TULLICH GRAVEYARD EXTENSION

BALLATER

ABERDEENSHIRE

Archaeological Excavation

Carried out May-June 2013

by

Murray Archaeological Services Ltd

Report No: MAS 2013-14

by

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1. Background

1.1 When an extension of the graveyard at Tullich, Ballater, Aberdeenshire was proposed, Aberdeenshire Council Archaeology Service determined that a condition requiring an archaeological evaluation would be appropriate as the proposed extension is beside the remains of Tullich church and burial ground. The archaeological condition was applied to this application in the context of Scottish Planning Policy (PAN 2/2011, SPP, SHEP).

The condition required that no development should take place before the implementation of a 7-10% archaeological evaluation.

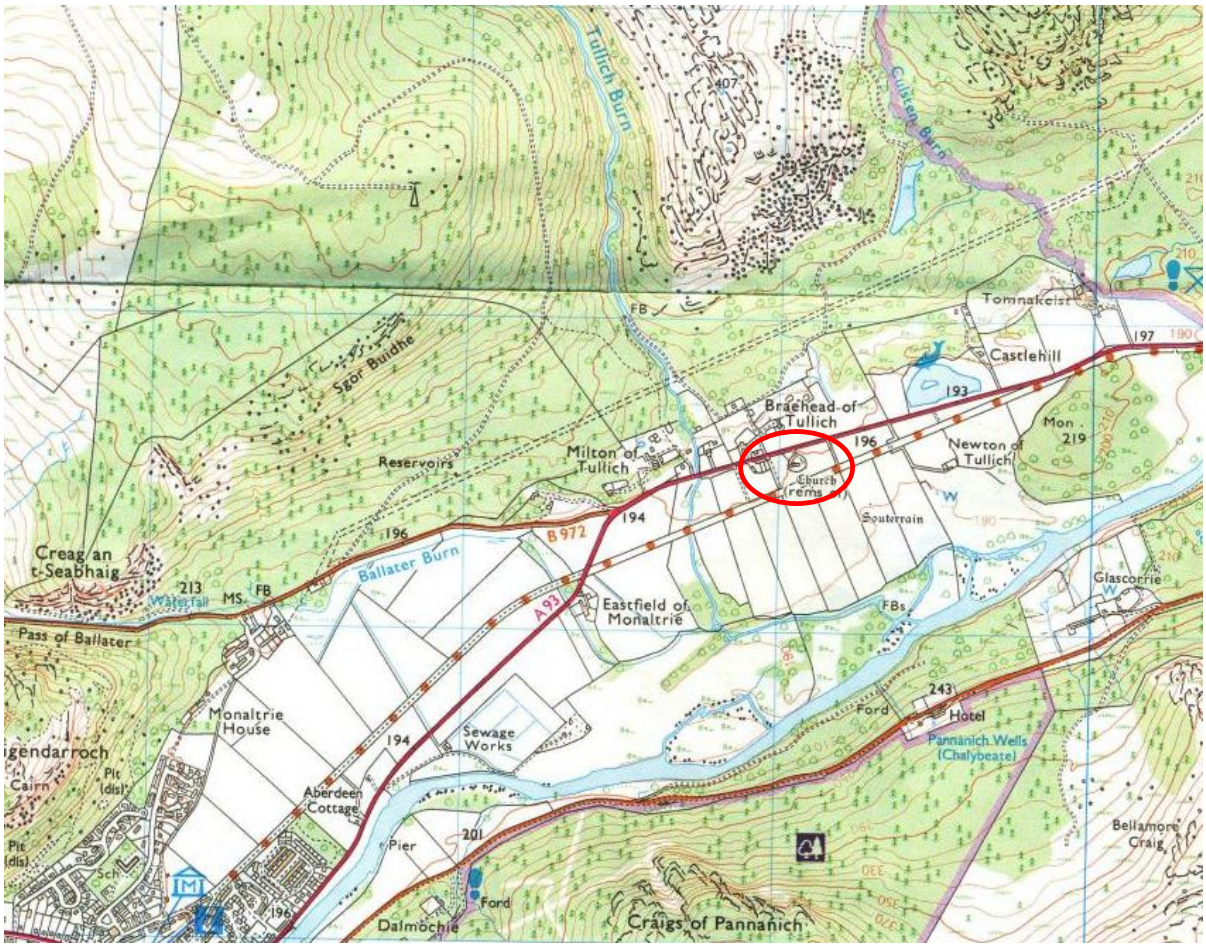
1.2 Murray Archaeological Services Ltd was commissioned by Aberdeenshire Council to undertake the evaluation.

1.3 The evaluation took place 19th-28th November 2012 (Murray & Murray 2012). This revealed part of an outer ditch and, as a result of discussions with the Aberdeenshire Council Archaeology Service, it was decided to commission a geophysical survey of the ditch line and the enclosed area, including the W part of the graveyard. This survey was undertaken by Rose Geophysical Consultants (Ovenden 2013 and below) and was used as a basis for deciding a scheme of full excavation of targeted areas.

1.4 Murray Archaeological Services Ltd was commissioned by Aberdeenshire Council to conduct the excavation, which took place between the 20th May and the 7th June 2013.

2. The Site

2.1 The site lies c 2km to the E of Ballater, Aberdeenshire between the A93 road and the river Dee. It comprised part of the field lying directly to the E of the wire fence that presently surrounds the existing burial ground around the ruined medieval Tullich church and its walled enclosure. The site also extended W of the fence line of the graveyard, with two trenches between the graveyard wall and the fence; a part of one of these trenches (Area A) extended within the 6m exclusion zone of the SAM and was undertaken with Scheduled Monument Consent.



Illus 1 Location of site. Reproduced from OS map 2007. Crown Copyright licence 100049810

Parish: Glenmuick, Tullich and Glengairn.

NGR: NO 3912, 9757 (centre of evaluation site)

NO 3905, 9754 (churchyard)

NMRS No: NO39NE 2; Aberdeenshire SMR NO39NE0002; Historic Scotland SAM Index No: 86 (St Nathalan's Kirk, burial ground to 6m from the old cemetery wall and the Pictish symbol stone, cross slabs and font stone are all registered as a Scheduled Ancient Monument [SAM]).

The church, including the churchyard walls, is also a category B listed building: HB Number 9320.

2.2 The field of the proposed graveyard extension was in grass in 2013 and had been used for grazing in 2012, but has been cultivated in the past. It lies at around 200m OD and slopes gently down towards the river. The former railway line, now a walking and cycle path, runs along the S side of the field. The E area of the present graveyard was also in grass. According to the tenant farmer, this ground had been under cultivation until the 1980s after which it was incorporated into the graveyard (pers. comm. Allan Adams).

3 Methodology

3.1 In both the evaluation and excavation the cultivated topsoil was removed by a mechanical excavator with a 2m wide toothless ditching bucket. Any possible features were cleaned and excavated by hand.

3.2 All features were planned, photographed (Catalogue: Appendix 1) and recorded (Data Structure Report: Appendix 2).

3.3 All mapping was done with a Magellan Mobile Mapper CX.

4. Background

4.1 Historical Summary

The existing church and circular graveyard wall at Tullich overlie, or are on the site of, an earlier chapel and enclosure attributed to a foundation by St Nathalan in the 7th century AD.

The probability of this being an early foundation is strongly reinforced by the Pictish symbol stone and the collection of cross slabs found on the site (Foster 1996, 83-4). C14 dates from the present excavation give independent proof of activity on the site in the 7th-9th centuries (below Section 10).

Clancy (2008, 367-75) identifies Nathalan with variations (Nachlan, Nechtan, Mo Nithoc, Mo Neittoc) and suggests the name is probably Pictish. The Aberdeen Breviary (1510, f. xxvi *v*) states that St Nathalan built the churches of *Tullicht, Bothelini/Bothelim,* and *Colle* (Tullich, Bethelnie and Cowie) (Aberdeen Breviary printed in Macquarrie, 2012, 22-23). See Appendix 5 for a discussion of the identification of Colle). Clancy (*ibid.)* also suggests that Afforsk and Abersnethock, both near Monymusk and possibily Egilsmonichto, near Dundee, were dedicated to Nathalan. He identifies Nathalan with Nectan of Ne'r – a lost monastery which he would place near Monymusk, although other authorities identify it as a distortion of Deer. Clancy (*ibid,* 366) argues further that the apparently local nature of the cult of Nathalan as illustrated by dedications and place name evidence may indicate these are contemporary foundations by the eponymous saint or his immediate followers/successors, rather than later medieval dedications. This would place the foundation of Tullich prior to, or within a few years of Nathalan's death in 679 (Annals of Ulster, Martyrology of O'engus).

There are no early features apparent at Bethelnie (NMRS No: NJ73SE6). However, Cowie (NMRS No: NO88NE22) does have a curvilinear graveyard around the surviving medieval chapel; the graveyard is shown on the 1st OS map of 1865 (Kincardine sheet xii.16, pub 1868) and may, as with Tullich, suggest an early site. No crosses survive at any of the other suggested Nathalan foundations, with the exception of a small incised cross on a boulder at Afforsk (NMRS No: NJ62SE23) with ogham along the edge of the stone, possibly reading *Necton* (Clancy, 2008, 374).

Medieval documentary references show that probably from the mid 13th century the church and its lands were granted to the Knights Templars and after the suppression of that order were transferred with their other assets to the Knights Hospitallers in 1312 (Cowan et al 1983, *xxx*). Properties gifted to the Military Orders were primarily of importance to them in terms of the income they generated. While they may have directly appointed someone to run the property in the early period of their ownership, the evidence suggests that increasingly such properties were leased. Tullich was certainly leased by the time of the Rental of 1539-40 (Cowan et al 1983, *lviii-lxi,* 13).

The extent of the Templar/Hospitaller property is not clear but it can be regarded as a manor (Bogdan and Bryce 1991; RCAHMS No: NO 39NE 18 Aberdeenshire SMR NO39NE0105) associated with the church. The settlement, the pre-Improvement field system, the church and the mill as shown on the 1790 plan may all reflect the medieval manorial structure.

The existing ruined church is of medieval date with a blocked doorway of early 15th century date in the W end of the N wall (Simpson 1922. Geddes 2001, 141-2). The 15th century remodelling of the church would have been done during the Hospitallers' ownership.

Tullich, like all the Hospitallers' properties was confiscated after the Reformation. According to Sedgwick (1995, 24) the Monaltrie Estate records say that Monaltrie, including parts of Tullich, were granted to the Farquharsons by the Earl of Mar in exchange for land at Braemar. Tullich was made a Burgh of Barony by Charles II in an *Act for William Farquharson anent the town of Tullich* registered in Edinburgh in April 1661 (Brown et al 2007-2013, RPS 1661/1/229). This established a weekly market and two fairs each year and it would have been after this date that the market cross was erected. It was clear that at this date the settlement was well established.

Ownership of the Monaltrie estate changed between different branches of the Farquharsons but remained in the family with the exception of the period after 1745 when it was forfeit to the Crown after Francis Farquharson of Monaltrie followed the Jacobite cause. After his return Francis began agricultural improvements which were continued after his death in 1791 by his nephew William. These Improvements are reflected in the 1790 Plan of the lands of Tulllich and the 1st OS map of 1866 by which time the Improvements had been implemented.

The church was altered in the post-Reformation period. In 1798 the three parishes of Glenmuick, Tullich and Glengairn were united and a new parish church built in Ballater and the Tullich church abandoned and later divided into burial enclosures.

After the foundation of Ballater, Tullich declined to a cluster of houses, although foundations of some of the earlier settlement remain to the NE of Braehead of Tullich.

4.2 Map evidence

Gordon, Robert A map of Scotland, north of Loch Linnhe and the River Dee and west of the River Deveron (www.nls.ac.uk)
A map of Eastern Scotland, including basins of Rivers Don, Dee, Tay, Forth, and Tweed Surveyed: c. 1636-1652
Tullich church is shown on both maps by symbol and named Tullich.

Blaeu, Joan, Duo Vicecomitatus Aberdonia & Banfia, una cum Regionibus & terrarum tractibus sub iis comprehensis / Auctore Roberto Gordonio à Straloch. (www.nls.ac.uk)
Published 1654
Tullich church is shown by symbol and named Tullich.

Map of the five parishes above Colblean 1725. Anonymous.
http://www.chartingthenation.lib.ed.ac.uk/ (ID 0044033)
Tullich church shown as a symbolic building with cross on top, it is identical to other church symbols on the map. The settlement is not marked and no enclosure is depicted around this or any of the churches shown.

Roy's Military map 1747-55 (www.nls.ac.uk)
Roy shows the church in a rectangular enclosure clearly marked K. of Tulloch (sic). This may perhaps be interpreted as a representation of the outer dyke line rather than the wall of the churchyard. It is shown E of the Tulloch (sic) Burn and to the S side of the road, with one other, small building to the E, also S of the road and a cluster of 3 buildings and a small enclosure directly N of the road (near the present Braehead of Tullich). The ground on either side of the road at Tullich is shown as rig and furrow.

Scroll Plan of the lands of Tullich within dykes, the property of Wm Farquharson Esqr of Monaltrie. 1790. [Viewed and photographed courtesy of Invercauld Estate archives]. The lands of Monaltrie, which were forfeited after Francis Farquharson of Monaltrie supported the Jacobite cause in 1745, were eventually granted to John Farquharson of Invercauld. When Francis Farquharson returned from his exile after 1766, his uncle gave him back the lands of Tullich (Sedgewick, 1995, 24-5). It is perhaps significant that during his exile Francis had become interested in agricultural improvement and the Scroll Plan of 1790 is a detailed survey of the Tullich lands as they were - divided into narrow rigs, but with some annotations such as '*now Emproven'* suggesting

Farquharson had begun improvements before his death in 1791. He was succeeded until 1828 by his nephew William Farquharson, whose name appears on the title of the Scroll Plan and from 1828-1857 by William's widow.

The village of Tullich is shown in great detail with the narrow strips of pre-Improvement rig cultivation with the names of those who cultivated them; Watson and Allen (1987, 28) analysed the rigs showing 17 people and the miller farmed land there. Faintly visible on the plan is the rectilinear grid pattern of the present field system; both Watson & Allan (*ibid*) and Sedgewick (1995, 22) suggest that these lines may be later additions. Enlargement of photographs of the plan by the present authors show that not only are they drawn across the earlier mapping, but are also in a lighter brown ink and appear drawn with a wider nib. While it is tempting to think that these were Francis's own planned improvements they are perhaps more likely to belong to William Farquharson; it is only possible to be certain that by the 1866 Ordnance Survey mapping, they had been implemented.

Illus 2 Detail of Tullich Village from *Scroll Plan of the lands of Tullich within dykes, the property of Wm Farquharson Esqr of Monaltrie. 1790.* [Viewed and photographed in the estate archives, courtesy of Invercauld Estate].

The plan shows the church and graveyard in detail. The graveyard is drawn as an almost perfect circle enclosed by a wall. On the N side of the graveyard two features are drawn

in the line of the wall; one is a sub-rectangular grey-shaded feature, the shading suggesting a structure, the other is an almost triangular feature on the line of the wall. To the W of the church the words 'Font' and 'Stone' flank a small round feature – presumably the font stone itself. The only cross depicted and named is the 'Market Cross' shown clearly standing on the N side of the road, within the settlement of Tullich (Illus 3).

Of very considerable interest in relation to the excavation is the line of the boundary separating the open ground around the graveyard from the rigs and yards surrounding it. On the E this boundary is on the line of the ditch shown by air photographs and the geophysical survey and sectioned by the excavation. The N end of the boundary is shown curving E to the road and continuing N of the road, apparently curling around the E limit of the village of Tullich. It is noteworthy that most of this E boundary was drawn as three parallel lines, unlike for example the churchyard wall which was drawn as two parallel lines (see below Illus 3 and Section 7 below for discussion of the stone drain in Area A).

To the S, the boundary comes to an angle SE of the churchyard before turning NW along the line of the cropmark shown on air photographs; a small rectilinear enclosure is marked in the angle (see Section 7 below for Area F). To the SW of the churchyard, there is a short wall (?) between the churchyard wall and the outer boundary.

The accuracy of this plan is shown when overlaying it with the lines of the existing post-improvement field boundaries or the lines of the ditch attested during excavation.

Illus 3 Detail of the churchyard from *Scroll Plan of the lands of Tullich within dykes, the property of Wm Farquharson Esqr of Monaltrie. 1790.* [Viewed and photographed in the estate archives, courtesy of Invercauld Estate].

1st Ordnance Survey Map. 1866 (published 1869) (www.nls.ac.uk)

Aberdeen, Sheet XCI.4 (Glenmuick, Tullich and Glengairn)

The graveyard is shown on its existing sub-circular plan, being slightly elongated towards the N to the road. The church is described as ruined. The fields have been amalgamated and incorporated into the rectilinear fields of the improved landscape. The field including both the area of the present burial ground and the area of the proposed extension is all in a single, undivided field. The railway line is shown forming the S boundary of the field.

Ordnance survey 1900 (published 1901) (www.nls.ac.uk)

Aberdeenshire, 091.04

The graveyard is shown as in 1866, but with more detail of paths and the church shown divided into 3 burial vaults.

Ordnance survey 1923 (published 1926) (www.nls.ac.uk)

Aberdeenshire, 091.04

As in 1900.

4.3 Aerial Photographs

All the aerial photographs in the Aberdeenshire SMR have been reviewed courtesy of Aberdeenshire Council, Archaeology Service.

BKS 3045 179 20.4.81 (NO39N)

Taken in 1981 from the E this faintly shows the cropmark of the ditch around the E side of the graveyard.

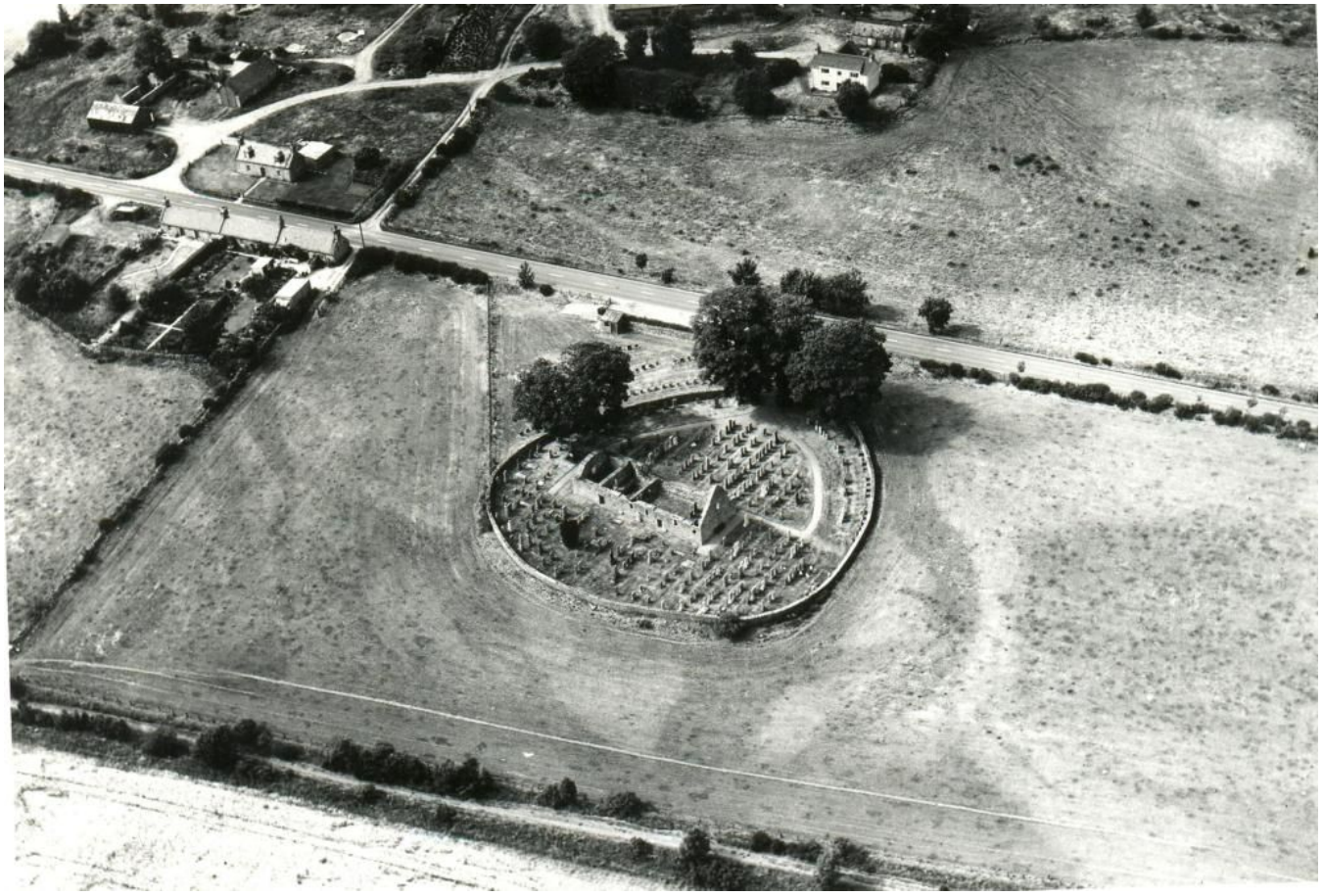
Jasair 1589 045 19.5.89 (NO49-39)

Taken in 1989 from the NNE this high level shot does not show the ditches around the church but does emphasis the strategic importance of the location.

AAS-89-05-516-7 (NO39NE0002) (Illus 4)

Taken from the S in 1989 this shows the burial ground with a single, almost triangular extension beside the road to the NW of the churchyard wall. The ditch is shown as a dark cropmark lying alongside the E side of the graveyard and then curving W and S before joining a wide, dark N/S cropmark running N to the churchyard wall. At this point a continuation of the ditch or a similar cropmark also extends NW towards the W side of the graveyard before it appears to turn almost due W.

The cropmarks, interpreted as ditches, accord with the evidence of the geophysical survey and with the line of boundaries on the 1790 Scroll Plan.



Illus 4 ***AAS-89-05-516-7 (NO39NE0002) Reproduced courtesy of Aberdeenshire Council***

AAS-89-05-515-14 (NO39NE0002)

Taken on the same occasion as AAS-89-05-516-7 (NO39NE0002) but looking from the NW, this shows the ditches clearly.

AAS/93/01-02/G2/6 (NO39NE0002)

Taken from the N in February 1993 this shows the burial ground with a single, almost triangular extension beside the road to the NW of the churchyard wall. The ditch is not visible in the winter grass. To the NE, across the road, the foundations of buildings and enclosures in the old village of Tullich are clear. To the SE, the souterrain (s) is/are visible. In the field directly W of the burial ground a track runing NW/SE appears to be on the line of the old road to the ford over the Tullich burn shown on the 1790 Scroll Plan; this appears to be still used as a farm access track.

5 Results of the Evaluation

The evaluation, which was undertaken in the winter of 2012, has been fully published (Murray & Murray 2012). It will be summarised here but the evidence will be included in the general discussions of the site. Some aspects of the interpretation of the evaluation have been modified in the light of the excavation.

Five evaluation trenches were excavated (Illus 9), all running approximately E/W across the field where the extension of the burial ground is proposed, in order to section the feature visible on aerial photographs. This proved to be the ditch of the outer enclosure, which was sectioned in Trenches 1 and 5, and the outer edge of which was recorded in Trench 2. The problems inherent in sectioning a wide, deep ditch in a narrow evaluation trench led to some misinterpretation; in the light of the excavation the possible revetting recorded in the ditch in evaluation trench 1 may be reinterpreted as a continuation of the stone drain (50) noted in the excavated sections in Areas A and E (See below Section 7).

