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EXCAVATION AT BALLYAGHAGAN CASHEL, BALLYAGHAGAN, COUNTY ANTRIM

Data Structure Report: Ballyaghagan Cashel, Co. Antrim

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Cover illustration: Ballyaghagan Cashel, looking north-east

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1. Summary

- 1.1 The site of the 2011 excavations was in Ballyaghagan townland, parish of Shankill and within Cave Hill Country Park, close to the Upper Hightown Road entrance to the park. The cashel is recorded in the Northern Ireland Sites and Monuments Record as ANT 056:019 and is located at National Grid Reference J 3118 7936.
- 1.2 The primary monument at this site is a cashel, but is unusual as the remains of a vernacular house are also present, partially covering the cashel wall at the north-west. Other monuments are present in the area of the cashel, including a Neolithic settlement site (ANT 056:092), a findspot of flint flakes (ANT 056:093) and other unrecorded monuments, such as two enclosures and an embanked drainage ditch.
- 1.3 The vernacular house is not recorded on any Ordnance Survey (OS) maps, but the cashel is recorded as *Fort* on the First Edition OS County Series map (Antrim 56) and is not designated on subsequent revisions.
- 1.4 The excavations were part of a wider project undertaken by the Belfast Hills Partnership, in association with the Northern Ireland Environment Agency: Built Heritage (NIEA), Belfast City Council and Centre for Archaeological Fieldwork, School of Geography, Archaeology and Palaeoecology at the Queen's University of Belfast (CAF). The project was largely funded by the Heritage Lottery Fund. The aim of the project was to provide local people with an opportunity to participate in an archaeological excavation and in doing so, encourage greater awareness of the archaeological resource in the Belfast Hills area.
- 1.5 The aims of the excavation were to investigate the relationship between the vernacular house and the cashel and to obtain evidence of their construction and date. The excavations established at least four phases of construction and occupation at the point where the vernacular house overlay the cashel bank. Information about the dimensions and construction of the cashel bank and vernacular house were also obtained. Finds included an inscribed stone, ceramics, metal objects and a large number (over 1000) of flint flakes and flint tools.
- 1.6 It is recommended that a programme of post-excavation analysis is conducted, in order to bring the project to completion and publication. Details are provided on a separate costed assessment submitted with this report.

2. Introduction

2.1 General

This report details the preliminary results of the archaeological excavation at Ballyaghagan Cashel, County Antrim, undertaken by CAF in October 2011. This work was undertaken on behalf of the Belfast Hills Partnership, in association with the NIEA and Belfast City Council. The excavation was largely funded by the Heritage Lottery Fund.

2.2 Background

- 2.2.1 Ballyaghagan Cashel was recorded in the Northern Ireland Sites and Monuments Record as ANT 056:019 and was located at National Grid Reference J 3118 7936. The excavation took place as part of a wider project, organised by the Belfast Hills Partnership. The project was designed to provide local people with an opportunity to participate in an archaeological excavation and through this promote a greater awareness of the rich heritage of the Belfast Hills, encouraging people to value, engage with and look after the hills area and its heritage.
- 2.2.2 The primary monument at the site was a cashel. These are one of a number of monuments that are collectively known as ring-forts, of which over 45,000 have been recorded in Ireland (Stout 1997). Ring-forts are thought to be a form of Irish early medieval settlement and usually consist of a circular or oval-shaped enclosure, generally around fifteen to thirty-five metres in internal diameter, surrounded by one or more earthen banks, with external ditches. Cashels 'are the stone equivalents of earthen ring-forts. The majority occur in rocky country with suitable stone for wall building' (Edwards 1990, 14).
- 2.2.3 Ballyaghagan Cashel was unusual, in that the remains of a later vernacular house were visible at the north-west of the enclosing bank and partially across it. The visible remains suggested a building of two rooms.
- 2.2.4 Also present on the site was a system of ridge and furrow cultivation ridges, also known as *lazy beds*. These were present within the enclosure of the cashel and in the adjacent fields.
- 2.2.5 The cashel was recorded on the Ordnance Survey First Edition County Series map as *Fort*, but was not designated in later revisions. The vernacular house was not shown on any Ordnance Survey maps.

