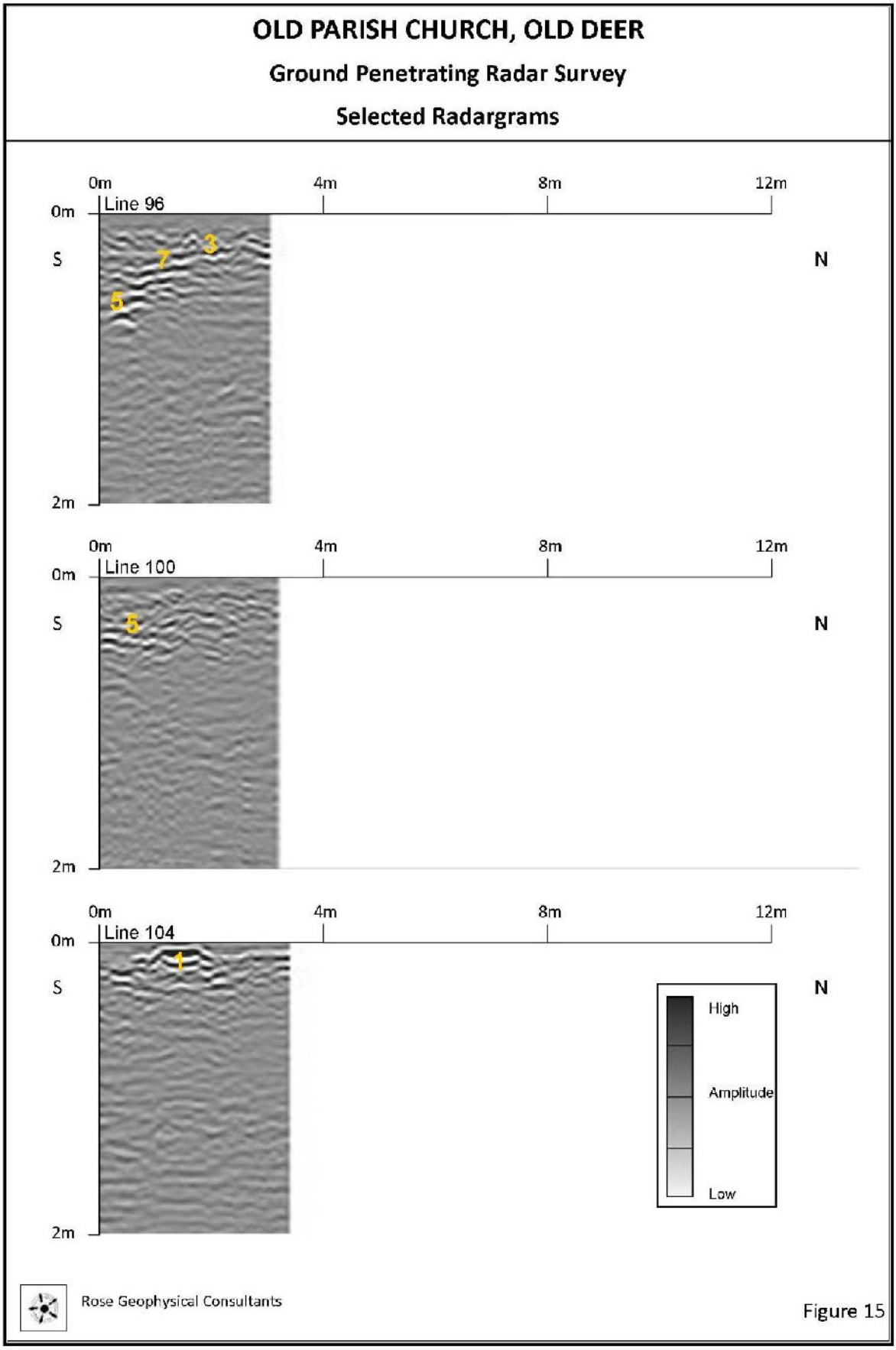

Figure 15

OLD PARISH CHURCH, OLD DEER

Ground Penetrating Radar Survey

Selected Radargrams

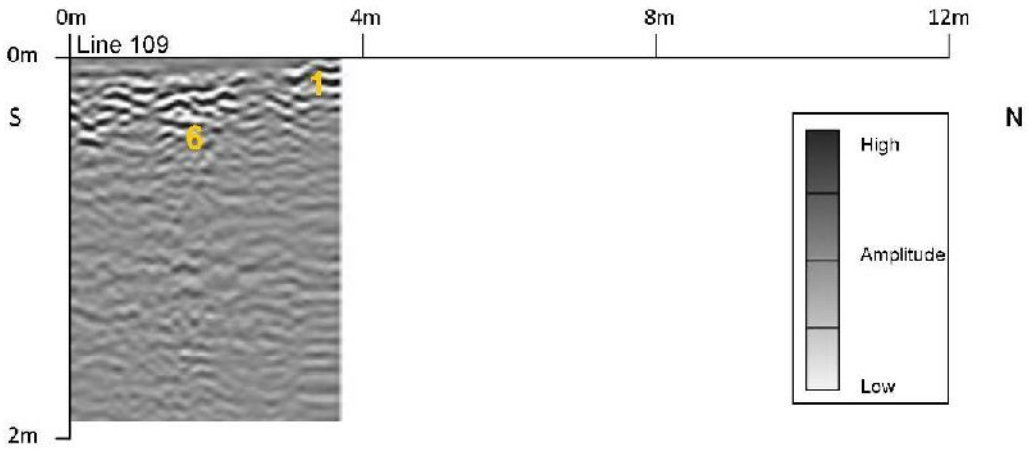

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Figure 16