No archaeological finds or features were identified in the area of the field that was E of the line of the ditch, outside the outer enclosure.

In Trench 1, a number of later features including a hearth were found over the ditch fills and on its inner edge. The hearth (Illus 5) was in a cut into the natural c 0.8m wide at the top, narrowing to 0.5m at the base, extending c1.4m E/W. On the N side it was lined by a stone wall (9) and on the E side there were several large stones set against the edge. All these stones were blackened by fire as were a number of stones in the secondary fill of the feature. The primary fill (16) was a layer of charcoal <60mm thick which extended across the base and up the sides. There was no associated lime or vitrified material and it is possible that this was a domestic hearth/oven. The open side of this hearth/oven appears to have been to the W with the E side limited by wall 17.

The area to the E of the hearth/oven appears to be bounded by walls 17, 25 and 15 with a space c 2m wide suggesting the possibility of a small structure lying NE/SW near the inner edge of the ditch . The walls are low and may be the disturbed remnants of stone structures but could also be foundations for timber sills. They were similar, and probably relate to, a NE/SW wall (32) excavated over the filled ditch in Area E (Section 7 below and Illus 6).

Illus 5 Evaluation trench 1, looking E showing hearth below lime kiln in foreground with associated walls behind

Whatever this structure was, it was backfilled by the same layer as the hearth/oven - a grey/brown loose sandy grit (11) with large boulders in the lower fill. A C14 date of 1661-1954calAD (95.4% SUERC-44681) was obtained from grain in the hearth. Associated finds included animal bone, fragments of vitreous material, window glass and an iron knife.

Illus 6 Excavation Area E, showing wall foundations over ditch fill. Possibly part of structure in shown in Illus 5

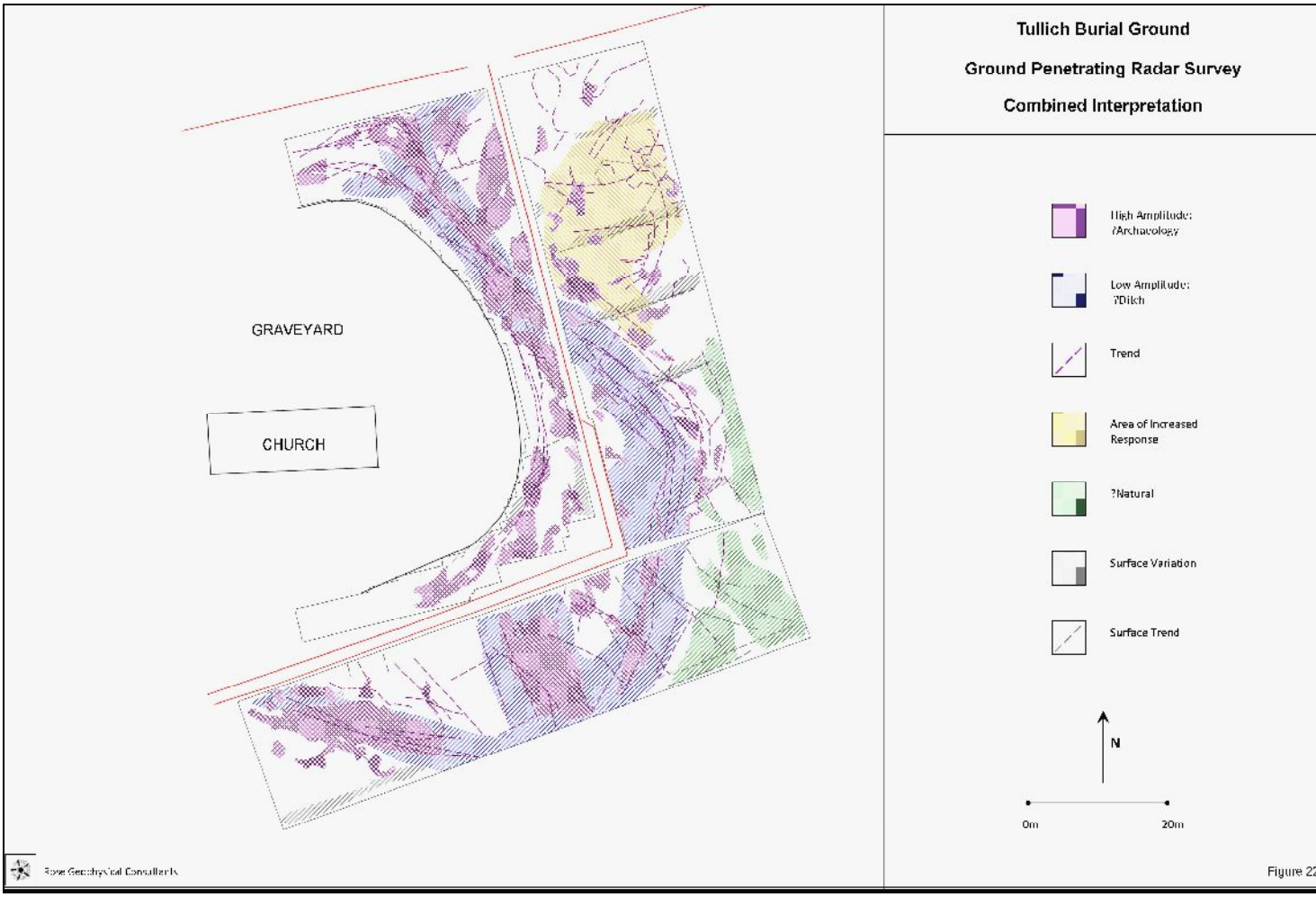
The flue of a small clamp lime kiln (cf. Wild 2010, 14-15) was excavated above the hearth, on the inner lip of the ditch (Illus 7). The flue reused one of the earlier walls (9), and the spread of lime from it extended over the fill of the ditch. The very small amount of artefactual material, including window glass and a bottle neck associated with the lime kiln suggests it was of early modern date. After the use of the kiln there appears to have been a final levelling of layers across the hollow of the partially filled ditch (T1: 2. T2: 2. T5 2, 4), followed by cultivation. There is no indication of the lime kiln on the 25" 1st Ordnance Survey map of 1866 (published 1869) which shows sizable lime kilns nearby, the two nearest being behind Braehead of Tullich. The lime may have been produced for agricultural land improvement in which case it is most likely to be of late 18th/early 19th century.

Illus 7 Lime kiln flue in Trench 1 on inner edge of filled ditch

6 Geophysical Survey

The full results of the Geophysical Survey undertaken by Rose Geophysical Consultants in the spring of 2013, is published elsewhere (Ovenden, 2013). Figure 22 from that report (below Illus 8) shows the combined interpretation of the GPR results, clearly showing the line of the ditch, possible revetting or stonework within the ditch and an arc of possible stone outside the line of the existing graveyard wall.

On the basis of the survey a number of areas were chosen as targets for the excavation.

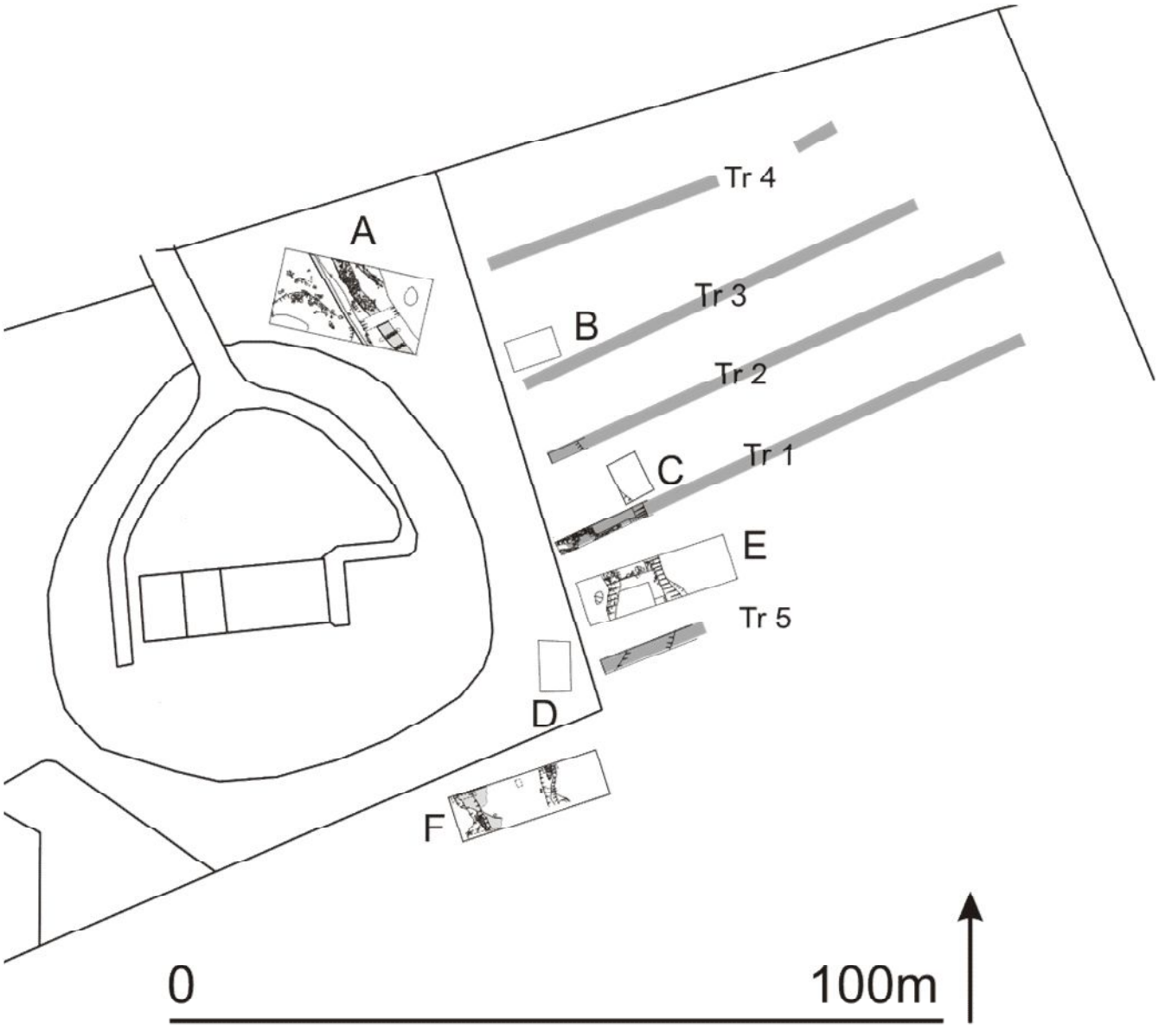


Illus 8 Combined interpretation of the Ground Penetrating Radar Survey (Ovenden, 2013, figure 22)

7 Results of the Excavation

The strategy for the excavation targeted the ditch and a series of anomolies indicated by the evaluation, the geophysical survey and the aerial photographs. Six areas were excavated (Illus 9). These were named Area A- F to distinguish them from the evaluation trenches. Only Area A was partially within the 6m exclusion zone around the graveyard wall which is a part of the Scheduled Ancient Monument (SAM) and was subject to Scheduled Monument Consent.

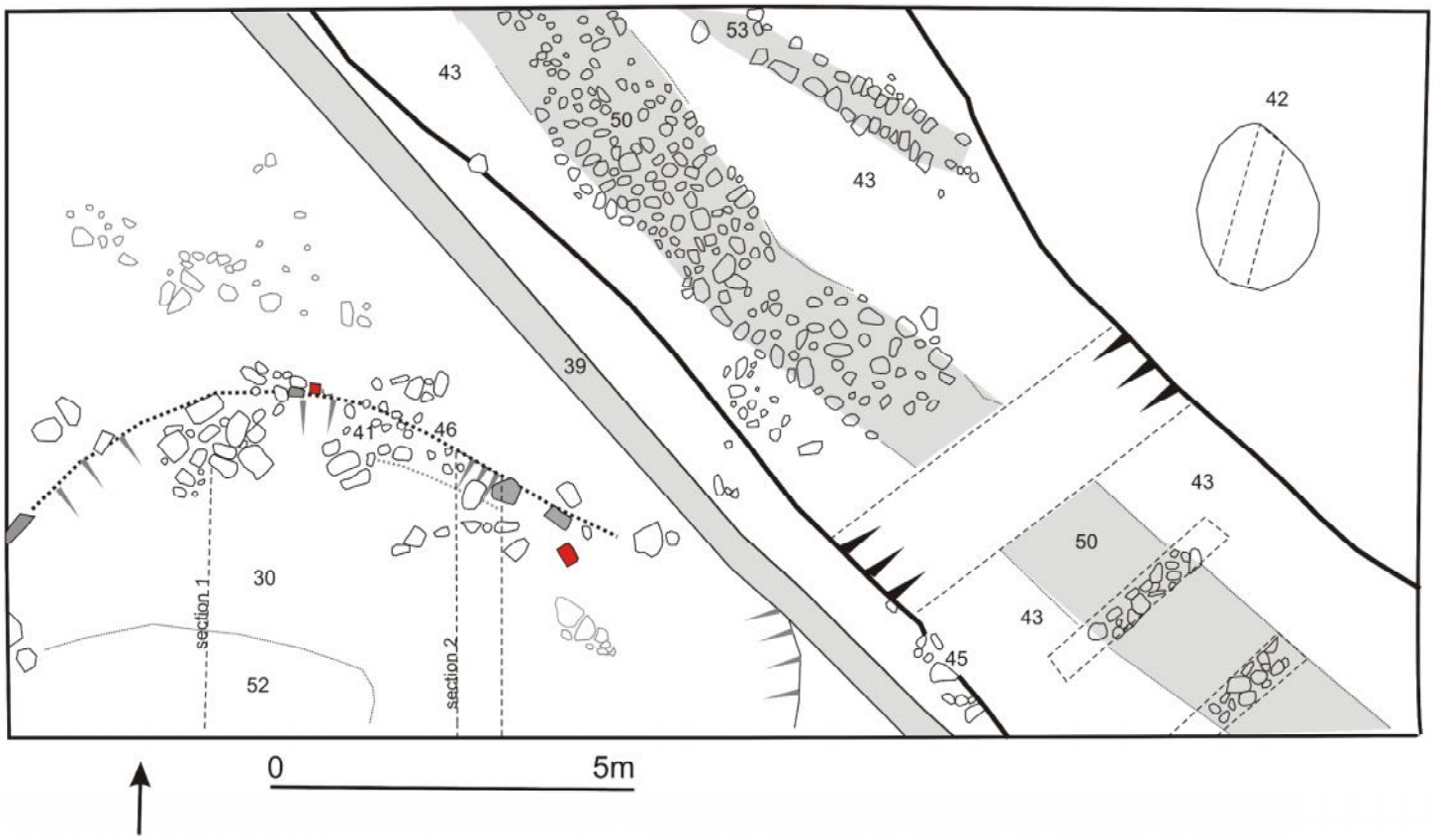
Details of all contexts are given in Appendix 2.



Illus 9 Layout of evaluation trenches (Tr 1-5) and excavated areas (A-F). Reproduced from Ordnance Survey digital map data, © Crown Copyright, All rights reserved. 2014. License No 100041040

Area A

Area A, which was 20 x 10m, was excavated to cross-section the ditch at the N side of the graveyard where it appeared to run N towards the road and to attempt to identify a strong anomaly in the geophysical survey which curved W parallel with the graveyard wall and 'inside' the area enclosed by the ditch (Illus 8). SMC was applied for as part of this area extended into the exclusion zone around the SAM. SMC was granted 7th May 2013. HS reference AMH/86/1/1 Case id: 201208295.



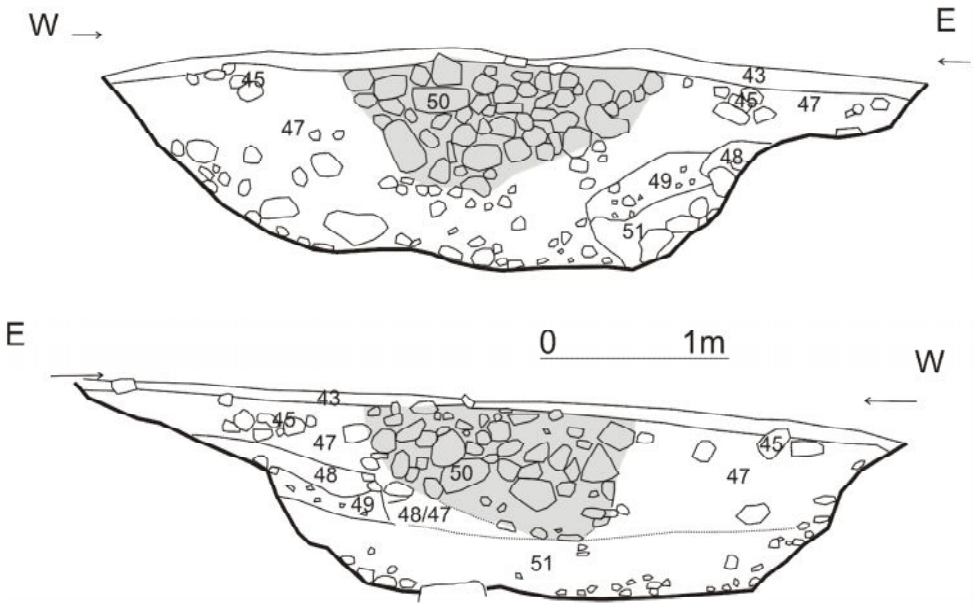
Illus 10 Plan of Area A. Red stones are the cross slabs SF2 and SF5 (from R to L)

Both the ditch and the inner arc were identified and will be discussed below. The natural ground here comprised a gravel ridge across the E part of the excavated area (cut by the ditch) and to the W a very hard compact clay with boulders. Air photographs suggest that the ditch was cut within part of a natural palaeochannel which may have run along the edge of the interface between the clay and gravels. A shallow pit (42) cut into the natural gravel outside the ditch appeared to be a relatively modern agricultural feature.

The Ditch

The ditch was identified running NNW/SSE across the site. A section was dug across it to natural (Illus 10, 13) and both section faces drawn (Illus 11). The maximum width

was 4.85m but part of this was a shallower cut on the E side; the width of the lower, nearly vertically-sided section was c 3.30m. The maximum depth was c 1.2m.The lowest fill (51) was grey silt with some small stones and some charcoal fragments (identified as oak so no C14 sample submitted).



Illus 11 S facing (top) and N facing (below) sections through ditch in Area A. Shading denotes stone drain 50.

Illus 12 Area A looking SE with churchyard wall in background. Ditch with stone drain 50 along centre crosses the trench. Arc of stones on RHS in background

On the E side a thin layer of redeposited natural (49) and a later deposit of charcoal (48) may be related to the apparent disturbance of the shallower E edge. Over most of the ditch, the upper surfaces of silt 51 merged into lighter grey sandy silt (47). Neither 47 nor 51 yielded any finds.

Illus 13 Area A. N facing section of ditch

It was clear that a recut (50) filled with stones had been dug along the length of the ditch, cut into the earlier fills. This was exposed across the full width of the site, and two additional partial sections cut across it. Recut 50 was 1.5m wide and 700mm deep; it appears to have been a very large stone drain and is likely to date to the L 18th / E 19th century as part of agricultural improvements. The only find was a fragment of modern glass from the top surface, which is liable to have been ploughed in from the overlying topsoil. The line of the ditch is shown on the estate map of 1790 (Illus 3). This section of the drain follows the softer ground of the ditch and the GPR survey results suggest it may have followed the ditch further S, appearing in evaluation trench 1 and in Area E.

Illus 14 Area A. Looking N along line of ditch showing stone drain 50. Smaller stone-lined drain (53) on RHS of ditch. The line of the later clay pipe drain (39) runs below the wheelbarrow

Stones 45 appeared to have been plough dragged from the top of the stone drain (50). The slight hollow of the ditch and the drain were both sealed by cultivation soil (43) which merged into the topsoil. This included a quantity of 19th/20th century rubbish, probably from spreading of midden material. The tenant farmer recalls ploughing and combining in this area until the 1980s.

A second far smaller stone drain (53) dug into the ditch fills and a 20th century clay pipe drain (39) dug alongside the ditch both attest to the continuing drainage problems of this area and of the ground to the N, across the road. The clay drain may have been put in during the late 1950s/early 1960s (oral information from retired council employee). The only finds in these two drains were a few sherds of late 19th/early 20th century Redwares, derived from midden spread in the topsoil cut through by the drains.

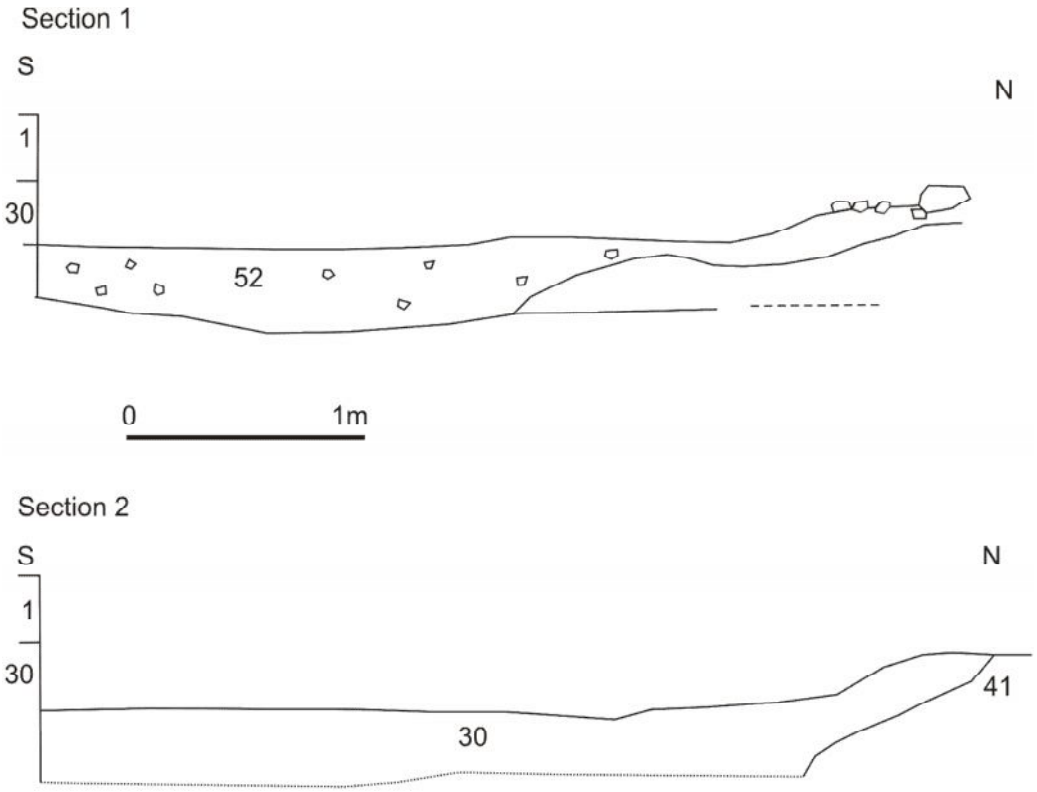
Arc in SW corner

The GPR survey had shown a curvilinear anomaly, roughly parallel to and some 4-5m outside the N side of the existing churchyard wall, forming an arc c 18m across. The central part of this arc (c 11m E/W by 4.5m N/S) was exposed by the excavation. It formed a hollow up to 500mm deep, apparently cut into natural and filled by grey

pebbly silt (30 over 52) with rare lenses of cleaner sand or of charcoal flecks. This may have been, at least in part, relatively late infilling of an inconvenient hollow as it included several large fairly modern iron bolts as well as fragments of glass and china at the interface between 30 and the overlying topsoil. However, an abraded handle sherd from a 13th/14th century Redware jug is also indicative of medieval activity. The hollow could not be fully excavated without endangering mature trees within the churchyard, the roots of which extended across this area. As a result only two sections were excavated to natural (Illus 15, 16).