2.3 Reason for excavation and research objectives

- 2.3.1 Apart from the public outreach element of the project designed by the Belfast Hills Partnership, the excavation had significant research potential. Despite their numbers in the Irish landscape, very few ring-forts have been excavated 'probably somewhere in the region of 200 sites' (Edwards 1990, 11). As far as is known, no previous excavation has taken place at Ballyaghagan Cashel.
- 2.3.2 As the site was a scheduled monument under the terms of the Historic Monuments and Archaeological Objects (Northern Ireland) Order 1995, the overall aim was to gain valuable information whilst retaining as much of the archaeological material at the site as possible. As limited excavation was to take place, a number of key objectives were decided upon, addressing the issues relevant to this particular site. One of the main objectives was to identify phases of construction in the area of the vernacular house and how these related to the cashel bank, over which it was partially located. A second key objective was to establish the method of construction of the cashel bank, as this had been previously identified as being 'not particularly wide' and a 'weak' example (NIEA SM7 File). The third key objective was to obtain evidence of the current condition of the structures present at the site and the fourth was to obtain dating evidence.

2.4 Archiving

- 2.4.1 Copies of this report have been deposited with the NIEA, the Belfast City Council and the Belfast Hills Partnership. All site records and finds are temporarily archived within the School of Geography, Archaeology and Palaeoecology, Queen's University, Belfast.

2.5 Credits and acknowledgements

- 2.5.1 Lizzy Pinkerton of the Belfast Hills Partnership managed the project from its inception to its conclusion and made arrangements for groups and members of the public to visit the site. The excavations were directed by Harry Welsh, assisted by Ruth Logue and Grace McAlister and illustrations were prepared by Sapphire Mussen. Paul Logue and Andrew Gault of NIEA, provided on-site assistance and advice. Access to the site and permission to excavate was facilitated by Belfast City Council. Most of the excavating was carried out by members of the Ulster Archaeological Society and its Survey Group carried out a site survey as part of their contribution to the project. Undergraduate and post-graduate students from Queen's University and many members of the general public also participated in the excavations.

3. Excavation

3.1 Methodology

- 3.1.1 The excavation was undertaken by hand and a site context record was created using the standard context recording method. Individual features were planned (scale 1:200, 1:50, 1:20 and 1:10 where appropriate) and photographed. No structural positive features were dismantled or removed. Individual negative features were excavated by putting a box-section through the feature to recover information about profile and fills and were recorded with a section drawing (Scale 1:10). In addition to the photography and illustration, the principal site records consisted of context sheets augmented by a site diary. Separate registers of samples that are taken and field drawings were also maintained.
- 3.1.2 Following a number of site visits and discussions with archaeological inspectors from NIEA, it was decided that two main trenches would be required to address the research questions posed by the site. The first trench (Trench 1) would be positioned along the long axis of the vernacular house and the second (Trench 2) would be positioned perpendicular to and across the cashel bank to the south of the enclosure.
- 3.1.3 A resistivity survey was carried out of the interior of the cashel enclosure by staff from CAF on Thursday 13 October 2011 and the results indicated the sub-surface presence of several anomalies (fig.13). Following discussions with an archaeological inspector from NIEA, it was decided to excavate two small test trenches (Trenches 3 and 4) to investigate two of these anomalies.
- 3.1.4 As excavations at Trench 1 progressed, it became clear that no indication of a doorway was present in the trench. Following consultation with an archaeological inspector from NIEA, it was decided to excavate two further small test trenches (Trenches 5 and 6) across the east and west walls of the vernacular house to investigate possible locations for doorways.