Illus 15 Area A Horizontal ranging rods mark the edge of the hollow. Cross slab SF2 (not on site at this time) stood beside the vertical measure and (unmarked) vertical stone in foreground. Cross slab SF5 is visible in the middle of the arc beside a vertical measure.

The edge of the hollow was formed by a fairly gentle slope with a concentration of stones along its line, a number of these were set vertically, against the edge of the slope. Two cross slabs were found in this arc. One (SF 2), found during topsoil removal, lay on its carved face with the top towards the church, having apparently fallen from a vertical position facing the church. The other (SF 5) was excavated in its vertical position, also facing the church (Illus 15, 35). All the other stones on the arc were excavated and examined in detail but none displayed any indication of having been carved. Oral information suggests that other carved stones may have been found at the E end of the arc when clay drain 39 was excavated (see below Section 8).



Illus 16 Sections across the hollow in SW corner of Area A

Interpretation of this arc is difficult. It may relate to the rather odd, sub-triangular feature shown on the 1790 Scroll Plan, although this appears somewhat further E (Illus 17). The hollow may be assumed to have been filled before the rebuilding of the churchyard wall in the early 19th century and the 18th/19th century leveling prior to cultivation within this area. While it is possible it relates to the removal or building of an earlier wall, this does not really explain the wide hollowed area. Of possible significance is the apparent care, whether of reverence or superstition, taken in the placing of the two cross slabs facing the church, in marked contrast to the use of some of the larger slabs in the fabric of the post-Reformation alterations to the church.

Illus 17 Area A superimposed on detail of 1790 Scroll Plan. The ditch and drain are clear on the 18th century plan.

Area B

An area 6 x 4m was excavated to examine a GPR anomaly. A small hollow (27) filled with silt/loam appeared to be infill of an incidental hollow/animal burrow rather than a cut feature. There was no dating evidence and it may be a recent feature.

Illus 18 Area B General view looking E

Area C

An area 6 x 4m was excavated to examine a GPR anomaly on the outer edge of the ditch; this appeared to derive from the upcast of stones from a nearby engineers' test pit. A very short length of the outer edge of the ditch crossed the SW corner of the trench but was not excavated.

Illus 19 Area C looking N. Outer edge of ditch crosses bottom L corner

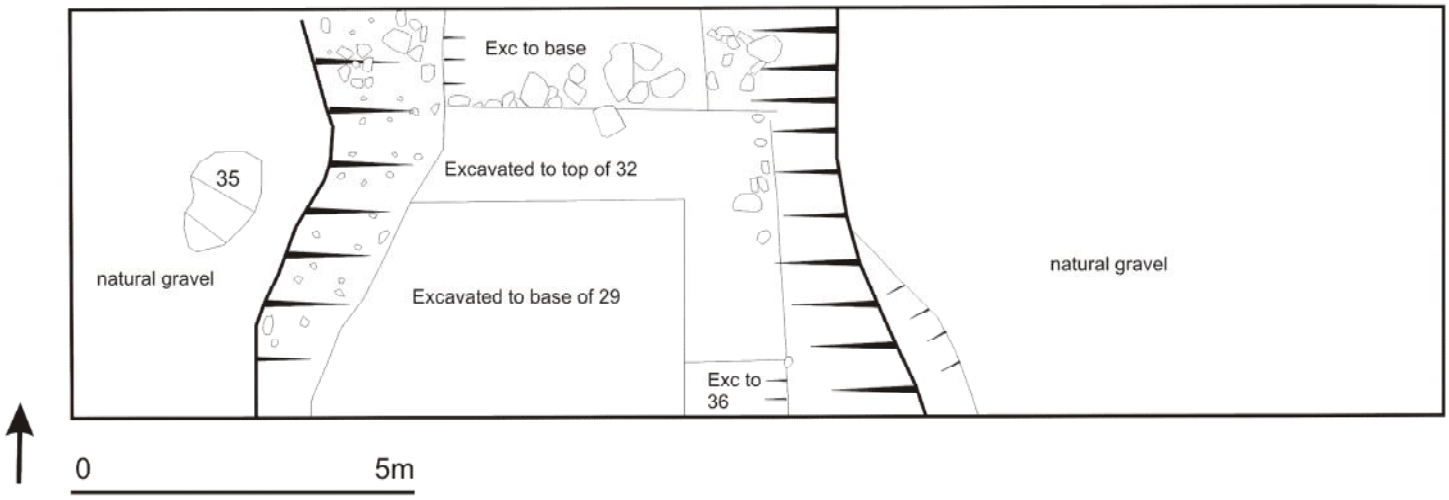
Area D

An area 4 x 3m was excavated in the area between the ditch and the graveyard wall, just outside the 6m exclusion zone around the wall. This proved to be an area of very shallow topsoil (<200mm) with deep ploughmarks in the underlying natural. A flat stone slab 700 x 340mm lay on the top of natural; there was no evidence of carving on any surface and it appeared to be natural. GPR anomalies in this area also appear to reflect the very stony natural geology.

Illus 20 Area D looking S. Ploughmarks clear running diagonally across the trench. Natural unmarked stone slab in top RHS

Area E

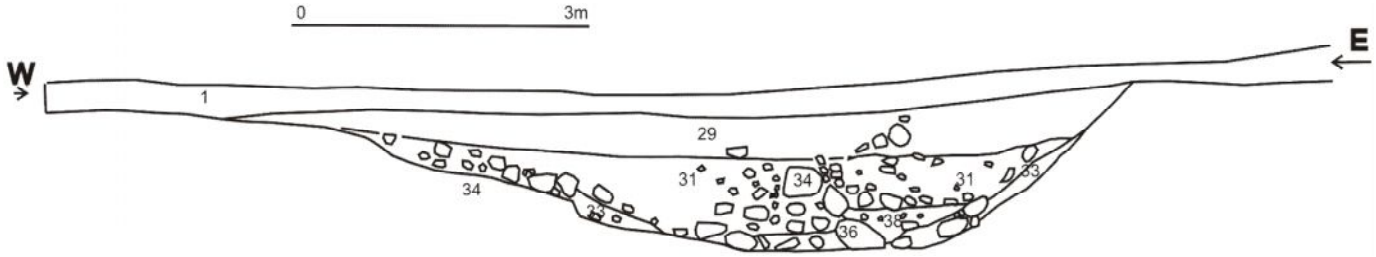
An area 20 x 6m was targeted to give a full cross section of the ditch removed from the possibility of contamination from the 18th/19th century lime kiln excavated on the inner lip of the ditch in evaluation trench 1. As the evaluation had shown that part of the ditch fill comprised very loose stones, the ditch was excavated in three 'steps', the full depth only being excavated at the N section.



Illus 21 Plan of Area E

Some 9m of Area E lay outside the ditch to the E; this all proved to have shallow topsoil onto gravel natural with no surviving archaeology or finds. This is consistent with the results of the evaluation in which there were no archaeological features or finds observed to the E of the ditch. This is perhaps not surprising in the light of the intensive agricultural use depicted here on the 1790 *Scroll Plan.*

A maximum of 3m within the enclosed area W of the ditch could be excavated. This also proved to have shallow topsoil over gravel natural with considerable evidence of rabbit activity. A single, shallow irregular feature with a rabbit burrow in one side (35) had a topsoil fill which included a fragment of polished green marble, presumed to be from the graveyard; there was nothing to suggest this was more than a stone hole or similar.



Illus 22 Area E N section of ditch

The ditch (28) at this point was 7.8m wide and maximum 1.6m deep. The upper fill, below topsoil comprised some 400mm of silty soil (29) which can be interpreted as a mixture of silting and deliberate leveling for easier cultivation. This would have occurred at some point between 1790, when the ditch was still visible as the boundary between churchyard and cultivated land, and 1866 when the new field system had incorporated this area into cultivation. Three abraded sherds of medieval pottery in this suggest soil pulled in from the edges of the ditch. Directly below this there was a turf line (37) which had developed when the ditch would have been visible as a dip at least 500mm below the ground surface. A band of stones (32) above this level running SW/NE then turning N, and a more general spread of cobble-like stones (Illus 5, 6), may be part of the 18th/19th century features associated with a lime kiln and earlier hearth in Evaluation trench 1.

Illus 23 Area E. S facing section of ditch

The main ditch fill below the turf line comprised fine yellow/grey silt (31), with a number of pebbles, especially at the edges where they had eroded off the sides of the ditch. This gave the impression of natural silting over a number of years. Finds which were from the top of the layer and possibly trodden in from the later activity above, included animal bone, slag, a fragment of bottle glass, a jaw harp and a knife blade, all of probable 18th/19th century date.

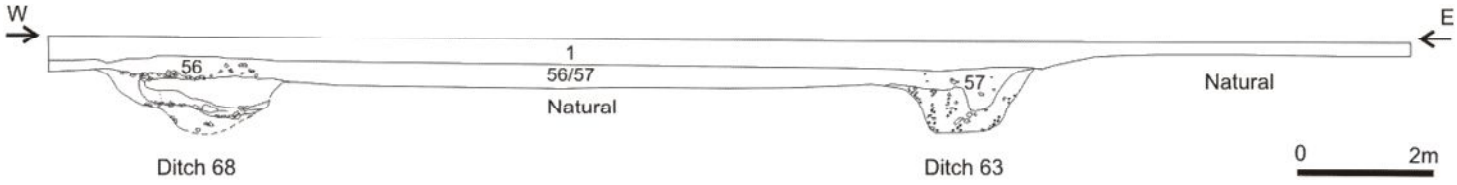
Below this there was a slippage of redeposited gravel and stones (38) that extended from the outer, E, edge of the ditch. This sealed the primary fill (33) which comprised fine gritty silt with charcoal, burnt mammal bone and burnt cereals; a sherd of medieval pottery and a C14 date of 1228-1384calAD (SUERC-48146) from burnt grain suggest that this primary fill was washed in during the 13th/14th century. It suggests that the ditch was open and either dug or re-dug in the 13th/14th century.

The more confusing element of the fill was a compact area of stones and larger boulders (34B, 36) some 1.5m wide in the centre of the ditch. When first excavated (prior to the excavation of Area A) it was though this might have been rather oddly dumped infill. However, after the subsequent excavation of the very clear stone drain along the centre of the ditch in Area A, it appears more likely that this is an extension of the stone drain

cut through the earlier fills (33, 38, 31) at a time when the ditch was still a very visible dip in the landscape.

Area F

An area 20 x 6m was excavated to the S of the graveyard; although this area is not within the proposed graveyard extension, both the air photographs and the geophysical survey suggested that where the ditch curved W, it was interrupted by a possible entrance leading N into the enclosed area.

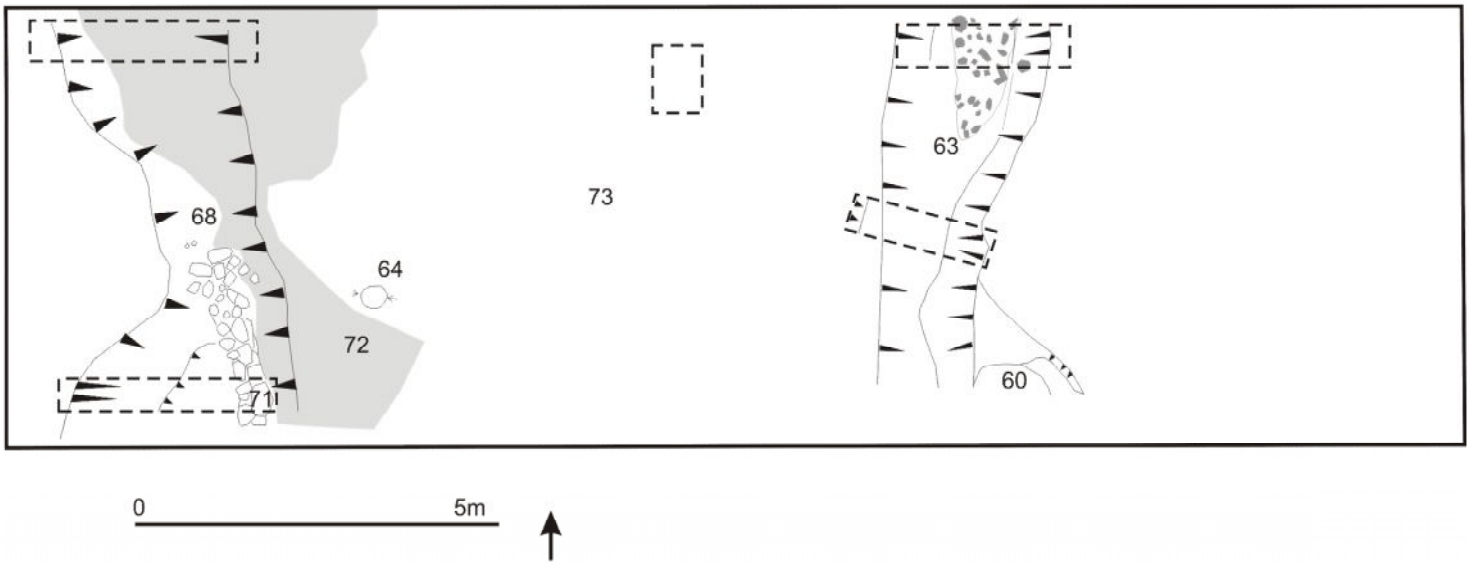


Illus 24 N section of Area F

Illus 25 Area F. Looking W. Both ditches marked by vertical ranging rods

When the topsoil was removed by machine, it appeared that there was a central N/S dip flanked by slightly higher areas of natural gravel to the E and W (Illus 24, 25). The fill of this dip, which merged into the topsoil, was a fine sandy soil (56=57) with small

pebbles derived from the gravel natural and frequent tiny flecks of charcoal or burnt bone. Excavation of this layer showed that there was a central area of slightly dirty natural gravel (73), 8.4-9.5m wide, flanked by N/S ditches (63 and 68). The same layer (56=57) that had covered the central area also sealed the fills in the ditches 63 and 68.



Illus 26 Area F Plan

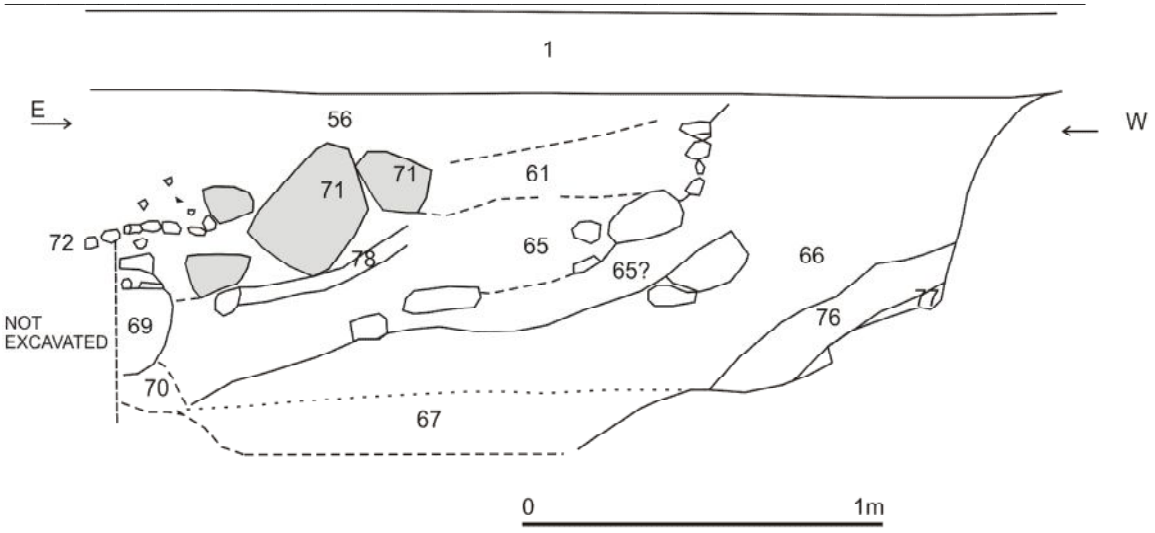
The natural gravel in the central area was up to 500mm below the natural on the outer edges of the ditches; it could not be proved that this had been deliberately lowered, but a thick layer of redeposited clean natural gravel above the primary fills of the W ditch (69: see Illus 27, 31), and thickest on its E side, may well have been scraped off this central area to fill in the dip of the partially filled ditch. A sondage was cut into the central area to a depth of 0.75m into the gravel to prove that it was otherwise undisturbed natural.

Illus 27 Area F. S facing section of W ditch (68) with layer of redeposited natural 69 clearly spread across earlier ditch fills

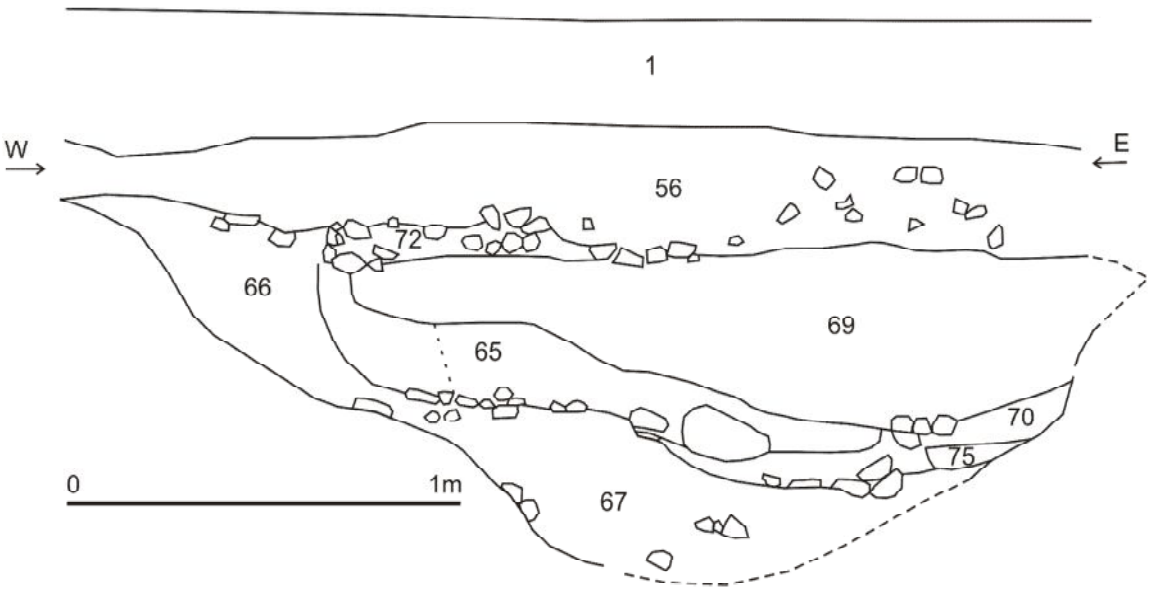
An area of cobbling (72) extended across part of the W ditch (68) and E into the central area, and lay directly over the redeposited natural. It would appear probable that the cobbles and wall were constructed directly after the leveling and redepositing of the gravel as there was no intervening silting. The W side of the cobbling appeared to be limited by a NNW/SSE wall (71) built across, or slightly cut into, the fill of ditch 68. The wall (Illus 28, 29), which was 460mm wide, was only 2 courses wide and survived to 2 courses high, it extended for 2.32m but appeared to have been ploughed out at the slightly higher N end. Rubble (62) from the wall extended over the W rim of the ditch. Many of the cobbles (72) and of the stones in 62 were blackened and even heat-fractured. Several lumps of slag from the layer overlying the cobbles (56) and from the top of the underlying ditch fill (61) suggest that iron working may have taken place in relation to the wall and cobbles; the lack of evidence of a corresponding E wall and the slight nature of wall 71 suggest that this might have been an enclosed yard, or even a sheltering wall for a forge, rather than a building. There was no direct indication of date but it may be significant that, with the exception of a very tiny bead (SF 7), there was no modern material in these contexts.

Illus 28 Area F. SW corner showing upper rubble (62) of wall 71 and cobbles (72)

Illus 29 Area F. Wall 71 built on ditch fills



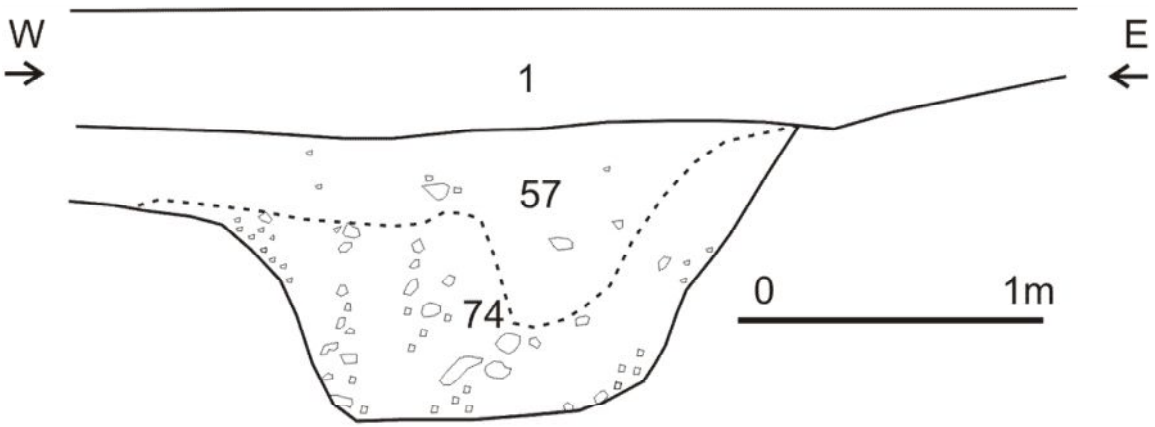
Illus 30 S section of ditch 68 with wall 71 and cobbles 72 over inner (E) edge



Illus 31 N section of ditch 68 with cobbles 72 over redeposited natural 69 which may comprise leveling from area between the ditches

This later activity seems to have taken place when the ditches 63 and 68 were almost fully filled but still visible as linear sunken channels. The E ditch (63) was between 1.5 and 2m wide and 700-900mm deep. The primary fill comprised dark silty gravel (74) with an admixture of pebbles washed in from the gravel through which it had been cut. There were no finds and there was no charcoal. No samples were taken. A large pit (60)

on the E edge of the ditch could not be dated but the fill was indistinguishable from the general layer 56/57.



Illus 32 Section of ditch 63.

Illus 33 Area F. Looking N. Section of ditch 63

The W ditch (68) was between 1.5 and 2.7m in width and up to 1m deep. In contrast to the E ditch, the fills of ditch 68 included considerable charcoal and samples were taken for both environmental analysis and for C14 dating. The primary fill, visible in both N and S sections was a fine sandy silt (67) which contained some charcoal, burnt grains and weed seeds (Timpany below Section 9). A tiny glass bead (SF 7) appears to be modern but is so small it could have percolated down with bioturbation. A C14 sample from this context was dated to 653-771calAD (95.4%). At the outer (W) edge of the

ditch in both sections, this silt appeared to merge into similar, although yellower, silt (66), the difference possibly being no more than leaching of the lower fill.