3.2 Account of the excavations

- 3.2.1 Trench 1 was positioned centrally along the long axis of the vernacular house and was 15m in length (north-north-east/south-south-west) by 1m in width (west-north-west/east-south-east). The stratigraphically latest layer was a turf layer (C101), which extended across the trench to a depth of approximately 0.06m. When this was removed, the uppermost parts of three walls were exposed. The southernmost of these (C104) was interpreted as being the south gable of the vernacular house. It was constructed of tightly-packed basalt stones, ranging in size from 0.35m in length by 0.2m in width and 0.25m in depth, to 0.15m in length, 0.15 in width and 0.14m in depth, bonded with clay. The wall was 1m in width and extended across the trench in a west-north-west/east-

south-east alignment. It was 0.6m in height externally (the southern face) where it was set directly on to a former turf surface. The depth of the internal face was not established due to the time constraints of the excavation. At a distance of 7m from the north face of this wall was the south face of another wall of similar construction (C109), which was interpreted as being the north gable of the vernacular house. This wall was 1.1m in width and on a similar alignment as the south gable (C104). This wall was 0.5m in height at the south face, where it reached a compact clay surface (C124), which was interpreted as being the remains of the floor of the vernacular house. Due to time constraints, excavations were halted at this point and further investigations will be required in order to establish the relationship between this wall and other adjacent contexts. At a distance of 2.5m from the north face of this wall (C109), the south face of a third wall (C110) was exposed. This was very different in construction to walls C104 and C109, in that it was crudely built, of large rounded stones, ranging in size from 0.5m in length, 0.2m in width and 0.25m in depth to 0.2m in length, 0.15m in width and 0.15m in depth, set in sods with a clay bonding. This wall was also aligned west-north-west/east-south-east and extended across the trench. It was 1.3m in width at the base, 0.6m in width at the top, 0.5m in height at the northern and southern faces and set directly on to a former turf surface, without any foundation. This structure was interpreted as being an extension to the original house and its small size indicated it was probably a lean-to storage area.

When the turf layer (C101) was removed at the southern end of the trench, south of the south gable (C104), a mid-brown clay layer, 0.16m in maximum depth was exposed (C105), falling sharply to the south and extending across the trench. This was interpreted as an abandonment layer, as immediately under it was a dark-brown loamy layer, also extending across the trench, 0.1m in depth and containing many angular stones, averaging 0.01m in diameter. This was interpreted as debris falling from the adjacent gable wall, possibly during its partial demolition, as no large stones were visible here, suggesting these had been removed for use elsewhere. Below this layer was another mid-brown clay layer (C114), again extending across the trench, 0.3m in maximum depth and this was interpreted as being a build-up of sediments while the house was in use. Under this was another layer of dark-brown sandy loam (C127), which was interpreted as being a ground surface at the time when the house was constructed.

Several interesting features were exposed in the area of the trench between the south (C104) and north (C109) gable walls (the interior of the vernacular house). When the turf layer (C101) was removed here, a crude east/west alignment of basalt stones (C128) was uncovered roughly mid-way between the two gables. These sub-angular stones averaged around 0.2m in diameter and were bonded with clay, forming a single course of stones approximately 0.25m in width, which extended across the trench. This feature was not thought to be structural and probably represents the re-use of the remains of the house after its abandonment, perhaps as an animal shelter or pen. This feature was surrounded by a layer of mid-brown clay, averaging 0.1m in depth (C126), interpreted as a levelling deposit, placed there to provide a level foundation for the clay floor surface of the house. This levelling deposit was applied over another feature (C123), which was a

north/south alignment of stones, ranging in size from 0.2m in length by 0.15m in width and 0.15m in depth, to 0.1m in length by 0.1m in width and 0.05m in depth that extended across the trench and was approximately 1.5m in width. This was interpreted as being the upper part of the cashel bank, upon which the vernacular house had been constructed.

At the north (interior) face of the south gable (C104), the burnt remains of a fire were visible (C107). This was 0.7m in length (north south), extended across the trench and was 0.2m in depth. A variety of finds were recovered from this deposit, including ceramics, glass and fragments of clay pipes. Contained in the remains were charcoal, charred grain and other seeds, from which a radiocarbon date might be obtained. To the east of the trench here, an alignment of flat, rounded stones (C108), averaging 0.2m in diameter and 0.13m in depth, extended from the south gable (C104) to meet with the stone feature (C128) described above. Due to the time constraints of the excavation, the relationship between C107 and C108 could not be established and further investigation would be required here in order to clarify the relationship between these features. A layer of mid-brown silty clay was visible, extending across the trench between the northern edge of fire C107 and the visible remains of the cashel bank C123, having an average depth of 0.15m. This was interpreted as an abandonment layer, following the partial collapse of the vernacular house. To the south (interior) face of the northern gable (C109), what appeared to be a drain, or gully, was observed 1.1m from the gable and cut into the clay floor (C124), extending across the trench with an east/west alignment. However, when this had been partially excavated, a cobbled surface (C122) was revealed 0.25m below. This was a layer of angular stones, about 0.06m in diameter, set into a clay matrix. Time constraints prevented further excavation here, but the surface was interpreted as being associated with the cashel phase, rather than the vernacular house, mainly due to its depth below the floor of the house. What had been originally thought to be a drain or gully was instead interpreted as representing individual fills of a mid-brown clay levelling deposit (C122), which provided a level foundation for the clay floor of the house.

When the turf layer (C102) was removed to the north (external) face of gable C109, a layer of mid-brown clay was uncovered (C115), extending across the trench to the south (interior) face of the north gable of the extension (C110). This layer was 0.3m in maximum depth. At the southern part of the trench, a small area of ash and charcoal-rich soil (C113), containing some flint and ceramics, was uncovered below this layer. Immediately below this, a small area of paving was uncovered (C112). This was found to abut the northern (external) face of gable C109, extend across the trench and for 1.25m to the north. The paving was well-constructed and in association with the north gable of the house (C109). It is therefore probable that they were contemporary, to provide a walk-way around the outside of the house. However, the ash deposit is problematic. This, along with the paved surface and the presence of fire-blackened stonework around it, are strongly suggestive of a hearth. The room in which it is situated is only 2.5m in maximum length and 4m in width, so having an open fire in such a small room would have been extremely hazardous. It may be that these features are unrelated, with the

other possibility being that the paving was indeed a walk-way and that the ash was dumped here from a fire elsewhere. The fire-blackened stones may represent a much later burning episode, perhaps an uncontrolled grass fire. Further investigation in this area would be required in order to clarify the situation. Immediately to the north of this area of paving and in the centre of the trench, was a small oval pit (C115 and C116), 0.5m in length (east/west) by 0.3m in width (north/south) and 0.25m in depth. This was found to contain sub-angular stones, averaging 0.06m in diameter.

To the north of the gable of the extension (C110), when the turf layer was removed, a layer of light-brown sandy loam was exposed (C117). This extended across the trench and was 0.4m in maximum depth. This layer was interpreted as being a build-up of sediments when the house was in use. The only finds from this layer were 7 flint flakes. Immediately below this layer was a compact light-brown sandy clay surface, which was interpreted as sub-soil.