In both sections, on the inner (E) side of the ditch a black silty charcoal rich deposit (70), deposited from the E, partially overlay 67. This included a number of burnt grains of oat, hulled barley and a grain of spelt as well as fragments suggestive of grain processing. Some burnt bone and several fragments of iron slag were also present (Timpany below Section 9). A C14 sample from this context was dated to 693-890calAD (95.4%).

This deposit was overlain by charcoal rich sandy silt (65) coming into the ditch from the outer (W) side and mixed with a quantity of stones. In the S section this was overlain by dark grey very fine sandy humic silt with much charcoal (61). This contained burnt bone, burnt grains and metal working debris including hammer scale, prill and iron slag (Timpany below Section 9). A C14 sample from this context was dated to 676-870calAD (95.4%). The wall (71) was built on, or possibly cut into, this layer.

Illus 34 Area F. N facing section of ditch 68. Wall 71 visible behind vertical ranging rod

8 The Finds

All finds from the excavation are catalogued (Appendix 3, Tables 3 & 4). Finds from the evaluation were catalogued in the report of the evaluation (Murray & Murray 2012) but are included in the discussion below.

The cross slabs

Two granite cross slabs were found in Area A context 41. Both have incised ring headed crosses and are similar to some of the known cross slabs from Tullich . Both were probably originally grave markers and are very similar to those from the Columban tradition in Iona (Fisher 2001, 23). They may date to the 8th century. They were not in their primary position as grave markers but do appear to have been treated with some respect as they were positioned upright and facing towards the church.

Illus 35 Cross slab SF5 in situ

Cross slab SF 2

430 x 240 x 100mm.

Pale pink granite, water-rounded with smooth surfaces showing natural wear pre-dating the carving (Trewin pers.comm.).

Greek cross with arms opening into a ring 230mm in external diameter. There is an incised circle at the centre of the cross and a circle within the sunken triangle within each quadrant.

Very similar to a cross from Kilmory Knap, Argyll (Fisher 2001, fig 11: A(3) and p 150).

Illus 36 Cross slab SF2 (Drawing Jan Dunbar)

Illus 37 Cross slab SF 5 (Drawing Jan Dunbar)

Cross slab SF 5

400 x 200 x 140mm with a pointed base.

Coarse grey granite. Angular edges suggest trimming (Trewin pers.comm.).

Latin cross with the upper and horizontal arms opening into an irregular ring c 200mm in diameter, the lower arm extends below the ring.

Similar to a cross at Iona (Fisher 2001, fig 13 G(39) and p 129) and one at Achadh na Cille, Oib, Argyll (Fisher fig 13 F(5) and p 140). A cross from Banchory Ternan, Aberdeenshire is similar (Henderson & Henderson, 2011, 163).

The biography of the Tullich crosses

The two newly discovered cross slabs bring the total of surviving cross slabs to 16 (Tullich 2-15 and the two new crosses) in addition to the Pictish symbol stone (Tullich 1). There has been some confusion in the literature concerning the number, identity, find place and history of individual stones.

The Market Cross and the Font are both shown and named on the 1790 *Scroll Plan*. Otherwise, the earliest published references to the Tullich crosses are in volume 2 of Jervise *Epitaphs and inscriptions from burial grounds and old buildings in the north-east of Scotland* (1879); this was published posthumously as Jervise died in 1878, most of the research would appear to have been done around 1876 when the text was drafted (Jervise 1875-9, vol 2, lvi-lvii). Gibb (1877), who also described the stones, quotes Jervise on one occasion. Both wrongly date Michie's discovery of the Pictish Symbol stone (Tullich 1) to 1875, whereas Michie dates it to 1866.

Michie's own account of the stones was not in his 1877 first edition of the *History of Loch Kinnord*, but was one of a series of undated papers which were added to the 2nd edition published in 1910, six years after Michie's death. All three authors refer to the destroyed Market Cross and East Cross and to the symbol stone (Tullich 1). Michie also describes the finding of Tullich 2 and Tullich 7, both built into the fabric of the church. Gibb only mentions Tullich 2 and another stone which may be Tullich 8 but does not refer to Tullich 7, which Michie discovered in 1878.

It was as a result of the 1878 discovery that Michie persuaded Colonel Farquharson of Invercauld to have the stones moved to outside the blocked N door of the church where they were enclosed with an iron fence. The earliest dated photograph of the stones in the enclosure is a negative in the Society of Antiquaries of Scotland dated July 1902 (Site No: NO39NE 2.02 http://canmore.rcahms.gov.uk Photographs ref: SC676598, 676599, 676579, 676578); by this date Tullich stones 1, 2, 7, 8, 10, 12 and 15 and the font are shown. The undated photograph published in Michie (1910, Pl.VIII) shows the enclosure with ivy and fewer stones than in 1902 (Tullich 1, 2, 7, 8, 15, possibly 10 and the font) and may be slightly earlier.

In 1903, in addition to the symbol stone and font, Allen and Anderson (Pt 3, 196-8) describe but do not illustrate '*five granite slabs with incised crosses: (1) 5 feet 3 inches long by 1 foot 4 ½ inches wide by 9 inches thick; (2) 4 feet 9 inches long by 1 foot 5 inches wide by 9 inches thick; (3) 2 feet long by 1 foot 1 inch wide by 3 inches thick; (4) 1 foot 1 inch long by 9 ½ inches wide by 3 inches thick; and (5) 1 foot 7 inches long by*

11 inches wide by 2 inches thick. The crosses on Nos. 1 and 2 are of shape No.101A [cross with round hollow angles], *and those on the other three of shape No. 96A* [cross with plain square] . *Nos 1 and 2 were probably placed in a recumbent position on graves and the three smaller slabs in an upright position as head-stones. All the slabs are rectangular except No. 4, which has a circular head*.' These descriptions fit with the crosses Tullich 2, 7, 8, 10 and 12 (they do not appear to have included the odd stone Tullich 15).

This total of the stones is the same in 1922 when W D Simpson wrote, '*The sculptured stones collected at the door of the church comprise one stone with incised symbolic ornament, and five stones with incised Celtic crosses*'. Apart from the symbol stone and two crosses (and another possible) which have been recorded as removed from secondary positions in the fabric of the church, there is no record of the find place of the other stones. Michie (1910, 121) merely describes the enclosure as ' *sufficient to receive any other relics of antiquity that may be discovered in or around the church...Already several such relics have found a place within it; among others a small sculptured stone*'. Between 1922 and 1968 there are no detailed descriptions of the Tullich stones.

In November 1968 the OS notes record '*As well as the Pictish symbol stone as described by Allen (1903), and the font, there are now 16 Celtic type cross-slabs within the railed enclosure on the N side of the church. They vary from 0.2m square to 1.5m in height.'* (Site No: NO39NE 2.02 http://canmore.rcahms.gov.uk).

In 1993 a Historic Scotland Conservation report lists the symbol stone, font, 14 crosses, 3 stones with no decoration, 1 architectural fragment and a pebble (Gordon, 1993).

In 1998 The Survey of Historic Kirkyards refers to 13 cross slabs and the symbol stone. Henderson and Henderson (2004) refer to '*around 15'* stones.

The RCAHMS survey of 2004/5 recorded the symbol stone (Tullich 1), the font and 15 cross slabs; this survey included the first full set of accurate drawings. Borland, who illustrated the stones noted in 2007 '*During survey over 2004/05, in addition to the Pictish Symbol Stone and large stone font, RCAHMS recorded 15 cross-slabs, not 16 as stated by OS in 1968*.' Tullich 1-15 are illustrated. The 'missing' or possibly non-existent stone Tullich 16 is given a reference in Canmore by RCAHMS but not illustrated or described.

In 2006 Nicholas Boyes Stone Conservation report also listed 15 stones, the symbol stone and the font; there appear to be discrepancies in the numbering of the photographs in this report (Boyes 2006). However two of the carved fragments (NBSC 5 and 6) are

both parts of Tullich 6 which was subsequently restored by Nicholas Boyes Stone Conservation and drawn by RCAHMS as one stone. So, in fact, that accounts for 14 stones, the symbol stone and the font. This number of stones was packed by NBSC and is presently stored at Mintlaw.

It seems probable that the differing number of stones recorded is due to a difference in interpretation of smaller fragments. In particular Tullich 6, which is now conserved and viewed as a single cross slab, has at times been in two pieces and counted as two unrelated stones.

The stones, which in 2014 remain crated in an Aberdeenshire Council store in Mintlaw, were examined and photographed in January 2014. The results of this are appended as a separate Part 2 of this report.

The two stones found during the excavation in 2013 bring the present total to 16 crosses in addition to the symbol stone and the font.

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There is no known record of the exact findspots of the stones found between 1922 and 1968. It had been presumed that they were likely to have been found during grave digging. If that was the case, the graves dug between 1922 and 1968 all lie within the graveyard wall, mostly being situated to the N or E of the church. The area of the graveyard outwith the wall and in use since 1968 does not appear to have yielded any new stones. This has been confirmed by an ex-council employee who had been involved with the graveyard from 1975 till his retirement around 2005.

In that time no more carved stones were found, but he remembers former council workers talking about '*strange steens'* being unearthed in the area where the excavation found the two crosses in 2013. Apparently they were uncovered whilst the workers were draining that area. He thought that the draining was done in the late 1950's/early 1960's. (We are very grateful to Ian Cameron of Ballater who tracked down this account for us in December 2013). A tile drain (Illus 10: 39) cut through Area A, including the arc where the two crosses were found; it appears very possible that several of the undocumented stones may have been from this area. The drain appeared to continue down the E side of the graveyard wall- so it is also possible that the reference could have included that side of the graveyard.

Table 1 (below) is an attempt to summarize the biography of each stone as far as possible in the order they were discovered. The numbering here follows the numbering used by RCAHMS but other numbers in published accounts are noted.

Table 1

Short description	**Present RCAHMS numbering**	**References**	**Comment**
Market cross (Destroyed)	-	1790 *Scroll Plan of the lands of Tullich* depicts this cross to the N of the road opposite the graveyard in open ground at the entry to the village of Tullich. It is named 'Market Cross' Gibb (1877) describes two stones that had been destroyed '*One of them stood on the market stance of the old village of Tullich, and was known as St Nachlan's Cross. It is said to be about 12' in height, and was removed to make way for a turnpike road and broken up for building stone'*. Jervise (1875-9, vol 2, 159) '*Another interesting cross- St Nach'lan's – consisted of a square unadorned shaft of granite, about 12 feet in height, surrounded with steps. It stood upon the site of St Nachlan's Fair, which was removed from Tullich to Ballater about 1817, when the cross was destroyed, and the materials used for building purposes (Inf. From late Mr. Smith*).'	RCAHMS suggest 1817 was a mis-print but this appears to be a misunderstanding of Jervise who states this was the date that the site of the *Fair* was moved- the cross being destroyed at or after this date. The description of the market cross is very reminiscent of the 17th C market cross at Old Rayne (Shepherd, 2006, 105-6), suggesting that the Tullich market cross might also be of 17th century date, possibly erected around 1661 when Charles II granted to William Farquharson the rights of a market at Tullich (*(Records of the Parliaments of Scotland,* Edinburgh. April 22, 1661).
East cross (Destroyed)	-	'*that which lay by the side of the turnpike road, near the site of Mr Farquharson's monument...which very much resembled the Skeith Stane of Kilrenny in Fife was unfortunately destroyed when the Deeside line of railway was being constructed'* Jervise, 1875-9, vol 2,	The reported site of this stone is at the limit of the lands of Monaltrie so there is a possibility it was a boundary stone, or an earlier cross used or re-used as a boundary stone. The Skeith Stone (NMRS No: NO50SE17) is a rough boulder with an incised cross inside a circle.

		159). Gibb (1877, 196) quotes Jervise as his source for this stone and places it '*about half a mile east of the old church, on a mound'*. Michie (1910, 116) appears to confuse this with the market cross, referring to it as 'St Nachalan's cross ' and recording that it had '*been broken up by the vandal hands of the road contractor in 1857, and its material converted into road metal'*. If Jervise's near contemporary account is correct, this stone would have been broken up c. 1865-66 when this section of the Deeside Railway was built.	
Font		1790 *Scroll Plan of the lands of Tullich* depicts the font outside the W end of the church, it is named 'Font Stone'. Jervise (1875-9, vol 2, 159) confirms the original site of the font '*a font at the west end seems to be an earlier piece of masonry than the building itself*'.	The font was moved when the enclosure was built for the crosses at the N door of the church.
		Discovered 1866 -1878	
Pictish symbol stone	Tullich 1	Discovered 1866 (Michie, 1910, 118,150) by Michie when he '*took a rough sketch of it'*. '*The slab then served as the inside lintel of a blind door-way that had been built up when the church was last repaired, and was partly concealed by the walls'*. Both Jervise (1875-9, vol 2, 157) and Gibb (1877, 196) wrongly dated the discovery to 1875. Photograph in Michie 1910, Pl VIII.	Also known as Michie Stone A NMRS No: NO39NE2.02

	Tullich 2	Jervise (1875-9, vol 2, 157) illustrates this stone, describing it as '*the most primitive and peculiar of these (represented in the annexed woodcut) has long formed the lintel of the south-west door of the kirk. The slab is about 5 ½ feet long'*. Gibb (1877, 196) it '*has been long seen forming the outside lintel of the south door of the church'*. Michie (1910, 119)'The sculpturing here is in the form of an Iona Cross. The slab so far as can be ascertained, had formed the outside lintel of a door-way on the south side of the church, and must have been placed there before the Reformation, as the masonry surrounding it belongs to a date anterior to the changes that were made at that period. Photograph in Michie 1910, Pl VIII.	Also known as Michie Stone B Gibb Stone 2. Allen and Anderson stone (2) NMRS No: NO39NE2.03 By 1902 photograph this stone has been moved to the enclosure at the N side of the church. 1902 Soc Antiq Scot photograph
Latin cross	Tullich 7	Michie, (1910, 120-1) describes finding this stone in 1878 on the inside of the S wall, not near any doorway or blocked opening '*Its position was 9 feet above the ground, and 2 feet from the top of the wall'*. Photograph in Michie 1910, Pl VIII. 1902 Soc Antiq Scot photograph	Michie Stone C Allen and Anderson stone (1) NMRS No: NO39NE2.08 It was after the removal of this stone from the wall that Farquharson of Invercauld built the enclosure against the outside of the blocked N door of the church and the stones were removed there.
		Discovered between c 1878 and 1902	
Latin cross with pointed base	Tullich 8	This was found prior to 1902 (Soc Antiq Scot photograph) and before the photograph published in Michie (1910).	This may be the cross described by Gibb (1877, 196) 'There is another stone, with a cross less entire, forming a back lintel to the same [S] door' Allen and Anderson stone (3) NMRS No: NO39NE2.09
Latin cross	Tullich 10	This was found prior to 1902 (Soc	Allen and Anderson stone (5)

		Antiq Scot photograph).	NMRS No: NO39NE2.11
Latin cross	Tullich 12	This was found prior to 1902 (Soc Antiq Scot photograph). Visible to LHS of symbol stone	Allen and Anderson stone (4) NMRS No: NO39NE2.13
Four small incised crosses on slab	Tullich 15	This was found prior to 1902 (Soc Antiq Scot photograph).	NMRS No: NO39NE2.16
		Discovered between 1922 and 1968	Probably some found in grave digging within the enclosed churchyard to N or E of church, where most burials within this date range are found. However oral evidence (above) suggests several may have been from the track of tile drain 39 in Area A, dug in the 1950s/early60s.
Latin cross	Tullich 3	No references.	NMRS No: NO39NE2.04
Latin cross	Tullich 4	No references.	NMRS No: NO39NE2.05
Ringed cross	Tullich 5	No references.	NMRS No: NO39NE2.06
Ringed cross	Tullich 6	No references.	NMRS No: NO39NE2.07
Latin cross	Tullich 9	No references.	NMRS No: NO39NE2.10
Base of cross	Tullich 11	No references.	NMRS No: NO39NE2.12
Latin cross	Tullich 13	No references.	NMRS No: NO39NE2.14
Latin cross	Tullich 14	No references.	NMRS No: NO39NE2.15
	Tullich 16?	Not illus in RCAHMS no description	NMRS No: NO39NE2.17 This may be misnumbering of the detached fragment of Tullich 6 now re-conserved.
		Excavated 2013	
Ringed cross	SF2		Excavated in Area A outside N side of existing graveyard wall.
Ringed cross	SF 5		Excavated in Area A outside N side of existing graveyard wall.

Other finds

Prehistoric

Only two small fragments of flint were found, in contexts 61 and 70; neither was worked and they may be incidental.

Medieval

Pottery

There was a total of five sherds of medieval pottery from the excavation (contexts A30, E29, E33) and one possible sherd from the evaluation (Trench 1, context 8). All were very abraded Redware sherds, three having traces of external splash glaze. With the exception of a jug strap handle from A30, the remainder were small body sherds. They can be dated to the 13th/14th century.

Even the sherd from the primary fill of the ditch in Area E (33), in a context which yielded a 13th-14th century C14 date, was sufficiently abraded to suggest it had been lying around for some time before it ended up in the ditch.

Other finds

SF8 Whittle tang knife tapering to point. L: 116mm. W: 20mm. In form this could easily be medieval (cf. Murray & Murray, 1993, fig 33: nos 32-37) but could equally be more modern; the context included a fragment of polished green granite that would appear to be from the modern graveyard. Area E, context 35/1. Another iron knife with traces of a wooden handle, found in Evaluation trench 1, context 11 is almost certainly modern.

Illus 38 SF 8

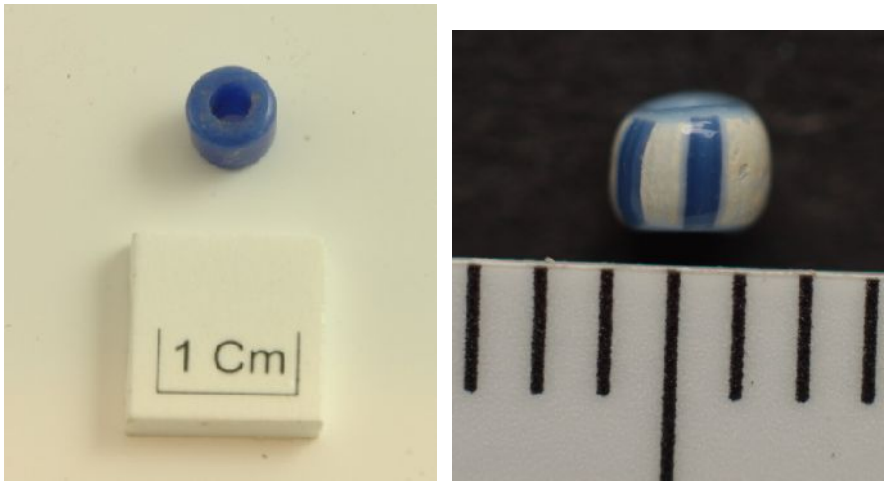
SF 6 Iron point widening to roughly leaf-shaped terminal. L: 110mm. This might be a medieval arrowhead (cf. Franklin and Goodall 2012, Illus 153). Area F context 57/1

Illus 39 SF 6

Modern

SF 1 Blue glass bead. Diam 6mm. Modern. Area E, context 1.

SF 7 V tiny blue & white glass bead 2mm diam found in retent. Modern (pers. comm. Ewan Campbell). Although modern, SF 7 was in an early fill of one of the Area F ditches but is so tiny it is thought to have moved in the soil through bioturbation. Area F, context 67



Illus 40 Beads SF1 and SF 7. (Photograph of SF 7. courtesy of Timpany).

SF 4 Blade frag? Max L: 80mm (broken). Max W: 30mm, narrowing to tip. Edge partly serrated. Area E, context 31.

Illus 41 SF 4

SF 3 Iron jaw or jew's harp with flat metal tongue (broken) L: 53mm Max width 30mm. Jew's harps were introduced to Europe at the time of the Crusades. However although many medieval and post-medieval examples are listed on the Portable Antiquities Scheme database, the majority are copper alloy and have a circular rather than oval head (http://finds.org.uk/database). Modern examples are usually iron and the present example is likely to be of 19th/20th century date. Area E, context 31.

Illus 42 SF 3

9 The Archaeobotanical and Anthracological Analysis of Two Early Medieval (Pictish) Ditch Samples from Tullich Burial Ground Extension at Tullich, Ballatar, Aberdeenshire

S. Timpany
ORCA Marine

Introduction

Significant quantities of charred cereal grain, flax seeds and weed taxa, together with charcoal fragments were observed from two bulk samples (10 and 11) during the assessment of the charred plant remains (CPR) from Tullich burial ground (Timpany, 2013). Both samples come from fills [61 and 70] of ditch [68] which runs north-south to the south of the church; Area F of the excavation. The CPR assemblage from the two samples was identified as having good potential to inform on the cultivation activities taking place in the area during the later phases of the ditch's lifetime. Along with these remains, abundant charcoal fragments of up to 3.4cm in size were recorded in the two samples, which also included a significant quantity of roundwood fragments. The charcoal fragments have the potential to provide information on the arboreal taxa utilised for fuel, woodland composition and management of the woodland resource. Subsequent radiocarbon dating has shown that activity associated with the two samples took place during the early medieval (or Pictish) period. Grains of hulled barley (*Hordeum vulgare*) were submitted as radiocarbon dating material from both samples and returned dates of: cal AD 676-870 (GU-31498; 1250±30 BP) for fill [61] from the south section of ditch [68] and cal AD 693-890 (GU-31499; 1215±30 BP) for fill [70] from the north section of ditch [68]. These dates together with the CPR content of the samples are significant as they provide an opportunity to investigate cultivation and land use in a period for which there has been only limited archaeobotanical and anthracological study in Scotland (ScARF, 2012).

Thus based on the potential palaeoenvironmental information that could be gained from the samples and the early medieval radiocarbon dates obtained it was agreed to analyse the CPR and charcoal assemblages from the two samples.

The aims of the analysis then were to:

- Identify what cereals were being cultivated from the two ditch section assemblages and what these can tell us on the agricultural economy

- Identify what weed taxa are present and how these can inform on arable activities (e.g. manuring, drainage)
- Identify what arboreal taxa were utilized for fuel and whether any evidence of woodland management practices is present.
- Comparison of the two analysed pit assemblages against similar dated CPR assemblages within the wider area

Methods

CPR Analysis

Following on from the assessment 100% of the flots from both samples were analysed. All samples were analysed using a low power binocular microscope with x10 and x40 magnifications when required. All identifications of cereals and wild taxa were confirmed using seed atlases (e.g. Cappers et al, 2006), identification keys (e.g. Jacomet, 2006) and modern material held in the reference collection at Orkney College UHI.

Charcoal Analysis

A maximum of fifty charcoal fragments were randomly selected from each sample based on their size and therefore suitability for identification. The charcoal was broken or fractured to view three sectional surfaces (transverse, tangential and radial) necessary for microscopic wood identification. The charcoal fragments were then mounted onto a slide and examined using an incident light microscope at magnifications of 100x, 200x and 400x, where applicable. Identifications were made using wood keys by Schweingruber (1978, 1990) and modern reference materials held at Orkney College UHI. Ring curvature was measured using the key by Marguerie and Hunout (2007), where weak curvature is thought to denote large-sized timbers, moderate curvature, medium-sized timbers and strong curvature represent small-sized timbers. Where curvature could not be viewed it was recorded as indeterminate.

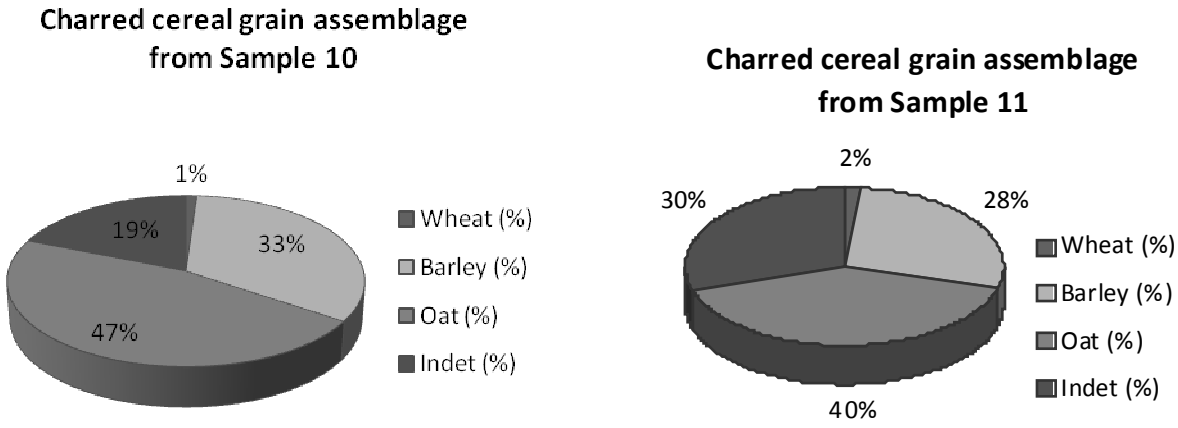
Results

Tables 4 and 5 are in Appendix 4

CPR Analysis

The preservation of the charred cereal grains was previously assessed and found to be good to poor with some breakage and distortion of grain recorded (Timpany, 2013). The

good degree of grain preservation is reflected in the percentages of indeterminate grain in the two samples making up 18.9% in Sample 10 and 30.1% in Sample 11; although these figures are slightly skewed (higher) as they include indeterminate culm fragments. The results of the CPR Analysis are presented in Table 4, plant nomenclature follows Stace (2010) and plant habitat information is taken from Clapham *et al* (1962) and Stace (2010).



Illus 43 Charred grain composition (%) for Samples 10 and 11

The cereal assemblages in both samples 10 and 11 are dominated by the remains of oat (*Avena* sp.) which contribute 47% and 41% of the grain assemblage (Table 4 and Illus 43). The majority of the oat remains comprised cereal grains (caryopses), which are not identifiable to species level due to the morphological similarities of the grains (Jacomet, 2006). The presence of a small number of lemma base fragments and grains with lemma bases still attached in the samples allowed for the identification of common oat (*Avena sativa*) to be made, suggesting that it is this oat species which was cultivated. The poor preservation of some grains meant that they could only be identified as probable oat (*cf. Avena* sp.) and these were present in both samples (Table 4).

Present in smaller quantities than oat but still in significant amounts are the remains of barley (*Hordeum* sp.) cereals. Barley cereal remains contribute to 33% and 28% of the overall plant assemblage from samples 10 and 11 (Table 4 and Illus 43). From the identification of grains that have straight or twisted central grooves and symmetrical or asymmetrical grain shape it is possible to attempt to differentiate between the presence

of 2-row (*Hordeum vulgare var distchum*) and 6-row hulled barley (*Hordeum vulgare var vulgare*) (Table 4). The analysis suggests that both varieties are present in the assemblage. However, some caution for this interpretation must be shown as the ratio of 2-row to 6-row grains present in the samples (approximately 2:1 for Sample 11 and 1:1 for Sample 10) may indicate that it is just 6-row that is present (Jacomet, 2006). No rachis fragments of barley were recovered that could have further aided the identification to species. It was not possible to record the groove and symmetry of all hulled barley grains due to poor preservation (e.g. breakage) and these have been recorded as hulled barley sp. (*Hordeum vulgare* sp.) and possible hulled barley sp. (cf. *Hordeum vulgare* sp.). Observed during recording was the presence of a number of possible immature hulled barley grains within each category, which were of a noticeably smaller size, however, this size difference may also come from the growth of grain within different areas of the ear on 6-row hulled varieties (Jacomet, 2006). There was evidence of hulled barley chaff fragments in Sample 11, with the presence of two internode fragments.

Small quantities of wheat cereal remains were recovered from both samples, making up 1% and 2% of the total assemblages (Table 4 and Illus 43). This suggests that wheat was either grown but was not a major cultivar at Tullich or that these remains represent remnant cereals that are now present as arable weeds. A single rachis fragment of emmer wheat (*Triticum dicoccum*) was recovered from Sample 10 and comprises the only wheat remains present. Sample 11 contains a more diverse assemblage of wheat remains in comparison (Table 4) with single grains of bread/club wheat (*Triticum aestivo-compactum*), possible bread/club wheat (cf. *Triticum aestivo-compactum*) possible emmer wheat (cf. *Triticum dicoccum*) and wheat sp. (*Triticum* sp.).

There is evidence in the CPR assemblage for both samples of a further cultivar to the cereals being grown from the identification of flax (*Linum usitatissimum*) seeds. Only a small number were retrieved from Sample 10 and this is shown in the overall CPR assemblage, comprising 2% (Table 4). In Sample 11, however, flax has a much higher representation making up 12% of the total assemblage. The significant amount of flax remains recovered from Tullich, suggests flax production for linen and/or oils was an important part of the local economy.

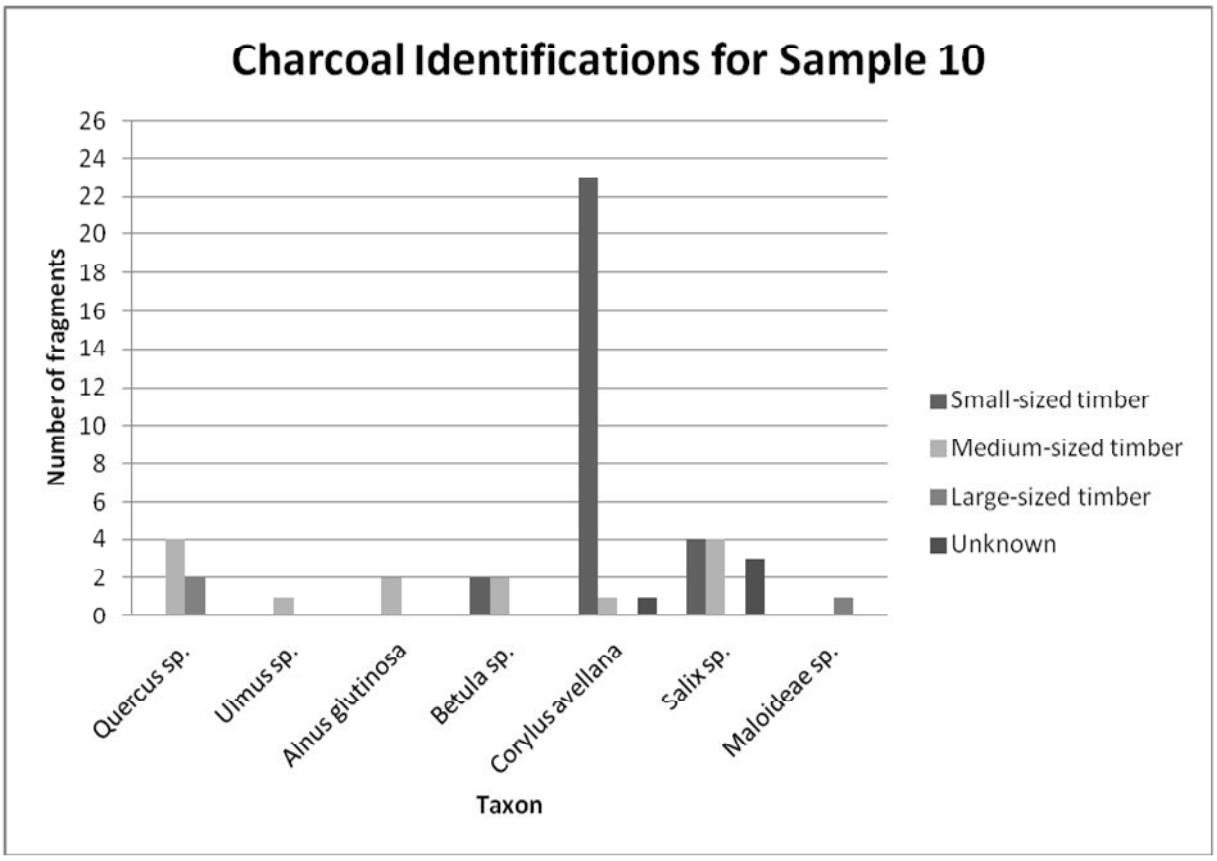
A significant number of wild taxa were identified in each pit, comprising 42% of the CPR assemblage in Sample 10 and 31% of the assemblage in Sample 11 (Table 4). The majority of the taxa identified are associated with arable land, although other habitats are

also indicated including hedgerow, heath, waste and damp ground, together with scrubland. The most abundant taxon recorded was corn spurry (*Spergula arvensis*), with other arable weeds including common chickweed (*Stellaria media*), fat hen (*Chenopodium album*), sheep's sorrel (*Rumex acetosella*) and possible meadow grass (cf. *Poa* sp.), together with bromes (*Bromus* sp.) were also present. A number of grass land species were also recorded (Table 1), amongst which were meadow buttercup (*Ranunculus acris*), ribwort plantain (*Plantago lanceolata*), possible field wood-rush (*Luzula cf. campestris*) and possible sheep's fescue (*Festuca cf. ovina*). Potential hedgerow taxa were also present such as nipplewort (*Lapsana communis*), vetch sp. (*Vicia* sp.) and possible red campion (*Silene cf. dioica*), along with a small number of damp ground indicators, possible common sedge (cf. *Carex nigra*) and possible bedstraws (*cf. Galium* sp.). The presence of small quantities of hazel (*Corylus avellana*) nutshell fragments in both pit samples (Table 4) indicates the collection of wild foodstuffs in addition to the cultivation of cereals to supplement the diet.

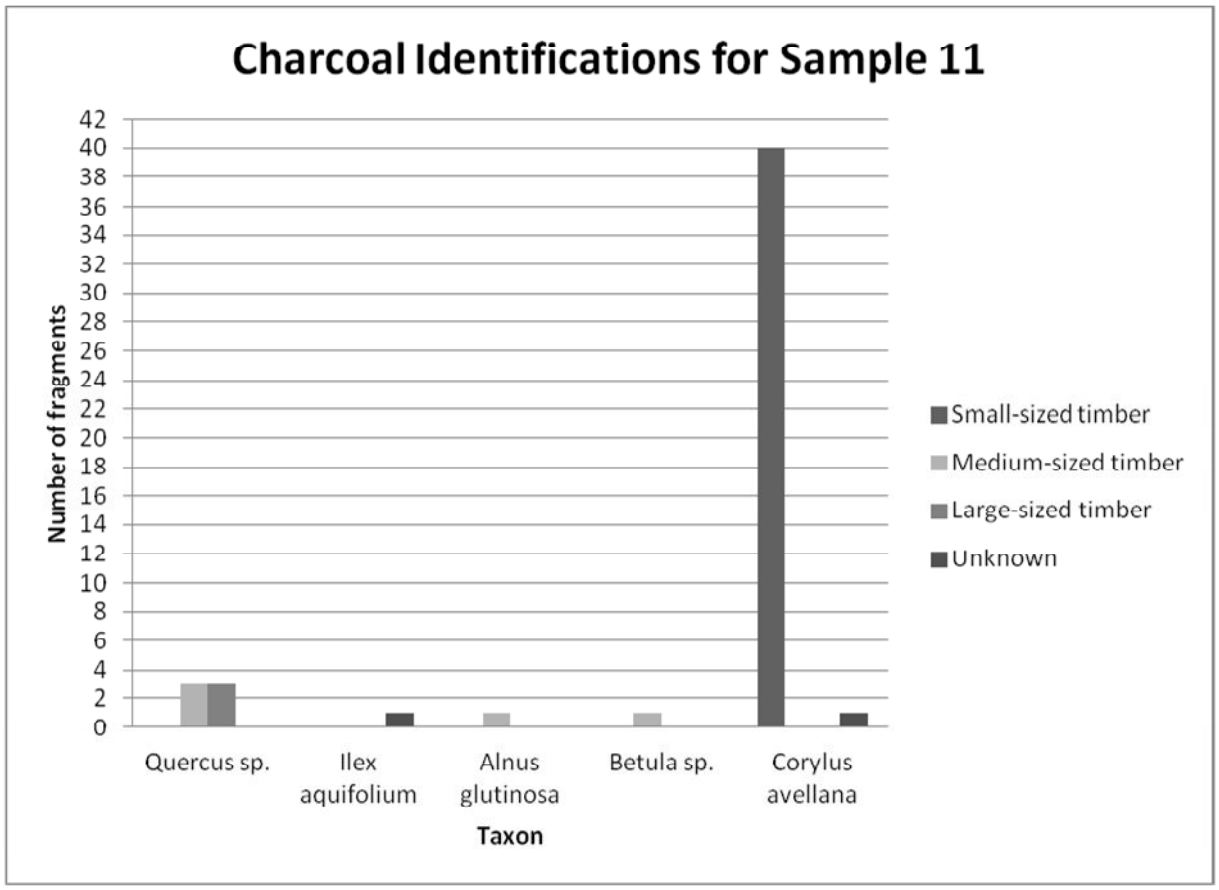
Charcoal Analysis

The preservation and condition of the charcoal fragments was generally good across all fragments analysed. There was evidence of channels in two charcoal fragments from Sample 10, which are likely to have been caused by insect damage when the wood was either still a part of the parent tree or during the storage of cut wood (e.g. wood fuel pile). Radial cracks were observed on 5 charcoal fragments from Sample 11 indicating that the wood was damp when burnt (Marguerie and Hunout, 2007). The presence of damp wood suggests that storage of wood may have been such that it wasn't always protected from the elements (e.g. outdoor storage). This is also suggested by the presence of fungal hyphae on one fragment from the same sample, showing this wood had potentially begun to rot.

The charcoal assemblage from Sample 10 contained 7 different arboreal taxa with hazel dominant and oak sp. (*Quercus* sp.), elm (*Ulmus* sp.), alder (*Alnus glutinosa*), birch sp. (*Betula* sp.), willow sp. (*Salix* sp.) and fruitwood (Maloideae sp.) all present (Illus 44). The latter includes hawthorn (*Crataegus* sp.), crab apple (*Malus sylvestris*) and pear (*Pyrus communis*), which cannot be differentiated based on their anatomical structure (Schweingruber, 1978, 1990). A more limited charcoal assemblage was identified from Sample 11, with 5 arboreal taxa identified (Illus 45), which was again dominated by hazel with oak, holly (*Ilex aquifolium*), alder and birch present.



Illus 44 Charcoal identifications from Sample 10, Context 61

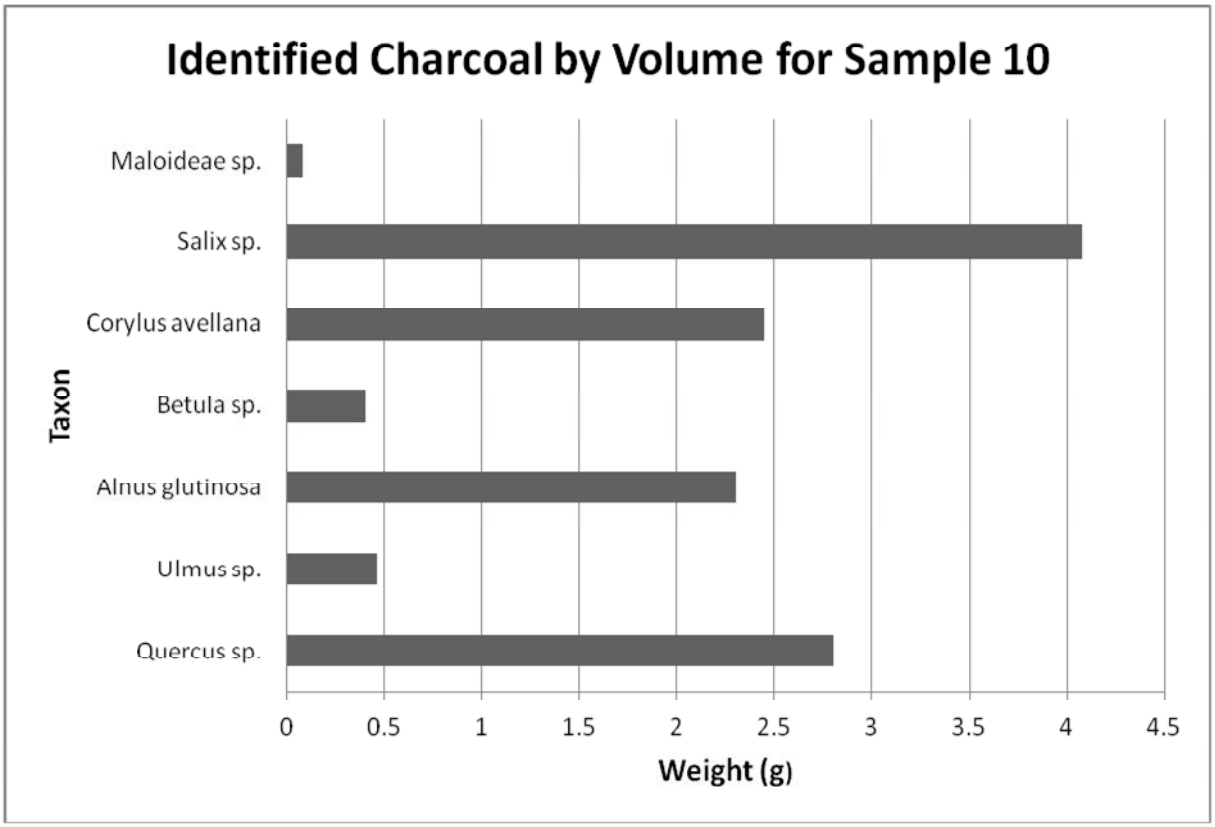


Illus 45 Charcoal identifications from Sample 11, Context 70

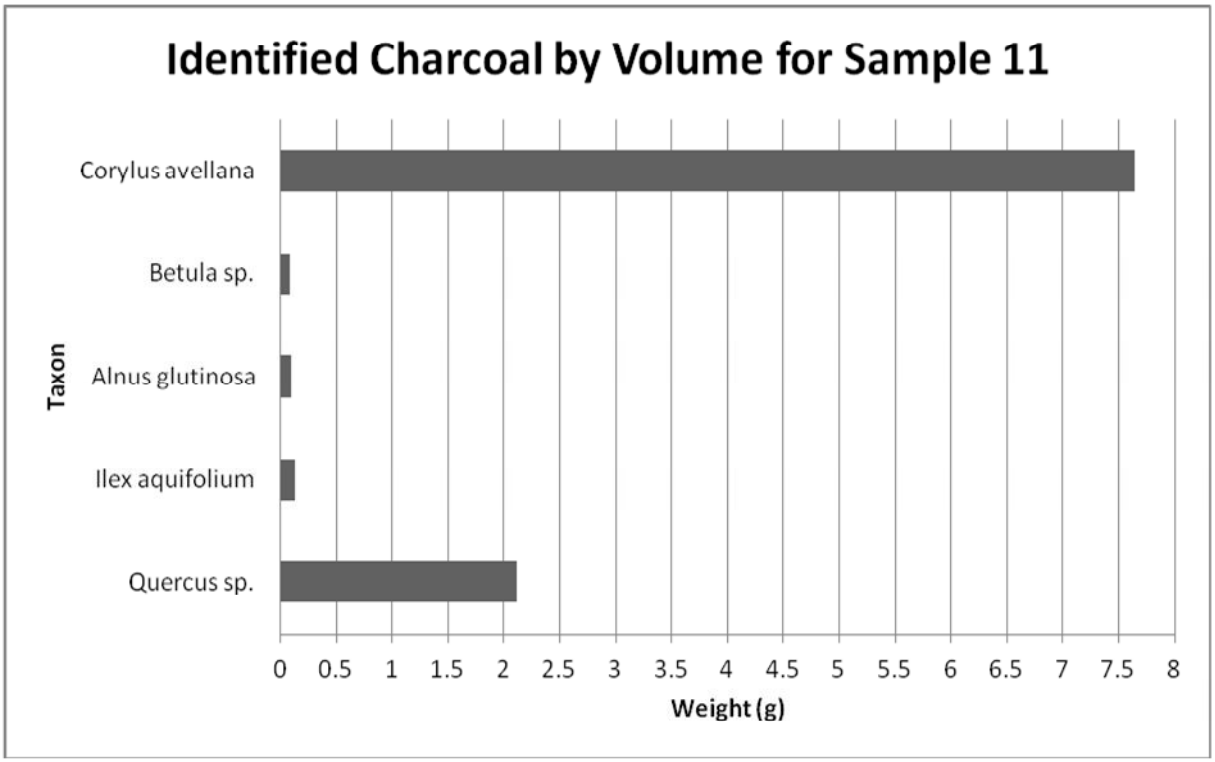
Ring curvature of the fragments from Sample 10 shows that the majority of fragments identified (29 of 50) were small-sized timbers, such as rods and small branch wood and that the majority of these (23) were of hazel (Illus 44). Medium-sized timbers, such as medium to large branch wood were frequent within the assemblage (14 of 50) with most taxa identified having fragments of this size. Only a small number of large-sized timbers, for example trunk wood, were recorded (3 of 50) being identified as oak and fruitwood (Illus 44). Sample 11 contains less variation in timber sizes, although this may be skewed somewhat by the dominance of hazel fragments (Illus 45). The ring curvature shows that the majority of fragments were small-sized timbers (40 of 50) and all of these were hazel. A small number of fragments were identified as medium-sized timbers (5 of 50), which were a mixture of oak, holly and birch. Equally few were the number of large-sized timber fragments (3 of 50), which were all of oak (Illus 45).

The recording of charcoal fragments by volume (weight (g)) provides further information to the charcoal assemblage (Illus 46 and 47). The data for Sample 10 shows that despite fewer numbers of taxa such as willow, alder and oak were recorded

compared to hazel there was substantial sized timbers of these tree types used for fuel (Illus 46). Conversely for Sample 11 the charcoal by volume is dominated by hazel (Illus 47), which is unsurprising given the dominance of hazel in the assemblage. Oak fragments also comprise a significant volume of the assemblage from this sample, highlighting the large size of the fragments recovered (up to 2.5cm), with small volumes recorded of birch, holly and alder (Illus 47).