- 3.2.2 Trench 2 was located perpendicularly across the cashel bank to the south of the enclosure. It was 10m in length (north/south) and 1m in width (east/west). The stratigraphically latest layer was a turf layer (C201), which extended across the trench to a depth of approximately 0.06m. The trench was divided into two parts by the presence of the cashel bank. To the north of the bank, below the turf layer (C201), a layer of dark-brown loam was exposed (C202), which was found to extend throughout the trench and abut the cashel bank. The cultivation layer (C202) also contained several large sub-angular basalt stones (averaging 0.25m in length, 0.2m in width and 0.16m in depth), close to the cashel bank. These were interpreted as having fallen from the bank prior to the build-up of the cultivation layer. The bank was found to be of earthen construction (C206) with a stone revetment (C207) applied to the external face. The earthen bank (C206) was found to be 0.4m in height internally above the limit of excavation, 1.2m in width at the base, narrowing to 0.4m at the top. It extended across the trench in an east/west alignment. The stone revetment (C207) was constructed of sub-angular basalt stones, ranging in size from 0.6m in length, 0.4m in breadth and 0.3m in depth, to 0.2m in length, 0.2m in width and 0.15m in depth. The stones were bonded with clay and the external revetment was found to extend 1.2m below the top of the cashel bank. At the base of the revetment, a deposit of burnt material (C205) was uncovered adjacent to it and a sample taken (listed in appendix 5). At the base of the revetment, a level platform (C210) had been cut into the sub-soil and this was found to extend across the trench and 1.4m to the south. A layer of angular stones (C208) averaging 0.1m in diameter, was found immediately above this platform and these were initially interpreted as having fallen from the revetment or cashel bank. However, the uniformity in size of these stones and their association with the level platform militates against this and they may instead represent a visual enhancement of the southern bank, or an animal walkway, similar to that noted in an excavation at a medieval earthwork at Tildarg (Brannon 1984). To the south of the level platform (C210) when the turf layer (C201) was removed, a mid-brown loam (C209) was exposed and this extended across the remainder of the trench, with an average depth of 0.2m. Two large rounded boulders (0.3m in length, 0.25m in width and 0.2m in depth) were present in this layer and these

were initially thought to have fallen from the cashel bank. However, these may also represent a kerb for the stone platform (C211). Further investigation at the cashel bank would be required in order to clarify this. Below the mid-brown loam layer (C209) was a compact light-brown sandy clay, interpreted as sub-soil. No evidence for a surrounding ditch was found in Trench 2. Finds included 357 flint items, metalwork, ceramics and some burnt bone. Time constraints prevented complete excavation of this trench and further investigation here would be required.

- 3.2.3 Trench 3 was located over a geophysical anomaly 10m to the east of the northern end of Trench 1. It was 1m in length (north-east/south-west) by 1m in width (north-west/south-east). The stratigraphically latest layer was a turf layer (C300), which extended across the trench to a depth of approximately 0.06m. Below this was a dark-brown loam (C301), which also extended across the entire trench, with an average depth of 0.11m. This was interpreted as a cultivation layer, associated with the ridge and furrow crop system evident in the interior of the enclosure. Finds from this layer included ceramics and flints. Below this cultivation layer, a mid-brown silty loam layer (C302) was exposed, extending across the trench and with an average thickness of 0.25m. This was interpreted as an occupation layer, associated with the use of the cashel enclosure. Below this was a compact yellow-brown sandy clay, which was interpreted as glacial sub-soil. Finds included flints, ceramics and burnt bone.
- 3.2.4 Trench 4 was located over a geophysical anomaly 18m to the south-east of Trench 3. It was 2m in length (east/west) by 1m in width (north/south). The stratigraphically latest layer was a turf layer (C400), which extended across the trench to a depth of approximately 0.06m. Below this was a dark-brown loam (C401), which also extended across the entire trench, with an average depth of 0.08m. This was interpreted as a cultivation layer, associated with the ridge and furrow crop system evident in the interior of the enclosure. Finds from this layer included ceramics and flint. Below this was a layer of mid-brown silty loam (C402) which extended across the trench and had an average thickness of 0.16m. This was interpreted as an occupation layer, associated with the use of the cashel enclosure. Below this was compact orange-brown clay loam (C403), which averaged 0.08m in thickness and contained large patches of charcoal. Immediately below this layer was compacted yellow-brown sandy clay, which was interpreted as glacial sub-soil. The similarity in colour and texture between sub-soil and C403, combined with the presence of flint in C403, suggests that this layer represents re-deposited subsoil, possibly from another part of the enclosure, perhaps during the initial phase of construction of the enclosure. Finds from Trench 4 included flint, ceramics, metalwork and burnt bone.
- 3.2.5 Trench 5 was located over the visible remains of the east wall of the vernacular house, where a large basalt boulder had been positioned, possibly as a blocking stone. The trench was 1m in length (north-north-east/south-south-west) by 1m in width (west-north-west/east-south-east). The stratigraphically latest layer was a turf layer (C501), which extended across the trench to a depth of approximately 0.06m. Immediately below and protruding from this, was a large sub-rounded basalt boulder (C503). This was