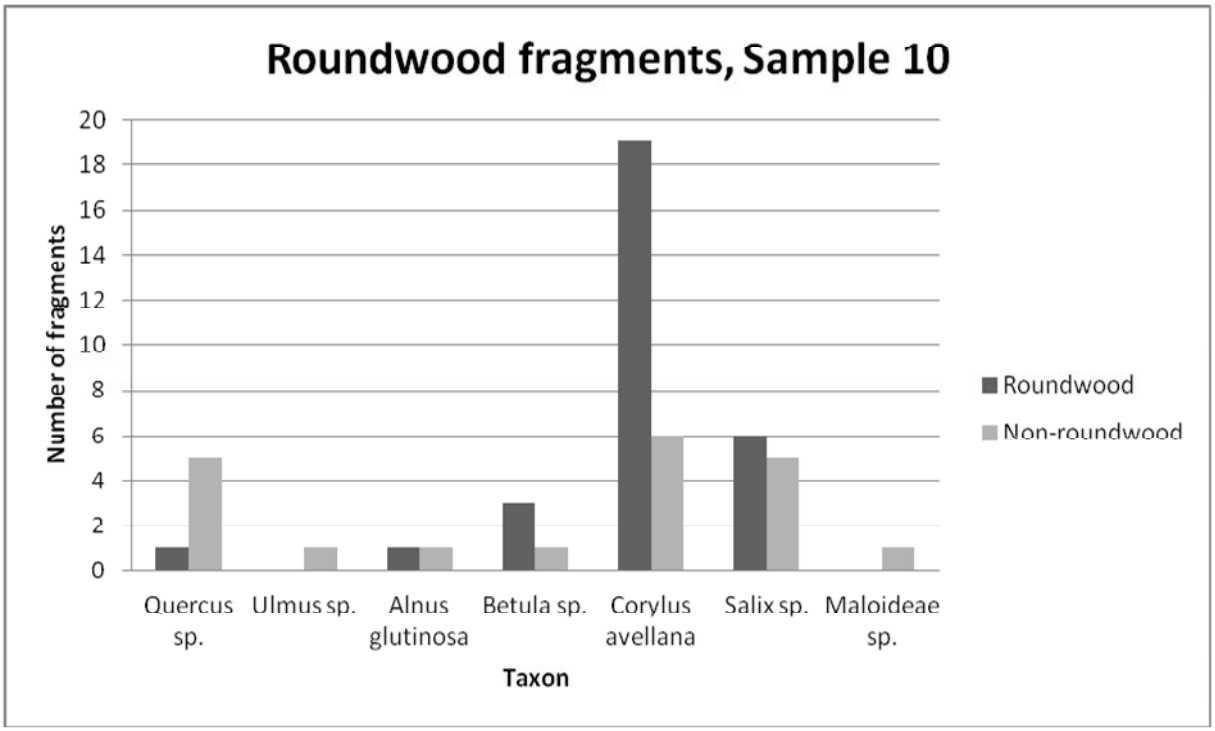
Illus 46 Charcoal identifications by weight (g) from Sample 10, Context 61



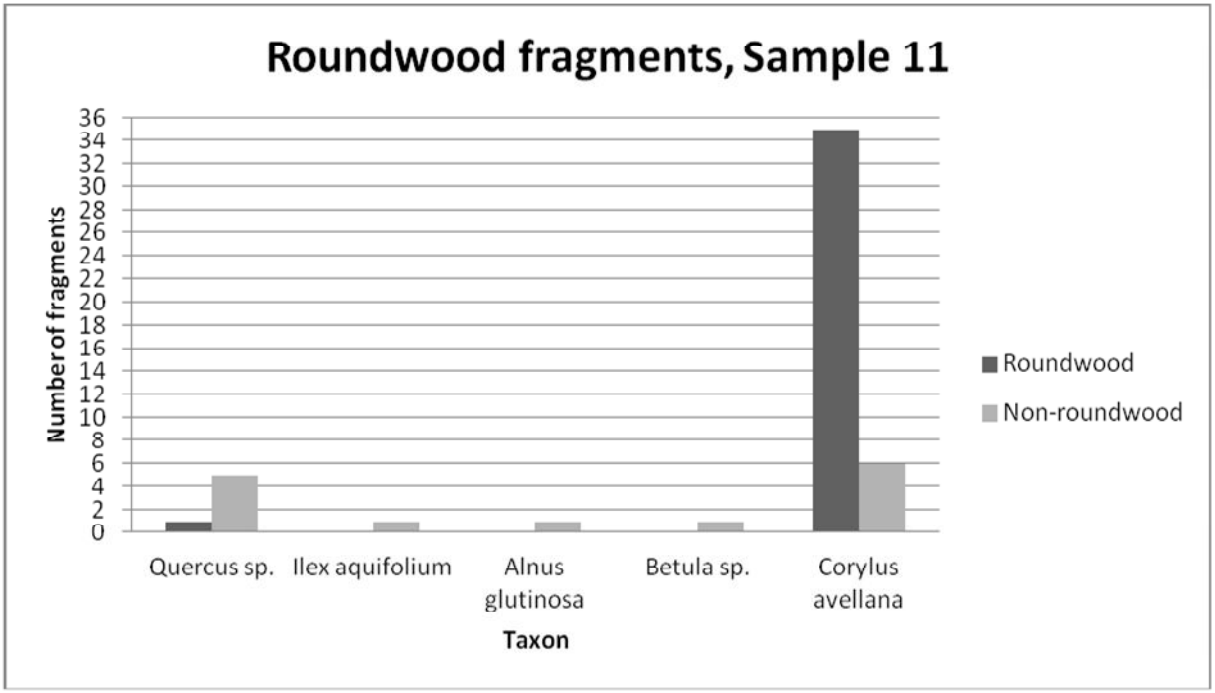
Illus 47 Charcoal identifications by weight (g) from Sample 11, Context 70

Roundwood fragments are significant within the assemblage as they have been linked with managed woodland (e.g. coppiced) resources (e.g. Stuijts, 2005). Roundwood timbers in Sample 10 were present in the assemblage for oak, alder, birch and willow, and especially dominant in the assemblage for hazel (Illus 48), which is a well-recorded tree type for coppice (Rackham, 2003). In Sample 11 roundwood fragments again dominate the hazel assemblage, with only one other roundwood fragment recorded of oak (Illus 49).

Patterns of narrow growth rings (<1mm) interspersed between normal (1-3 mm) and wide (>3mm) growth rings were recorded during analysis from fragments in both samples. These periods of narrow growth may have been caused by environmental stresses placed on the trees (e.g. periods of dryness, increased shading by other trees) but may also reflect phases of cutting on the tree (e.g. coppicing, pollarding), which causes initial restricted growth and then recovery (e.g. narrow rings to normal/wide rings) (Wheeler, 2011). These were particular to but not restricted to roundwood fragments in the assemblage. One charcoal fragment of hazel roundwood from Sample 11 was observed as being worked, having a distinct tool mark at one end.



Illus 48 Roundwood charcoal fragments from Sample 10, Context 61



Illus 49 Roundwood charcoal fragments from Sample 11, Context 70

Discussion

Early Medieval (Pictish) Activity; cal AD 678-870 to 693-890

The two analysed samples from ditch [68], within Area F have produced similar early medieval dates from hulled barley grain submitted for radiocarbon dating. However, this does not necessarily mean they represent the same phase of activity. Sample 10 was taken from a deposit [61] which appears to have accumulated against the side of wall [71] that may have represented an enclosed yard or sheltering associated with a forge, the latter indicated by the recovery of lumps of slag from deposit [61] and the overlying cobbles [56]. The CPR assemblage from this deposit then may be an accumulation of materials that have been swept or blown/washed against the side of the wall from activity taking place in the vicinity. The stratigraphy and activity associated with the wall then indicates by this period (7th to 9th Century) the ditch was almost filled and as such it would be more accurate to consider the area as a possible yard rather than a ditch. In contrast, Sample 11 taken from charcoal rich layer [70] is suggested from the stratigraphy to lie in a section of ditch [68] that was still quite open during the period of deposition, with levelling of this section taking place over this deposit in the form of redeposited natural [69]. Therefore the CPR assemblage from this deposit is likely to comprise of a mixture of deliberately discarded material into the ditch and remains that may have blown/washed into the open ditch.

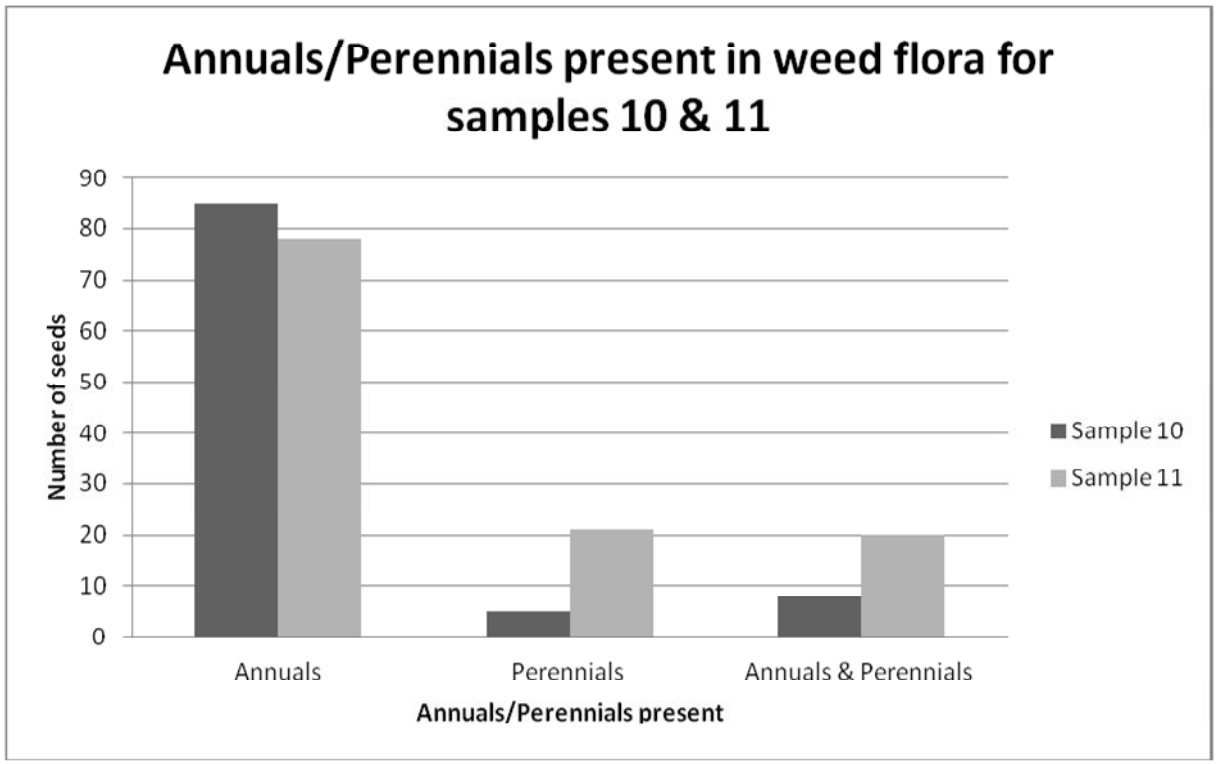
The CPR assemblage for the two ditch samples (Table 4 and Illus 43) has shown that oat was the dominant cultivar evidenced and that from the presence of lemma fragments was likely to have been common oat. Hulled barley plant remains occurred in significant numbers and indicated that along with oat it was the second main cultivar at Tullich. The recording of a good representation of symmetrical/straight and asymmetrical/twisted grains of hulled barley in both samples suggests that a 6-row variety (e.g. Bere) was being cultivated, although there is some possibility that a 2-row variety was also grown. Small quantities of wheat recovered in the form of emmer wheat grains and rachis fragments, together with bread/club wheat grains suggest there was little cultivation of wheat and raises the possibility that these remains represent a remnant crop that was now present as an arable weed.

Comparable data sets for charred plant remain assemblages dating to the late 7th to 9th centuries in Scotland are extremely scarce, with the available published literature signalling a distinct lacuna in archaeobotanical studies for this period; as has been highlighted by ScARF (2012). Therefore the analysis presented here is a welcome

addition to arable studies of this period. From the limited information available it would appear that oat (common oat and black oat) and hulled 6-row barley (e.g. Bere) were the main cultivars of this period (Bond and Hunter, 1987; Boardman, 1998; Dickson and Dickson, 2000), with data largely limited to sites on the northern Scottish mainland and the Northern Isles.

The occurrence of a significant quantity of chaff fragments in the assemblage, consisting of rachis, internode, culm node, culm base and culm fragments (Table 4) suggests that crop processing activities were taking place at Tullich (e.g. winnowing and threshing). The presence of culm (straw) fragments (node, internode and base) in the assemblage indicates that crops were harvested using a sickle, rather than uprooted or ear-harvested (Hillman, 1981). The presence of significant quantities of chaff elements together with weed seeds and grain would place the assemblage in the early processing stages of consumption and production models (e.g. Hillman 1981; van der Veen 1992), suggesting the Tullich assemblages fit into the consumer model rather than producer (Stevens 2003); however, these models have been critiqued as being perhaps too simplistic (Stevens 2003).

The wild taxa assemblage provides some evidence for the use of tillage through the dominance of annual plants in the weed seed assemblage. The classification of the weed seed assemblage as annual or perennial is provided in Table 5; for taxa that have not been identified to species level (e.g. grass sp.) these may include annual and perennial species and are presented as such. The results for this are shown in Illus 50. Both samples contain significantly more seeds of annual plants than perennials, with Sample 10 shown to contain the fewest and highest numbers of perennials and annuals respectively. The results may be somewhat skewed by the high numbers of corn spurrey (an annual) in both samples (Table 4) but nonetheless would seem to indicate annuals as the dominant weed type present. Hillman (1981) observes that the dominance of annuals in the weed seed assemblage may indicate the use of tillage methods and in particular the use of a mould-board plough. The practice of tilling was likely to have been used in order to control weeds on areas of cultivated land and is particularly good at removing perennial weeds thus leaving the annuals to make up the majority of the seed bank left in the soil (Watson and Moore, 1962).



	Sample 10	Sample 11
Annuals	85	78
Perennials	5	21
Annuals & Perennials	8	20

Illus 50 Mix of annual and perennial weed types present in the CPR assemblages for samples 10 & 11

The perennials that are present in the assemblage are largely a mixture of grassland taxa, such as ribwort plantain, meadow buttercup and sheep's sorrel, which suggests that prior to cultivation the land used for crop growing may have been open, damp grassland. There is some indication of scrubland being near to arable land (or a remnant from the previous grassland) from the occurrence of taxa such as vetch sp. and red campion. However, these taxa may also inhabit hedgerow (Table 4) and thus may indicate their use as field boundaries (Clapham *et al*, 1962; Stace, 2010).

A further cultivar was also evidenced at the site in the form of flax seeds, recovered from both samples but with significantly more remains from charcoal-rich deposit [70]. Archaeobotanical evidence for the cultivation of flax within the period of the 7th to 9th centuries in Scotland is largely restricted to Norse sites, being recovered from sites in northern Scotland and Orkney (e.g. Bond and Hunter, 1987; Boardman 1998).

Interestingly corn spurrey has been highlighted by Clapham *et al* (1962) as a known weed of flax and suggests that its high numbers in the CPR assemblage may also be due to it being accidentally harvested with the flax as well as with the cultivated oat and hulled barley. Similar high numbers of corn spurrey seeds were recorded in Pool, Orkney in samples containing flax seeds but it was not evident as to whether this was of particular association with the cultivation flax or the oat and barley grains also recovered (Bond and Hunter, 1987).

Small quantities of charred hazel nutshell fragments recovered from both samples provide some evidence for the collection of wild foodstuffs. The dominance of hazel in the charcoal assemblages for both pits suggests it was present locally in the landscape and therefore would have been readily harvestable. The charcoal assemblage from the two ditch samples also contains significant quantity of willow sp., which along with alder and birch is likely to have been growing along the valley of the River Dee, which runs to the south of Tullich burial ground, as possible wet woodland fringe to the river itself. Tree types such as hazel, oak and fruitwood trees may also have been present within this wet 'woodland' but perhaps are more likely to have been present within woodland on the drier valley slopes together with elm and holly. Scot's pine (*Pinus sylvestris*) was also identified from a sample (06) not analysed here (Timpany, 2013), which has been dated to cal AD 653-771 (GU-31497; 1318±30 BP) suggesting some pine may also have been present in the landscape during this period.

This anthracological evidence for woodland, similar to the archaeobotanical assemblage provides information on the landscape during a period for which there is very little existing information. Pollen studies from this area of Aberdeenshire have tended to focus on Early Holocene environmental change (e.g. Huntley, 1994) and fire histories (e.g. Edwards *et al*, 2000), together with human-environmental interactions of Mesolithic communities in the landscape (e.g. Edwards, 1979; Edwards and Ralston, 1984); as such there are no studies covering the early medieval period. In part this may be due to the cessation of the accumulation of suitable sediments (e.g. peat) prior to this period or the cutting or removal of such sediments containing environmental records of this period.

The results of the charcoal analysis suggest that some form of woodland management of hazel (and possibly willow) took place, such as coppicing or pollarding, in order to produce roundwood timbers which are dominant in both sample assemblages (Illus 48 & 49). The morphology of the charcoal fragments from the other arboreal taxa present

shows a mixture of roundwood and non-roundwood fragments being used and suggests not all woodland or wood resources were managed. This is also reflected in the range of tree types present with small quantities of wood from holly, elm, fruitwood and alder suggesting a more ad-hoc collection of some timbers. The production of roundwood timbers, in particular of hazel and willow, is often for their use in wattle constructions. The suggestion of the replacement of a wattle fence with a stone wall in the inner enclosure may provide a potential source for materials later used as fuel wood, together with accounting for the presence of radial crack and fungal hyphae on a small number of timbers, suggesting they were damp and beginning to rot prior to burning. Alternatively the production of roundwoods may have been a by-product of managing the woodland resource and promoting a sustainable fuel source.

The charcoal by volume results also show that a significant quantity of oak was being utilised for fuel wood and together with fruitwood were the only taxa to have large-sized timbers present. This suggests the removal of whole trees rather than just branch wood (or in the case of hazel, rods) and suggests it was not used in a sustainable way. The use of oak as fuel may be linked to the evidence for metal working from the samples (Timpany, 2013). Due to its properties to reach high burning temperatures and maintain this heat for long periods of time, oak makes an ideal fuel for activities requiring a lot of heat (e.g. smelting).

Conclusions

- This study helps to begin to fill a current lacuna in archaeobotanical and anthracological studies of 7th to 9th century sites in Scotland.
- The main cultivars identified in the CPR assemblage from both pit sites were oat (likely common oat) and hulled barley of 6-row and possibly 2-row varieties.
- Small quantities of wheat grain, emmer wheat and club/bread wheat were also identified but are more likely to represent remnant crops rather than cultivars.
- Chaff fragments were identified including rachis and culm fragments indicating that cereals were processed on the site and that crops were likely harvested with sickles.
- Evidence for the cultivation of flax was also present indicating the production of linen and/or oils.

- A rich weed seed assemblage was identified, predominantly consisting of annuals and thus providing evidence for the use of tillage.
- There is some evidence for the collection of wild foodstuffs from the presence of charred hazel nutshell fragments.
- The charcoal assemblage is dominated by hazel and in particular of roundwood hazel fragments suggesting deliberate management of this tree type.
- The charcoal assemblage suggests the collection of wood fuel from woodland in the surrounding landscape including the river valley and hill slopes.
- The dominance of small and medium-sized timbers in the charcoal assemblage indicates some attempt to sustainably manage the woodland resource.

10 Radiocarbon dates

Five radiocarbon samples from the site give an interesting sequence of dates which underlie the documentary evidence of an early foundation and continuity of activity until the 19th century.

Three dates from successive fills in ditch 68 in Area F suggest that the small ditches in this S area were open and beginning to fill up from the late 7th/early 8th century to the late 9th century, giving slightly more weight to the charred grain dates than the Scot's pine from the basal fill.

In contrast, the 13th-`14th century date from the primary fill of the main ditch (in Area E) around the N and E of the graveyard fits with the ownership of the site in the medieval period by the Knights Templars and later the Knights Hosptitallers.

The late date from a hearth built on the inner lip of the filled ditch in Evaluation trench 1 can almost certainly be placed in the context of the marginal use of the fringes of the graveyard, between the wall and the filled-in ditch, for mundane purposes. There is some evidence of this on the 1790 Scroll Plan and it probably increased when the church was no longer used for services after the new church in Ballater opened in December 1800.

Table 2 Radiocarbon determinations

Reference	Sample	Context	Interpretation	Date 95.4%

SUERC-44681	Charred grain: Hulled barley	Evaluation Tr1, 16	Hearth below lime kiln on inner edge of filled ditch.	1661-1954calAD
SUERC-48146	Charred grain: Hulled barley	Area E, 33	Primary fill of ditch in-washed from sides	1228-1384calAD
SUERC-48148	Charred grain: Hulled barley	Area F, 61	Upper fill ditch 68	676-870cal AD
SUERC-48149	Charred grain: Hulled barley	Area F, 70	Fill in ditch 68. Above context 67	693-890calAD
SUERC-48147	Charcoal: Scot's pine	Area F, 67	Lower fill ditch 68	653-771calAD

11 Discussion

Location

The landscape setting of Tullich demonstrates a focal and strategic importance that suggests that the establishment of an early church here was a very visible political endorsement by the early medieval secular power in the area. It lies on a flat plain at the E end of the Pass of Ballater between the Highlands and the lower reaches of the River Dee, the pass having been of symbolic as well as practical importance throughout prehistory as demonstrated by the deposition of a hoard of two Early Bronze Age flat axes there (Ralston 1984, 77-8). 'The vista of the church plain is closed at the west end by the prominent knoll Craigendarroch, and at its east end by Tom Beithe, a lower hillock. The present distinct vegetation of these hills still defines their names: oaks at Craigendarroch and a birch grove on Tom Beithe; charcoal from both tree species were identified from the 7th-9th century ditch fills.

The Tullich site also lies beside the confluence of the Tullich burn and the River Dee, with fords over both nearby. The 1790 Scroll Plan shows early roads running from the church W to the Pass across the ford of the Tullich Burn and S to the ford over the River Dee. The fairly narrow stretch of good ground between the river and the high ground to

the N would have controlled movement through the Pass and across the river and burn. This would have been even more apparent if, as Watson and Allan suggest (1987, fig 5), the former tract of the Dee looped N to the W of the Tullich Burn.

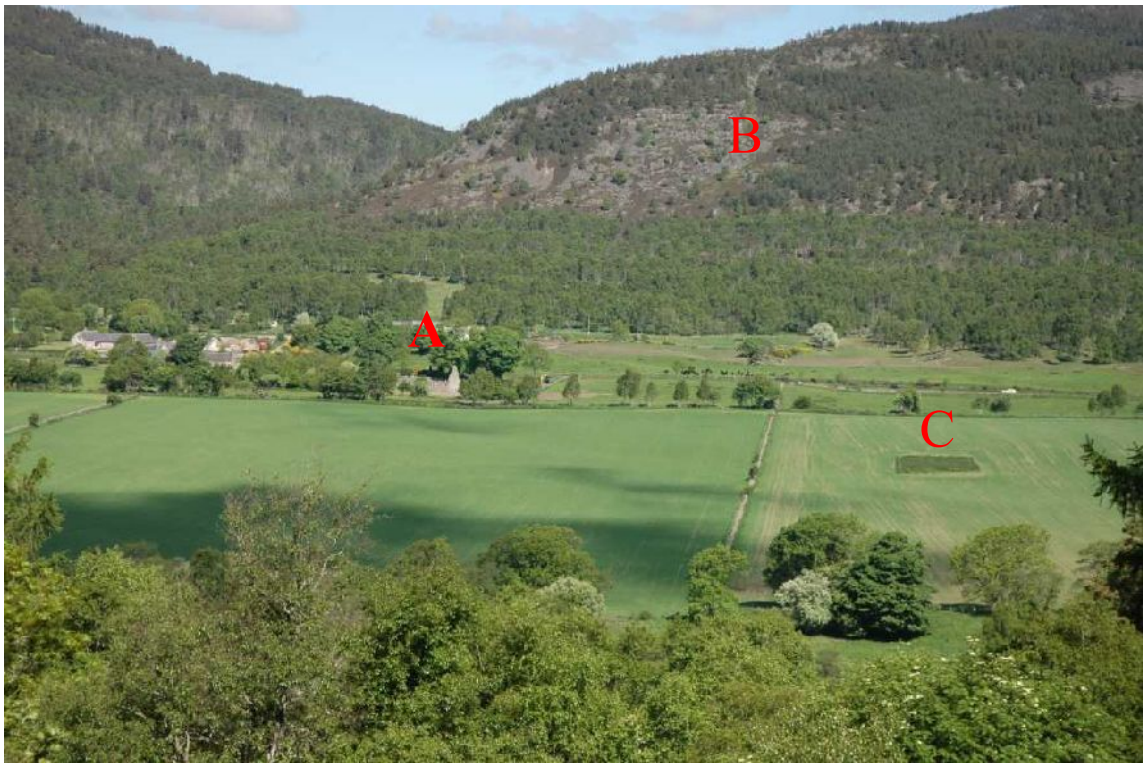
The church site appears to have been bordered on three sides by a palaeochannel which was later deepened to form an enclosing ditch. The palaeochannel, possibly seasonally waterlogged, would have been visible in the landscape and may have created a sense of a place apart.

Illus 51 Jasair 1589 045 19.5.89 (NO49-39) Site of church shown by red circle.

There is no direct archaeological evidence of any prehistoric ritual site on this ground although other natural features might be regarded as indicators of the possible existence of such an earlier, pre- Christian sacral site. The church is situated in direct alignment between the spring point of Pannanich Wells to the south and the exposed geological fault which forms a notch in Crannach Hill to the north.

Illus 52 Looking N between inner and outer enclosures across Area A to notch in hill to N

It is also tempting to think that the waters of the nearby Pannanich wells may have been locally known for their curative powers long before the publicised healing of an old lady in 1760 (Groome, 1884, 158). This is confirmed by Sedgewick (1995, 26) who notes that the Monaltrie Estate papers refer to the 'discovery' of the waters before 1745. Any reticence in earlier open acknowledgement of the waters is understandable when it is remembered that the last witch was executed in Scotland as late as 1722.



Illus 53 View from S side of river Dee near Pannanich wells across the Dee to Tillich. Church (A), notch in the hill above the church (B) and the souterrain site (C) are marked.

Prehistoric

There is limited recorded evidence of prehistoric settlement nearby. To the SE of the church, one definite souterrain (Aberdeenshire NO39NE0003 (RCAHMS NO39NE3) and another possible souterrain known from a crop mark some 80m to the NE (Aberdeenshire NO39NE0073 (RCAHMS NO39NE103, also repeated as NO39NE114) are the only visible traces of late prehistoric settlement, although it may be assumed that a roundhouse/roundhouses would have existed beside them.

However, the Class 1 Pictish symbol stone (Tullich 1) from the graveyard is witness to an early medieval secular power in the immediate area. It has been suggested (RCAHMS, 2007,124) that the symbol stones may not only often have stood as markers for burials, but that they and such burials may also have indicated boundaries of tribal lands/estates; such boundaries often occupying cult centres or focal points in the natural landscape. The establishment of the church on a site where there was a symbol stone may represent the political annexation by the secular power of the perceived new power of the church (cf Foster 1996, 95), or the annexation of the power of earlier pre-Christian

beliefs by the Christian community (cf RCAHMS 2007,124). Whichever view is taken – the successful establishment of a church site would have been unlikely to succeed without the support of a secular authority with sufficient wealth and status to grant lands to St Nathalan to establish the church.

Early Christian

The site appears to have had both an inner enclosure formed by the wall around the church and an outer enclosure formed initially by palaeochannels and later by ditches dug within them. The inner enclosure in its present form is c58 x 55m, but earlier appears to have been more circular. The outer enclosure was at least 95 x 64m but may have extended to the N. The identity of this area as 'sacred' is to some extent confirmed by the 1790 plan which shows it as open, uncultivated ground, in stark contrast to the intensive rigs surrounding it.

Early Christian religious sites with inner and outer enclosures are common and represent different levels of sanctity around the church. The original inner enclosure is likely to have been of wattle or timber fences, later replaced by a stone wall, which may have had many repairs and rebuildings over time. On this site, the perimeter of the outer enclosure appears to have utilised a series of visible palaeochannels which were at different periods widened or deepened.

As the modern graveyard has extended over most of the area S of the road enclosed by the outer enclosure, there was very limited possibility to excavate between the two enclosure boundaries. On the E and NE sides, Areas A and D revealed shallow topsoil with modern ploughmarks into the top of natural. Only the enigmatic arc in Area A had survived and is difficult to date; it appears to be late or post-medieval and would have dug away any earlier features. To the NW and W, modern burials preclude both excavation and useful geophysical survey. To the S, in Area F, there was a possible ditched entry or causeway, C14 dates from the ditch fills suggesting that they were substantially filled in during the 7th-9th centuries. Evidence of metal working associated with a possible structure post-dating the filling of the ditch may be of early medieval date.

<u>The outer enclosure: The ditch</u>

The main ditch curving around the E side of the graveyard has been sectioned in Areas A and E and partially sectioned in evaluation trenches 1 and 5 where it was between 4.85 and 7.8m wide and 1.2 to 1.6m deep The position of the edge has been confirmed

in plan in Area C and evaluation trench 2. The line of the ditch shown by excavation corresponds closely with the E arm of the possible ditch indicated by the GPR survey (Ovenden 2013 and Illus 8 above). The air photographs show this ditch curving sinuously in an irregular curve to the E and S of the graveyard wall, with another line coming in from the W, both arms meeting just to the S of the excavated area F. Much of the possible W ditch line is now beneath the modern burial ground but the S end of it was included as part of the GPR survey and appeared as a very similar anomaly to the excavated part of the E ditch. To the N, both the GPR survey and the excavation in Area A appear to indicate the outer enclosure ditch continuing N below the line of the modern road, towards the settlement of Tullich. The 1790 *Scroll Plan* also shows what appears to be the same ditch extending N of the road, enclosing the open market area – it is tempting to suggest that this was originally part of the outer enclosure (Illus 47).

The irregular line of these ditches and the appearance in Area A that they may have lain along a change between gravel and boulder clay, suggests that they were originally palaeochannels. They would have been visible in the landscape as somewhat sunken and probably seasonally wet channels, enclosing an irregular, roughly ovoid area within which the church was established and the churchyard wall built. The 1790 Scroll Plan not only depicts the ditch, showing it was still visible in the 18th century, but also indicates it was still regarded as a boundary around the church. The odd rectangular enclosure shown on Roy's slightly earlier *Military Map* of 1747-55 can be interpreted as a stylized representation of this boundary.

There was no evidence in the main ditch sections that the palaeochannel had been artificially widened, cleaned out or deepened prior to the medieval period, but the early dates from the smaller ditches in Area F suggest it is very possible and that earlier evidence in the main ditch has been destroyed by later activities.

Apart from their function as a boundary, the ditches were almost certainly vital in terms of drainage. The *Press and Journal* account of the floods at Tullich in 1839 (after the ditches had been filled!) give some indication of the potential ferocity of flooding in this area,

> '*On the village of Tullich the elements poured out their greatest fury; here the burn was swollen to an immense size, and .... burst through the village with great rapidity and fury, carrying along with it large stones, fragments of rocks, peat-stacks, gables of houses, and stone dykes, filling the houses with water, two or three feet in depth... the current then broke through the stone dyke on the lower*

side of the road.. the greatest current entering the churchyard, which it filled to the top of the wall, when several yards of the wall gave way..'

Outer enclosure ditches are common around Early Christian churches and monastic sites and support the contention that the Tullich main ditch may also have been initially dug at this period. The outer enclosure ditch of the D-shaped enclosure around the church at Tarbat, Portmahomack ranged from c 5.5m wide and >1.5m deep wide, up to 8m wide and 2m deep (Carver 2008, 13, 51-2) and appears to date from the 7th century until it was finally filled in during the medieval period (Carver 2008, 69).

Although enclosing a far larger area of c 3.5 hectares, than Tullich (S of road c 0.6 hectares), this is an interesting comparator as the ditch was used to manage water, albeit an attempt to retain water, whereas at Tullich there was a need to drain and disperse it.

The outer enclosure around the early monastery at Inchmarnock in the Firth of Clyde, had a ditch from 2-2.75m wide and up to 0.8m deep, with 7th-9th century dating from primary fills (Lowe, 2008,83-5).

The outer enclosure ditch at the early church site of Fortingall, Perth and Kinross was 3.14m wide and 1.48m deep with an inner stone-revetted bank (www.socantsscot.org Culdee project 2010-11 NMRS No: NN74NW39).

The evidence from Tullich Area E shows that the paleochannel was either dug out as a ditch, or more likely re-dug, in the 13th/14th century. McConnachie (1898) suggested that in the 19th century traces remained of a fort built in the 13th century by the Knights Templars. The RCAHMS in 1968 identified this reference with the remains of the earlier wall and a slight dip outside it and described it as '*probably only a minor protective dyke and drainage ditch'*. The results of the present excavation may challenge this rather dismissive description, as it is clear that in the 13th/14th century the ditch was impressive at between 4.85 and 7.8m wide and 1.2 to 1.6m deep and enclosed a wide precinct outside the churchyard. While the dating does indicate the ditch was dug/re-dug during the period when the Templars and, after 1312, the Hospitallers, possessed the church of Tullich it should perhaps be better regarded as the equivalent of a manorial ditch, rather than a 'fort'. Its function would have been both practical in terms of drainage and symbolic as a boundary, although of very limited defensive use. Ditches of comparable size are known around other medieval ecclesiastical sites such as the Bishop's manor at Old Rayne (Murray & Murray, 2012a) or at Fettenear (Dransart & Trigg 2008).

From the medieval period, the ditch appears to have silted naturally, with only small amounts of occupation material in primary silting in Area E, but in general the fills appear to have been silt and pebbles washed down from the sides and possibly from any bank formed from the upcast material. In Area E a turf line suggests that there was a period of stability when the fills grassed over at a point when the ditch was still some 500mm deep and very visible in the landscape. After this, and probably as part of late 18th century Improvement drainage, a large stone-filled drain was cut along the line of the partially filled ditch. This was visible in Areas A and E and is a probable re-interpretation of the sections in evaluation trenches 1 and 5. The line of the ditch and possibly the drain itself are shown on the 1790 Scroll Plan and it is clear that, until the re-drawing of field boundaries in the late 18th/early 19th century when the ditch was filled up and leveled, the area enclosed by the ditches was regarded as church/community ground.

<u>The south ditches and possible causeway</u>

To the S of the churchyard, there was a possible causeway 9.5m wide extending between the inner and outer enclosures and flanked by ditches 1.5-2.7m wide and between 0.70 and 1.0m deep. A succession of three C14 dates from the fills of the W ditch suggests that they were open and beginning to fill up from the late 7th/early 8th century and fully filled up by the 7th to 9th century. They do not appear on the 1790 Scroll Plan so appear to have been unknown by the 18th century.

The fills incorporate some evidence of grain processing as well as burnt grains and burnt bone suggestive of domestic waste. Small quantities of slag and iron working waste in the ditch fills suggest that there may have been smithing in this area of the outer enclosure from an early date.

Illus 54 Air photograph of Tullich churchyard in 1989 showing the palaeochannels and ditches as darker green bands to the LHS and foreground. The modern burial ground has expanded considerably since this photograph was taken. AAS-89-05-CT36 Reproduced courtesy of Aberdeenshire Council

When the ditches were almost filled, the central causeway was scarped and the gravel used to fully fill the W ditch before a small yard or building associated with iron working was constructed across part of the ditch and part of the former causeway. In the absence of any later material, this activity is considered to be of early historic date.

The inner enclosure: The graveyard wall

The sub-circular graveyard wall has been cited as one proof of the Early Christian origins of Tullich. However there is no excavated evidence of the line of the assumed medieval wall. The earliest large scale and locally drawn documentary evidence is the 1790 *Scroll Plan*, which shows the graveyard wall as more circular than the present slightly ovoid plan, which appears elongated on the N side. The 1790 plan shows what may be an entry feature and possibly a small structure on the N side of the wall.

By the time of the 1st OS map of 1866 the outline of the graveyard had changed to its existing plan. This extant wall would appear to have been built between 1790 and 1866, during which period responsibility for the graveyard would have fallen on the feudal superior/landowner, Monaltrie, later (after 1857) part of Invercauld, Estate. A search of Invercauld Estate records gives a further strand of evidence. An entry in the Estate Accounts for November 1818 reads, "*Received last month from Mrs Edgar as her subscription towards the building of the Church Yard Wall of Tullich 1.1.0."* No other references to subscriptions were found in the (incomplete) Accounts or in a search of contemporary newspapers. However it does suggest that the existing wall was built by Invercauld Estate around 1818 with at least some public subscriptions.

This 19th century wall was not without its problems as in September 1839 the *Aberdeen Press and Journal* records a flash flood sweeping through Tullich village and across the road "*the greatest current entering the churchyard, which it filled to the top of the wall, when several yards of the wall gave way...".*

A photograph by George Washington Wilson (Dated 1853-1908. GB 0231 MS 3792/D1330 http://www.abdn.ac.uk/historic/gww/index.htm) shows the NE quadrant of the wall as a well-built rubble stone wall of 2-3 courses of large boulders and small pinnings, with smaller stones used as a coping; it also shows some of the coping in disrepair and fallen outside to the base of the wall.

Responsibility for the maintenance of the wall passed subsequently to the parish council and in 1973 to Grampian, now Aberdeenshire, Council. In 1993 it was scheduled by Historic Scotland (Historic Scotland SAM Index No: 86). It was also listed as a Category B structure in 1971 (HB Number 9320). Much detail of the 19th century wall is now obscured by cement render.

On the S side outside the wall, stones lying some 2-3m out from the face of the wall are likely to be part of the earlier wall as shown on the 1790 plan. The results of the geophysical survey (Ovenden 2013 and Illus 8 above) would suggest that a curved linear anomaly around the outside of the SE quadrant of the existing wall may also be the foundation of the earlier wall, or stones derived from it. There is no direct dating for this earlier wall but the circular plan suggests it may be on the line of an Early Christian enclosure albeit the wall itself is likely to have been rebuilt on a number of occasions.

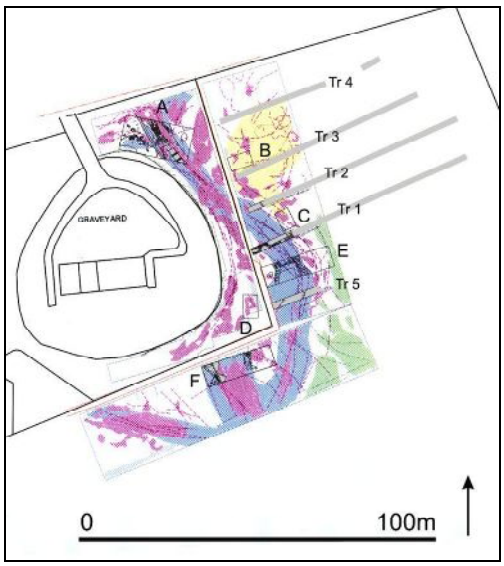
It is possible that the arc of stones in Area A and the cut-away area enclosed by it may have been the remnant of some earlier re-building of the wall or of clearance of an earlier wall. There is no direct dating evidence for this event but it is almost certainly

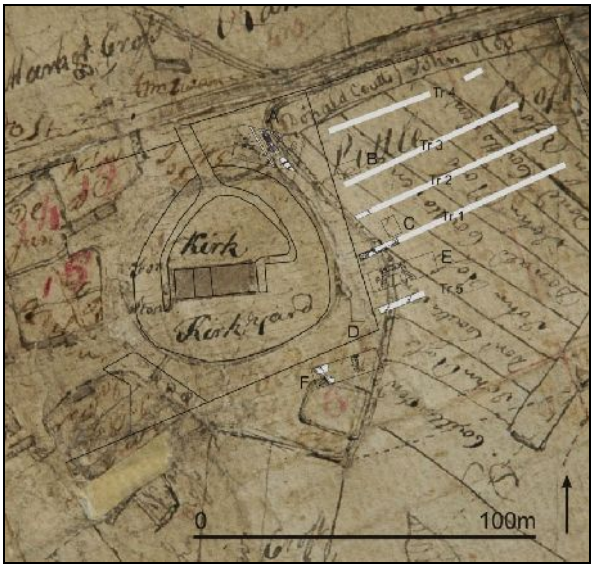
earlier than the levelling of the outer ditch in the first half of the 19th century when this ground was put into cultivation. It could be related to the odd triangular feature shown near here on the 1790 Scroll Plan. However, the care with which the two excavated cross slabs had been placed lining the cut and facing towards the church seems more likely in the late medieval period prior to the Reformation at a time when the grave markers were still respected but no longer in situ marking the original graves. The backfilling of the area enclosed by the arc included a handle sherd of 13th/14th century pottery but this was very abraded and almost certainly residual.

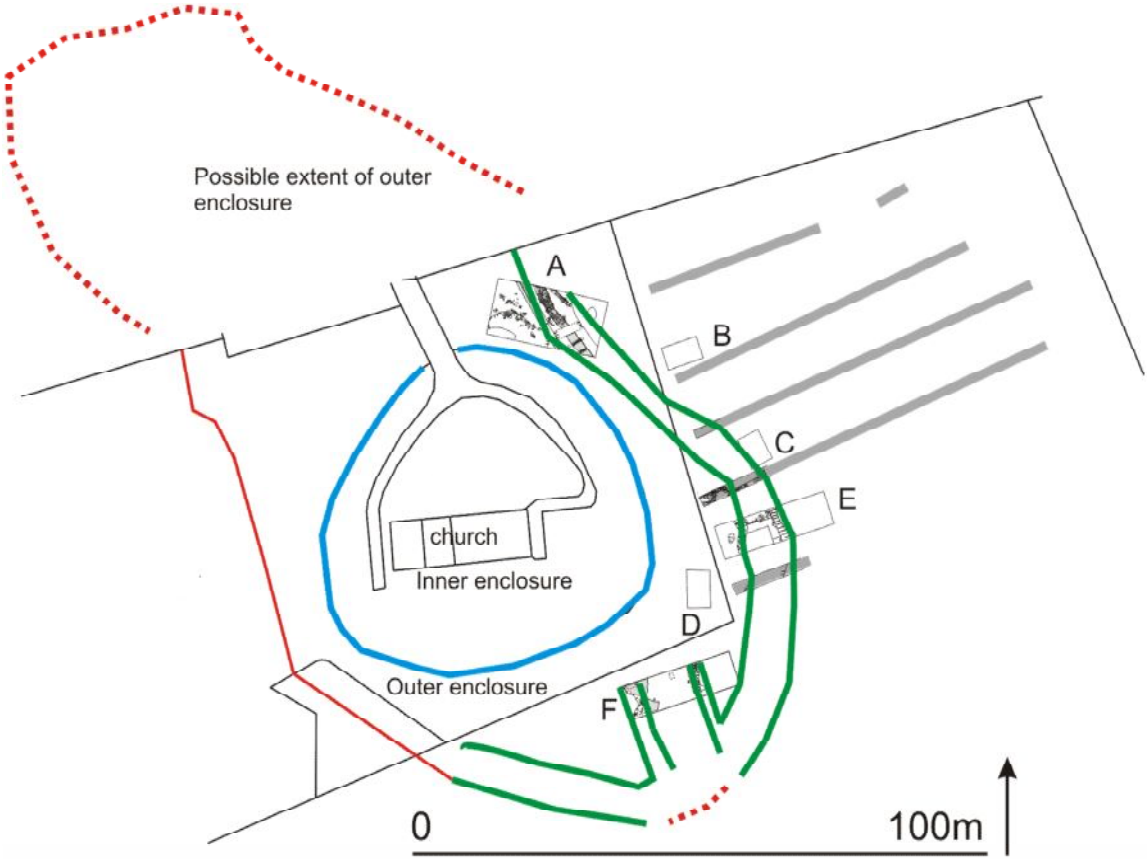
The enclosed area

With the exception of Area F, there was no excavated evidence of what activities were taking place in the area enclosed by the outer ditch in the early historic period. The very limited evidence of iron working, grain processing and the disposal of burnt grains and bone from domestic waste suggests that this outer precinct was used for the everyday activities necessary for a small community. This is similar to the evidence on a far larger scale from sites such as Portmahomack (Carver 2008).

The very small amounts of 13th/14th century pottery in any context and the limited quantities of slag, burnt bone and grain in the 13th/14th century ditch fill in Area E, are evidence to a range of activities but suggest that it was at some distance from the enclosed precinct.







Illus 55 Interpretation of the inner and outer enclosures. Green shows the ditch line confirmed by excavation. Blue denotes the present line of the churchyard wall. Red denotes the possible N and W extent of the outer enclosure indicated by the 1790 Scroll Plan and the Geophysical Survey (insets above).

The 1790 Scroll Plan shows the enclosed area as still fairly open ground, not infringed upon by the surrounding closely packed cultivation rigs. At this period a large stone-filled drain was dug into the line of the former ditch, probably as a part of the agricultural Improvements that led to the final leveling of the ditch and the replacement of the rig and furrow strips by large fields which had incorporated the outer precinct as part of the cultivated ground by 1866. The evidence of the later activity within the edge of the enclosure in evaluation trench 1 and Area E would indicate that only at this period of transition at the end of the 18th/early 19th century was there any significant intrusion into this ground with the building of a hearth, later replaced by a lime kiln and an associated structure.

In conclusion

Long known as an early church site, the importance of Tullich may have been underestimated. The evaluation and excavation were undertaken prior to the extension of

the modern graveyard, and not as a research project. Nevertheless, they have produced evidence that emphasises the role of Tullich in the Early Christianity of NE Scotland. The results have also prompted a re-examination of the whole corpus of the Tullich stones by Professor Jane Geddes and their geological identification by Professor Nigel Trewin. A joint publication between the present authors and Professor Geddes is in preparation for presentation to the Proceedings of the Society of Antiquaries of Scotland.

The present total of 16 cross marked slabs and the symbol stone place Tullich as unique in Aberdeenshire and strongly indicate a religious community established by the late 7th/ beginning 8th century. The relative uniformity of both style and technique suggests that most of them could have been made in a relatively short period. This fits with the historical identification of the site as a foundation by Nathalan or his immediate followers in the years prior to or around the date of his death in 679.

The excavated evidence demonstrates the development of both the inner and outer enclosures around the church and the suite of three good C14 dates prove that some of this was undertaken in the period between the late 7th century and the 9th century. The evidence of both agriculture and metalworking within this time span may relate to the original monastic community or may indicate a continuity of activity on the site after the deaths of the founding generation of monks. The lack of any relief carved crosses could be interpreted to suggest that after the early 8th century Tullich may have declined as a monastic settlement but the church, churchyard and the outer enclosure continued in use, with both documentary and archaeological evidence for continued or renewed activity in the 13th/14th century. Understanding of the development of the secular settlement of Tullich beside the church might in future shed light on the transition from monastic community to parish church.