0.4m in length, 0.35m in width and 0.3m in depth and was found to rest on a layer of angular basalt stones (averaging 0.1m in diameter) (C504). Immediately below this was a layer of mid-brown clayey loam (C506), which extended across the test trench and had a maximum depth of 0.25m. The boulder, deposit of angular stones and clay deposit were interpreted as materials used to block an opening in the west wall of the vernacular house. Beneath the clay deposit (C506), an alignment of angular stones (C505) was exposed at the eastern side of the trench (pl. 16). This was tentatively interpreted as being a lower course of the inner face of the eastern wall of the house. However, time constraints prevented complete excavation here and further investigation would be required in order to provide a more positive identification. No finds were recovered from Trench 5.

- 3.2.6 Trench 6 was located over the visible remains of the west wall of the vernacular house, at its lowest visible point and therefore presumed to be a doorway. The trench was 1m in length (north-north-east/south-south-west) by 1m in width (west-north-west/east-south-east). The stratigraphically latest deposit was a turf layer (C601), which extended across the trench to a depth of approximately 0.06m. When this had been removed, a layer of mid-brown clayey loam, containing angular basalt stones averaging 0.15m in length, 0.12m in width and 0.12m in depth, was exposed (C603). This was interpreted as an abandonment layer, incorporating stones from the collapsing wall. Immediately below this were the remains of the west wall of the vernacular house (C602). This had been constructed with an inner (eastern) face of a row of angular basalt stones (averaging 0.25m in length, 0.2m in width and 0.2m in depth) and an outer (western) face of angular basalt stones (averaging 0.2m in length, 0.15m in width and 0.15m in depth), with an inner core of clay and small angular stones (averaging 0.1m in diameter). A compacted clay surface (C604) was uncovered to the inner face of the wall and this was interpreted as part of the clay floor of the vernacular house (pl. 17). The only finds from this trench were 2 pottery sherds and 2 flint flakes, recovered from the abandonment layer (C603).

3.3 Phasing of the stratigraphic sequences

- 3.3.1 The Harris matrix for the site has been provisionally phased (see Appendix 2). Six phases of activity were represented by deposits within the excavation trenches (including modern activity).
- 3.3.2 Phase 1 saw the deposition of a large number (1054) of flint flakes and flint tools in all excavation trenches at the site. Several of these have been tentatively identified as Neolithic (Brian Sloan pers. comm.) and may be contemporary with a Neolithic settlement site recorded approximately 100m to the north-west in the adjacent townland of Ballyvaston (ANT 056:092) and a findspot of flint flakes to the east of the site (ANT 056:093). It is possible that further evidence of prehistoric settlement activity lies undiscovered beneath the visible phases of activity at the site.