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Appendices

Appendix 1: Catalogue of digital photographic record (on CD)

Digital frame number	**Content**
Tullich	
001-003	Site before excavation
004-005	Area B
006-008	Area C
009-010	Cross SF 2 as found
011-013	Area E, 29. Ditch prior to excavation.
014-016	Area E excavation in progress
017-023	Area E, 31

024-029	Area E, 34
030-038	Area E, N section complete
039-043	Looking W across ditch Area E
044-046	Area E, N section detail
047-052	Area E, looking E across ditch
053-055	Area E, detail of inner (W) face of ditch at N section
056-058	Area E, S section at outer E edge
059-060	Area E, general view across ditch looking W to church
061-063	Area E, general view across ditch looking W
064-065	Area E, detail of S face of area excavated beside N section, detail of 34, 36
066-068	Area E, detail of face of W side of ditch
069-071	Area D
072-073	Area D, detail of slab- no carving and not worked
074	Area A general shot work beginning
075-078	Area A, 42
079-089	Area A, 43, ditch before sectioning
090-098	Area A, ditch section through 43 with top of drain 50
099-101	Area A, section through 42 within 'arc'
102-105	Area A, section through ditch with stone drain 50 cut in fill
106-108	Area A, section through ditch with stone drain 50 cut in fill and on surface in background
109-110	Area A S section of ditch
111-114	Area F after topsoil stripped
115-118	Area F, ditches beginning to be visible
119-125	Area F, pit 60
126-129	Area F, stone rubble 62, wall 71 beginning to be visible, cobbles 72
130-133	Area F, ditch 63 N section beginning, upper fill
134-137	Area F, wall 71 from W
138-142	Area F, ditch 63 more of upper fill exposed
143-145	Area F, sondage through natural in central area

146-147	Area F, general excavation shot
148-150	Area F, ditch 68 N section detail of 70
151-157	Area F, wall 71
158-167	Area F, ditch 68 N section
168-175	Area F, ditch 63 N section
176-180	Area F, ditch 63 with partly excavated central section
181	Area F, general excavation shot
182-190	Area F, ditch 68, S section
191-193	Area F, ditch 68, S section detail of 70
194-195	Area F, ditch 68, S section
196-197	Area F, ditch 68, looking S
198-212	Area F, final views showing both ditches with sections and central area
213-214	Area F, ditch 63, N section
215-219	Area F, ditch 63, S section
220-224	Area F, ditch 63
225-228	Backfilling F and general views
229	Area A, excavation in progress
230	Area D backfilled
231-232	Area A from road with people working
233-246	Area A from road, looking SE with church behind. Arc of 41 and ditch both clear
247-250	Looking N across Area A towards cleft in hill to N
251-253	Area A, detail of unworked, not carved stone set vertically against 41
254-263	Area A, Arc 41 Cross slab SF5 in mid background by tape with vertical rod beside it (stone in foreground is unworked stone (see 251-253)
264-266	Area A, views NW along arc
267-271	Area A, Cross slab SF 5 in situ in arc 41
272-273	Area A, Cross slab SF5 with Helen (excavator)
274-277	Area A Unworked stone (see 251-253) from arc 41
278-280	Area A, Unmarked stone at W end of arc, in situ before

	checked for any carving.

Appendix 2: Context data

Context	Area	Description	Interpretation	Finds & C14 dates
Evaluation				
1 - 25		Details in evaluation report.		
Excavation				
26	C	Ditch, only c 2m length and 0.80m max width of ditch across SW corner of Area C		
26/1	C	Dark grey silt	Top fill of ditch in area C	
27	B	Irregular hollow 2.4 x 1.2m Max depth: 160mm	Possibly infilling of a hollow rather than dug feature.	
27/1	B	Dark grey silt/loam with moderate small fragments of wood charcoal		-
28	E	Ditch. Max depth 1.6m. Width 7.8m.	Ditch in palaeochannel	
29	E	Dark grey fine silt with some pebble-sized stones through it.. Top fill in ditch 28, below topsoil.	Silting or levelling into part filled ditch as agricultural activity intensified.	
30	A	Light yellow/grey silt. Among and partly over stones 41.		Medieval strap handle
31	E	Fine yellow/grey silt around stones 32 and over stones 34B. Includes varying amounts of pebbles throughout, more beside ditch edges where they had eroded off the natural gravel.	Generally very clean and sterile. Appears to be slow natural silting over a long period.	1 bottle glass at edge ditch late Bone inc cattle teeth;5 lumps slag;SF 3

				Fe jaw harp SF 4 Fe knife
32	E	Band of stones c 4m long, 1-1.2m wide (stones c.100-300mm) running NE/SW	Post dates fill of ditch. Possibly relate to the late features in evaluation Trench 1	
33	E	Yellow fine gritty silt against sides and base of ditch. Appeared not to extend below the large boulders (36) in base	Primary fill inwashed from sides with some charcoal, burnt mammal bone and burnt cereals	C14 SUERC-48146 1228-1384 calAD 95.4% 1 body sherd $13^{th}/14^{th}$ C 1 furnace base/slag
34/A	E	Scatter of medium (c200mm) generally rounded natural stones. These extended along the ditch in a band up to 2.5m wide	Top spread appears to be similar to Tr 1 context 24- may be a late surface	
34B	E	Stones below 34A in narrower band c 1.5m wide and c 700mm deep	Looking at this after excavating Area A, this looks much like the late drain cut into fills with some silting between the stones. Is also same width and depth. But is much lower in fill.	
35	E	Truncated feature cut into natural in area enclosed by ditch. Irregular shape 1 x 1.4m, depth < 320mm. Rabbit burrow at one side.	There was no evidence to suggest this was an early feature. The topsoil fill and the fragment of marble suggest infill of a stone hole/animal burrow.	

35/1	E	Fill of 35. Topsoil		
36	E	Medium to very large natural boulders in base of ditch		
37	E	Thin greyer layer with very small stones	Turf/consolidation line in ditch fills	
38	E	Dirty grey redeposited gravel around large boulders of 36, especially on the E side		
39	A	Trench for clay field pipe (44) running NW/SE across Area A and appears to extend along E side of graveyard wall. Cuts 41.	Drainage cut in 1950s/early 1960s Oral information suggests this was where some other cross slabs may have been found (see main text)	
40	A	Light yellow sandy	Plough loosened top of natural 54	
41	A	ENE/WSW curve of medium-large stones set against slope/ cut in natural		Cross slabs part of this curve
42	A	Truncated cut in top of natural. 1.9 x 1.2m	Modern clearance dug in?	
42/1	A	Charcoal included part burnt plank and gorse twigs		
43	A	Ditch. width: 4.85m-5.85m. Depth:1.25m		
43	A	Ditch fill. Dark grey silty loam cut by stone drain (50)	Base of topsoil slumped into top of ditch fill	
44	A	Clay sectioned drain pipe in trench 39		
45	A	Rounded medium sized stones across top fill of ditch 43	Probably much of this spread includes top of drain 50 and	

			stones plough-dragged from it	
46	A	Area to S of 41. Appears to be cut into natural. Extends beyond Area A. Width 4.3 x 1.4 within excavation: Depth as excavated : c. 500mm		
47	A	Light yellow/grey sandy ditch fill. Some darker patches within matrix. Cut by drain 50.	Ditch fill	
48	A	Thin spread of charcoal down the E edge of ditch, extending towards centre but cut by drain 50	Ditch fill	
49	A	Thin layer of redeposited gravel tapering down into E side of ditch but cut by drain 50	Ditch fill	
50	A	Stone filled drain dug into fill of ditch 43. Width: 1.4-1.5m. Depth c 700mm	Probably late 18thC. Appears on 1790 estate plan	
51	A	Grey silt fill in base of ditch. Some stones. Charcoally on E (outer) side only. Merges to 47.	Ditch fill	
52	A	Grey pebbly silt in 46		
53	A	NW/SE stone-lined drain cut into ditch 43 top fill. Width: 600mm (to cut) 150-300mm internal. Length exposed 4m. SE end ploughed away.	L19th /E 20th C drain	
54	A	Compact yellow clay natural		
55	A	Gravel natural. Merges to 54	Appears to be gravel ridge which extends into field to E, with clay/sand 54 in W end of Area	

			A	
56/0	F	Fine sandy with small pebbles and frequent charcoal, tiny burnt bone frags. In section merges to topsoil.	Top fill of ditch 68. Dug in two spits. This is top cleaning scrape after machining 56=57 and extends across central area.	
56/1	F	Fine sandy with small pebbles and frequent charcoal, tiny burnt bone frags. Lower spit	Ditch 68 fill	
57	F	Fine sandy with small pebbles and frequent charcoal, tiny burnt bone frags. In section merges to topsoil.	Top fill of ditch 63. Dug in two spits. This is top cleaning scrape after machining. 56=57 and extends across central area.	
57/1	F	Fine sandy with small pebbles and frequent charcoal, tiny burnt bone frags. Lower spit	Ditch 63 fill	
58	F	Grey dryish very soft sandy humic. Some charcoal but not common. In dip in natural between ditches 63 and 68	Possible fine washed in silt in central hollow	
59	F	V like 58 but darker brown, very soft sandy humic. Irregular patch c 1.9 diam. Depth 20-200mm in hollows in top of 58	Possible fine washed in silt in central hollow-possible animal activity in 59	
60	F	Pit cut into natural at outer (E) edge of ditch 63. Extended beyond excavation. Diam: 1m. Depth 600mm. Sides nearly vertical but with some shelving of outer (E) edge. Fill indistinguishable from 57/1	Possible post pit/removal pit	

61	F	Dark grey very fine sandy humic silt with much charcoal. Includes burnt bone and some slag.	Looks very like 56 but kept separate. Some contamination of upper surface likely	SUERC-48148 676-870calAD
62	F	Stone scatter in SW corner of Area F, some on ditch fill, some on natural of W edge of ditch. Some stones black and heat-cracked	Rubble of 71	
63	F	Ditch/gully N/S across E side Area F. Width: < 1.8m. Depth: < 0.95m (at N end); narrows to 1.2m at S. The outer (E) edge is a near vertical cut		
64	F	Post pit Diam: 330mm, Depth:100mm. At E edge of cobbles 72		
64/1	F	Fill of 64. Grey silt with charcoal and burnt bone indistinguishable from 56/1		
65	F	Charcoal rich with sandy mottling and some medium stones	Dump accumulation in from W (outside ditch)	
66	F	Yellow soft sandy loam. Some charcoal. Up against edge of natural at SW corner of Area F in ditch 68. Merges to 67	Ditch fill of 68	
67	F	Fine yellow/grey sandy silt. Some charcoal.	Ditch fill of 68	SUERC-48147 653-771calAD
68	F	Ditch/gully N/S across W side Area F; curves gently to W at S end. Outer edge steep cut into hard natural. Width 2.65-2.7m Depth c. 1m		
69	F	Redeposited natural gravel in fill of ditch 68	Possibly levelling dug from area between ditches 63 and 68	

70	F	Black silty charcoal rich in ditch 68	Infill from E side	SUERC-48149 693-890calAD
71	F	Wall NNW/SSE on filled in ditch 68. 2 courses high and 2 courses wide Width: 460mm. H: <330-440mm. Length within excavation 2.32m.	Cobbles 72 put in later but appear to respect 71. May relate to structure shown on 1790 Scroll Plan	
72	F	Area small waterworn cobbles over natural and over filled in ditch 68. Many tops of cobbles burnt black.		
73	F	Between ditches 63 and 68. c 8.4-9.5m wide. This central area of grey rather than yellow gravel. A sondage in centre showed this was natural to depth of 0.75m. A machine cut along N section at end of excavation confirmed this.		
74	F	Dirty grey gravel with mix of slipped natural gravel. Fill in ditch 63 Deeper by inner edge, more silty to outer edge.		
75	F	N section of ditch 68. Lense of clean sand		
76	F	S section ditch 68. Redeposited natural gravel in primary fill W side		
77	F	S section ditch 68. Fine grey silt in primary fill W side.		
78	F	Lense clean sandy gravel below wall 71 in S section of ditch 68		

Appendix 3: Catalogue of finds

Table 3 Small finds (not including finds from the evaluation)

SF No	Area	Context	Description
1	E	1	Blue glass bead. Diam 6mm. Modern
2	A	41	Cross grave marker (see above)
3	E	31	Iron jaw or jew's harp with flat metal tongue (broken) L:53mm Max width 30mm. Jew's harps were introduced to Europe at the time of the Crusades. However although many medieval and post-medieval examples are listed on the Portable Antiquities Scheme database, the majority are copper alloy and have a circular rather than oval head (http://finds.org.uk/database). Modern examples are usually iron and the present example is likely to be of 19th/20th century date.
4	E	31	Blade frag? Max L: 80mm (broken). Max W: 30mm, narrowing to tip. Edge partly serrated.
5	A	41	Cross grave marker (see above)
6	F	57/1	Iron point widening to roughly leaf-shaped terminal. L: 110mm
7	F	67	V tiny blue & white glass bead 2mm diam found in retent of environmental sample. Modern.
8	E	35/1	Whittle tang knife tapering to point. L: 116mm. W: 20mm. In form this could easily be medieval (cf Murray & Murray, 1993, fig 33:nos 32-37) but could equally be more modern; the context included a fragment of polished green granite that would appear to be from the modern graveyard.

Table 4 All finds, bone and slag

Area	Context	Bone	Burnt bone	Slag/metal work waste	Fe	China 19/20th	Redware 19th/20th	Stoneware 19th/20th	Pottery Medieval/ Post-med	Glass 19th/20th	Other	Action
A	1/30 interface				1 nail	1	1	1		1	Frag clay tobacco pipe stem	

Area	Context	Bone	Burnt bone	Slag/metal work waste	Fe	China 19/20th	Redware 19th/20th	Stoneware 19th/20th	Pottery Medieval/ Post-med	Glass 19th/20th	Other	Action
A	30	Frags cattle teeth			2 frags, poss agricultural ironwork. 6 large nails/bolts	2			1 strap handle coarse Redware. V abraded. 13th/14th C			
A	39 (clay drain)						3					Not retained
A	1/40 interface				1 lump of possibly agricultural ironwork					2		Not retained
A	40				1 nail	1				1		
A	41										Cross slab SF2	
A	41										Cross slab SF5	
A	1/43 Interface	1 cattle		1 frag	1 frag	15	4	2			Small lump lead	Not retained
A	43/1			1 vitreous							Coal	Not retained

Area	Context	Bone	Burnt bone	Slag/metal work waste	Fe	China 19/20th	Redware 19th/20th	Stoneware 19th/20th	Pottery Medieval/ Post-med	Glass 19th/20th	Other	Action
				lump								
A	48				3 frags nails							
A	50									1 window glass frag		
A	51		v. tiny frags in retent	v. tiny frags in retent								
A	53						1					
D	1	1			1 frag	8	1			2	Squashed hollowware teapot; 4 clay drain frags	Not retained
E	1										SF1	
E	29	10 incl. cattle teeth, pig tusk		9	2 nails modern	1			3 bodysherds Reduced v. abraded Redware.			

Area	Context	Bone	Burnt bone	Slag/metal work waste	Fe	China 19/20th	Redware 19th/20th	Stoneware 19th/20th	Pottery Medieval/ Post-med	Glass 19th/20th	Other	Action
									Trace ext glaze on 1 13th/14th C			
E	31	Bag 19/20thC bone.incl cattle teeth		5 lumps	2 frags SF 3 SF 4					1		
E	33	1 cattle tooth	6 tiny frags in retent	1 furnace base/slag + tiny frags in retent					1 bodysherd Redware 13th/14th C			
E	35		1		SF 8 1 nail 2 Fe frag						Small frag worked green marble. Mod. Probably from graveyard.	
F	1					2	1	1				Not retained
F	56		Frags	3								

Area	Context	Bone	Burnt bone	Slag/metal work waste	Fe	China 19/20th	Redware 19th/20th	Stoneware 19th/20th	Pottery Medieval/ Post-med	Glass 19th/20th	Other	Action
F	57/1		Frags	1	SF 6 .							
F	58		1									
F	61		Frags tiny in retent	6 + tiny frags in retent							Unworked flint chunk	
F	64		Frags									
F	67										SF 7	
F	70		tiny frags in retent	tiny frags in retent							Unworked flint chip in retent	

Appendix 4 Environmental analysis. Tables. S Timpany

Table 4 Results of the Charred Plant Remain analysis

			Date cal AD	678-870	693-890
			Material dated		
				Ditch Fills	
				Deposit accumulated against wall [71] in south section of ditch [68]	Charcoal rich layer within north section of ditch [68]
			Context	61	70
			Sample	10	11
			Orig. vol (litres)	8	9
			% of sample analyzed	100	100
Habitat	**Latin Name**	**Plant part**	**Common Name**		
	Wild taxa				
W, S	Corylus avellana	nutshell fragments	hazel	6	7
G, D	Ranunculus acris	achene	meadow buttercup	1	1
A	Stellaria media	fruit	common chickweed	5	-
W, S, Hd	Silene cf. dioica	fruit	possible red campion	1	-
A, Z	Chenopodium sp.	seed	goosefoot sp.	5	4
A, Z	Chenopodium album L.	seed	fat hen	1	1
A	Spergula arvensis L.	seed	corn-spurrey	75	51
A, G	Rumex acetosella L	achene	sheep's sorrel	-	10
G, Hd, S	Vicia sp.	fruit	vetch sp.	1	1
D, G, Hd, A, Z	cf. Galium sp.	fruit	possible bedstraws	-	1
A, Z, S, Hd	Veronica hederifolia	fruit	ivy-leaved speedwell	-	1
G	Plantago lanceolata	seed	ribwort plantain	1	6
Hd, S, Z	Lapsana communis L.	achene	nipplewort	-	1
G	Luzula cf. campestris	nutlet	possible field wood-rush	-	1
D, H	Carex cf. nigra	nutlet	possible common sedge	-	1
A, D, G, H. M	Poaceae sp. (small-grain)	caryopsis	grass sp.	1	8
A, D, G, H. M	Poaceae sp. (medium-grain)	caryopsis	grass sp.	-	6
G	Festuca cf. ovina	caryopsis	possible sheep's-fescue	1	1
A	cf. Poa sp.	caryopsis	possible meadow grass	2	1
A, G, Z	Bromus sp.	caryopsis	bromes	2	14
A, Z	Digitaria ischaemum/sanginolis	caryopsis	smooth/hairy finger grass	2	10
	Economic crops				
A	Linum usitatissimum	seed	flax	4	48
	Cereals				
A	Avena sp.	caryopsis	oat sp.	30	72
A	Avena sp.	lemma base	oat sp.	-	5
A	cf. Avena sp.	caryopsis	possible oat sp.	11	14
A	Avena sativa	caryopsis & lemma base	common oat	-	1
A	Avena sativa	lemma base	common oat	1	1
A	Hordeum vulgare sp.	caryopsis	hulled barley	14	19
A	cf. Hordeum vulgare	caryopsis	possible barley sp.	1	5
A	Hordeum vulgare var distchum (straight/symmetrical)	caryopsis	hulled 2-row barley	8	25
A	Hordeum vulgare var vulgare (twisted/asymmetrical)	caryopsis	hulled 6-row barley	7	12
A	Hordeum vulgare sp.	internode fragment	hulled barley	-	2
A	Triticum aestivo-compactum	caryopsis	bread/club wheat	-	1
A	cf. Triticum aestivo-compactum	caryopsis	possible bread/club wheat	-	1
A	Triticum dicoccum	rachis fragment	emmer wheat	1	
A	cf. Triticum dicoccum	caryopsis	possible emmer wheat	-	1
A	Triticum sp.	caryopsis	wheat sp.	-	1
A	Cerealia indet	caryopsis	indeterminate cereal	11	32
A	Cerealia indet	culm nodes	indeterminate cereal	5	13
A	Cerealia indet	culm fragments	indeterminate cereal	-	23
A	Cerealia indet	culm base fragments	indeterminate cereal	1	1
	Habitat key:		Wild taxa (%)	42	31
	A - arable land		Economic crops (%)	2	12
	D - damp/wet ground		Cereals (%)	46	57
	G - grassland				
	H - heathland		Wheat (%)	1.1	1.7
	Hd - hedgerow		Barley (%)	33.3	27.5
	S - scrubland		Oat (%)	46.7	40.6
	W - woodland		Indet (%)	18.9	30.1
	Z - waste ground		Total no.of cereals per litre	225.0	101.8
	Analyst: S. Timpany				

Table 5 Annual and perennial taxa in the weed seed assemblage

Taxon (common name)	(A)nnual/(P)erennial		
meadow buttercup	P		
common chickweed	A		
possible red campion	P		
goosefoot sp.	A + P		
fat hen	A		
corn-spurrey	A		
sheep's sorrel	P		
vetch sp.	P		
possible bedstraws	A + P		
ivy-leaved speedwell	A		
ribwort plantain	P		
nipplewort	A		
possible field wood-rush	P		
possible common sedge	P		
grass sp. (small grain)	A + P		
grass sp. (medium grain)	A + P		
possible sheep's-fescue	P		
possible meadow grass	A + P		
bromes	A		
smooth/hairy finger grass	A		

Appendix 5 Note on Coull. By Jane Geddes

The spelling of COLLE in the Aberdeen Breviary has led to some confusion between the churches of Coull, near Tarland, close to Tullich, and Cowie, on the coast by Stonehaven. In a manuscript of 1732, Alexander Keith (p.132) transcribes from the Aberdeen Breviary adding a gloss: St Nachlan built churches at '*Tullicht, Bothelim [l. Bothelni] et Colle [l. Coulle]'.* On p.131, he states St Nachlan ' built churches of Bethelny, *Cowl* and Tullich, all afterwards dedicated in his memory'. In another section of the manuscript (p.633) where he is systematically arranging information about each parish, he states under *Cowl* (adjacent to Tarland, ie present-day Coull) 'Cowl church was dedicated to Saint Nachlan.' Keith's manuscript (Library of Faculty of Advocates, Edinburgh, MSS Bibl Adv 31.2.12) was then published by the Spalding Club in 1843 as *Collections for the History of the Shires of Aberdeen and Banff* and the attribution took hold. Parish signage today refers to St Nathalan at Coull.

The confusion arose because an ancient spelling of Cowie is *Colle*. This is recorded in a donation by the king in 1497 to Our Lady chapel at *Colle* (*LHT*, 1877*,* I, 373.) Further references to Cowie bring in the St Nathalan connection. In 1502 money is granted for a chaplain at the chapel of the Virgin Mary and St Nauthlan at Cowie (*RGS, II,* 569). The final confirmation is the grant of a fair at Cowie on the feast of St Nathalan in 1540 (RGS, III, 525).

Mackinlay, in his study of church dedications (1914, 221-23), exposed this confusion: 'The parish church of Coull in the same shire [as Tullich] has been assigned to St Nathalan but there is reason to believe it was under the invocation of St Brioc... Some confusion may have arisen between Coull and Collie now Cowie where is a chapel dedicated to Mary and Nathalan'. However Douglas Simpson (1923,46), though aware of these documents, perpetuates the problem by stating 'The evidence of associating Coull with St Nathalan, apart altogether from the geographical probability, seems fairly good.'

The link between Coull and St Brioch is tenuous. There is no medieval evidence. Eighteenth-century almanacs recording the seasonal events of a locality, sometimes picked up former medieval festivals. Andrew Jervise (1879, II, 415) noticed a reference to a market at the Bridge of Coull, which was called Bridge Fair, Braik Fair or Bryack Fair, held on 22 November. His source was the almanac, *Edinburgh Prognostication* of 1706. Jervise suggests the name might refer to St Brayock or Brioc, who is commemorated at Inchbrayock by Montrose. He observes that the fair was removed to Tarland 'over a century ago'. However *Aberdeen's New Almanack; or new prognostications for the year of our Lord 1759* by Merry Andrew (1759, 7), refers to a fair at *Kirk of Kowel* on 21 November.

St Brioc is an elusive saint, whose name is preserved at St Brocks fair on Rothesay, held on first Wednesday of May (Forbes, 1872,291). Forbes cites April 29, 30 or May 1 as St Brioc's day, but he also mentions 16 November, recorded as St Bryack's fair in the *Aberdeen Almanack 1665*. (Forbes, 1872, 291). For 21 November, the Scottish calendars refer to St Columbanus and the Presentation of the Virgin Mary at the temple, while 22 November is St Cecilia's day. Thus Coull can be eliminated from the St Nathalan family while its connection to St Brioc, although endorsed by the *Fasti* (1926, 89), is not adequately established because it lacks convincing links between a name and a feast or fair date.

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