- 3.3.3 The Phase 2 activity was identified with the construction of the cashel bank. This was constructed of an earthen bank (C206), to which a stone revetment (C207) had been applied to the external face. Around this, a level platform, 1.4m in width, had been created and a layer of angular stones had been placed on this platform (C210). In the area of the vernacular house, a small area of cobbled surface (C122) was uncovered beneath the floor level of the house and this was probably associated with Phase 2.
- 3.3.4 Phase 3 was the initial construction of the vernacular house. This was located at the north-west of the cashel enclosure, mostly within, but partially across the bank itself. The cashel bank did not appear to have been reduced to accommodate the house construction here and levelling deposits adjacent to the bank suggested that the surrounding area had been raised to provide an elevated platform for the house.
- 3.3.5 Phase 4 was represented by an extension to the vernacular house, to the north. The construction of this extension was noticeably poorer than the original and its restricted size suggested it was used as for storage rather than accommodation.
- 3.3.6 Phase 5 was identified with a single-event camp fire (C119), located centrally within the Phase 3 vernacular house. This probably occurred after the house had been abandoned and was perhaps unroofed, as a fire in this area would have been directly under the roof structure and consequently hazardous. The remains of the house may have been used as a shelter for visitors to the area.
- 3.3.7 Phase 6 was the latest visible phase of activity within the cashel enclosure, represented by the insertion of ridge and furrow cultivation ridges, also known as lazy beds. These were visible across the entire enclosure, except in the immediate area of the remains of the vernacular house and were aligned roughly north/south, sympathetic to the gradual downward slope of the site to the south.

3.4 Artefactual dating

A quantity of lithics, pottery and other finds were recovered during the excavation (see Appendix 5). Provisional analysis of the artefacts suggests they are consistent with a range of cultural phases, dated by the presence of Neolithic flintwork, post-medieval pottery and early modern finds.

4. Discussion

- 4.1.1 Ballyaghagan Cashel is one of several monuments visible in this part of Ballyaghagan townland. These include the cashel itself, the vernacular house that has been constructed to the north-west, a rectangular enclosure 50m to the south, an oval-shaped enclosure 100m to the north-east and a stone-lined drainage ditch that extends across the site to the south of the cashel enclosure. As far as is known, none of these monuments have previously been archaeologically investigated, but collectively they reflect human activity in this area for over one thousand years.
- 4.1.2 The cashel is unusual, not only for the weakness of its enclosing bank, but because it is the only example of a ring-fort in this area and at this altitude (275m + OD). There are many examples of ring-forts with earthen banks (raths) at lower altitudes and 'around 20 raths are found along the 600 foot (180m) contour line running between Black Mountain and Cave Hill' (Ó Baoill 2011, 57). The presence of the outer stone revetment and stone walkway would suggest that the occupants attempted to enhance the visual appearance of the bank, at least to the south.
- 4.1.3 The enclosure is unusually large, being 42m in diameter. It has been found that the internal diameter of ring-forts 'generally falls in the 15-35 m (50-115 ft) range, with a pronounced cluster around the 30 m (100 ft) mark' (Edwards 1990, 14). The large internal diameter of Ballyaghagan Cashel, combined with the addition of the stone revetment and walkway at the south, suggest that the inhabitants were more interested in making an impression of their status, rather than defending themselves.
- 4.1.4 The absence of a section of the cashel bank at the east was not investigated during the excavations, but two piles of stones, one to the north of the northern terminal and the other around a thorn bush adjacent to the southern terminals, suggest these came from the missing section of bank. The gap in the enclosure is not recorded on any OS map, but may have been created to facilitate access to crops associated with the ridge and furrow cultivation ridges (3.3.7 above).
- 4.1.5 The vernacular house is also unusual in its position. The cashel bank would have been very obvious to the builders, as it is to us today. It would be the easy option to build the house within the enclosing bank, where the ground is gently sloping and the bank would provide a ready-made enclosure. However, the builders chose to build the house partially within and partially across the cashel bank itself. Further, the house is not aligned with the cashel bank, suggesting that the position and alignment of the house were dominant factors in deciding its location.

- 4.1.6 The 2011 excavations revealed that the cashel bank had not been substantially lowered in the area where the vernacular house was built over it. In addition, it was clear that levelling deposits had been placed on top of the bank and stone revetment, as they had also been placed over the position of the cobbled surface C122. It is likely that the cobbled surface was contemporary with the cashel and that the remains of other structures may be present in the immediate area. It is therefore probable that the builders of the vernacular house chose this location as it provided a ready-made elevated site.

5. Recommendations for further work

5.1 Programme of post-excavation analysis of materials recovered

- 5.1.1 It is proposed that a programme of post-excavation analysis of material recovered during the 2011 excavations should be undertaken. The proposed post-excavation programme is required to meaningfully publish the results of the excavation and successfully bring the project to completion.
- 5.1.2 Various materials recovered from the 2011 excavation require analysis prior to full publication of the excavation. These include processing of the lithic material, ceramics, ferrous objects, glass and stone objects. Seven soil samples were also retained for analysis and preliminary processing of these has identified charcoal, hazelnut shells and charred grains. All of these materials are listed in Appendix 5.

5.2 Further investigation at the site

- 5.2.1 Time constraints prevented excavation of several trenches opened in the 2011 excavations to sub-soil level and further phases of activity may still be present.
- 5.2.2 The restricted width of the excavation trenches (maximum width 1m) prevented a full investigation of several features, such as a stone alignment (C108), which was only partially exposed by Trench 1.
- 5.2.3 Test trenches (Trench 5 and Trench 6) failed to positively identify entrances into the vernacular house.
- 5.2.4 The excavation of two small test trenches failed to identify any of the geophysical anomalies highlighted in the resistivity survey, carried out in the cashel enclosure prior to the 2011 excavations.
- 5.2.5 It is therefore recommended that further excavation be undertaken at the site in order to investigate these features.

5.3 Publication

- 5.3.1 It is hoped that a full report on the 2011 excavations will be prepared on completion of the post-excavation analysis outlined at item 5.1 above and submitted for publication in the *Ulster Journal of Archaeology*.

6. Bibliography

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Appendix 1: Context Lists*Trench 1*

Context No.	Description
101	Turf layer
102	Abandonment layer immediately under C101, north of gable C104
103	Reddish-brown clayey loam (abandonment layer south of gable C109)
104	South gable of vernacular house
105	Mid-brown layer under C101 south of gable C104
106	Dark-brown rubble and soil layer under C105, south of gable C104
107	Possible hearth adjacent to (north of) gable C104
108	Stone setting of flat rounded stones aligned north/south from gable C104
109	North gable of vernacular house
110	North gable of extension to vernacular house
111	Mid-brown clayey loam north of C109
112	Stone paving immediately north of C109
113	Deposit of turf ash? Associated with C112
114	Deposit of mid-brown loam at southern end of trench
115	Cut for small pit in northern extension
116	Fill of small pit C115
117	Light-brown sandy layer to north of C110
118	Depression caused by camp fire C119
119	Single-event camp fire deposit
120	East wall of vernacular house (not exposed during excavation)
121	West wall of vernacular house (not exposed during excavation)
122	Cobbled surface below floor of vernacular house adjacent to north gable C109
123	Upper part of cashel bank (southern end of trench) under C108
124	Part of clay floor of vernacular house adjacent to north gable (internal side)
125	Mid-brown clay levelling deposit above cobbled surface C122
126	Mid-brown clay levelling deposit above cashel bank C123
127	Turf layer when vernacular house was constructed
128	East/west alignment of stones mid-way between gables C104 and C109
129	Levelling deposit/occupation layer above clay floor C126

Trench 2

Context No.	Description
201	Turf layer
202	Cultivation layer immediately below C201 to north of cashel bank
203	Layer of reddish-brown clayey sand (subsoil?) under C202 at northern end of trench
204	Same as C207
205	Deposit of burnt material adjacent to external stone revetment
206	Earthen cashel bank

207	Stone revetment on external face of cashel bank
208	Collapsed stone from cashel wall/animal walkway? to exterior or revetment C207
209	Mid-brown clayey loam to south of cashel bank
210	Cut for revetment/walkway? C208

Trench 3

Context No.	Description
300	Turf layer
301	Dark brown cultivation layer immediately below C301
302	Mid-brown silty loam under C301

Trench 4

Context No.	Description
400	Turf layer
401	Dark brown cultivation layer immediately below C400
402	Mid-brown silty loam under C401
403	Orange-brown clay loam, with patches of charcoal under C402

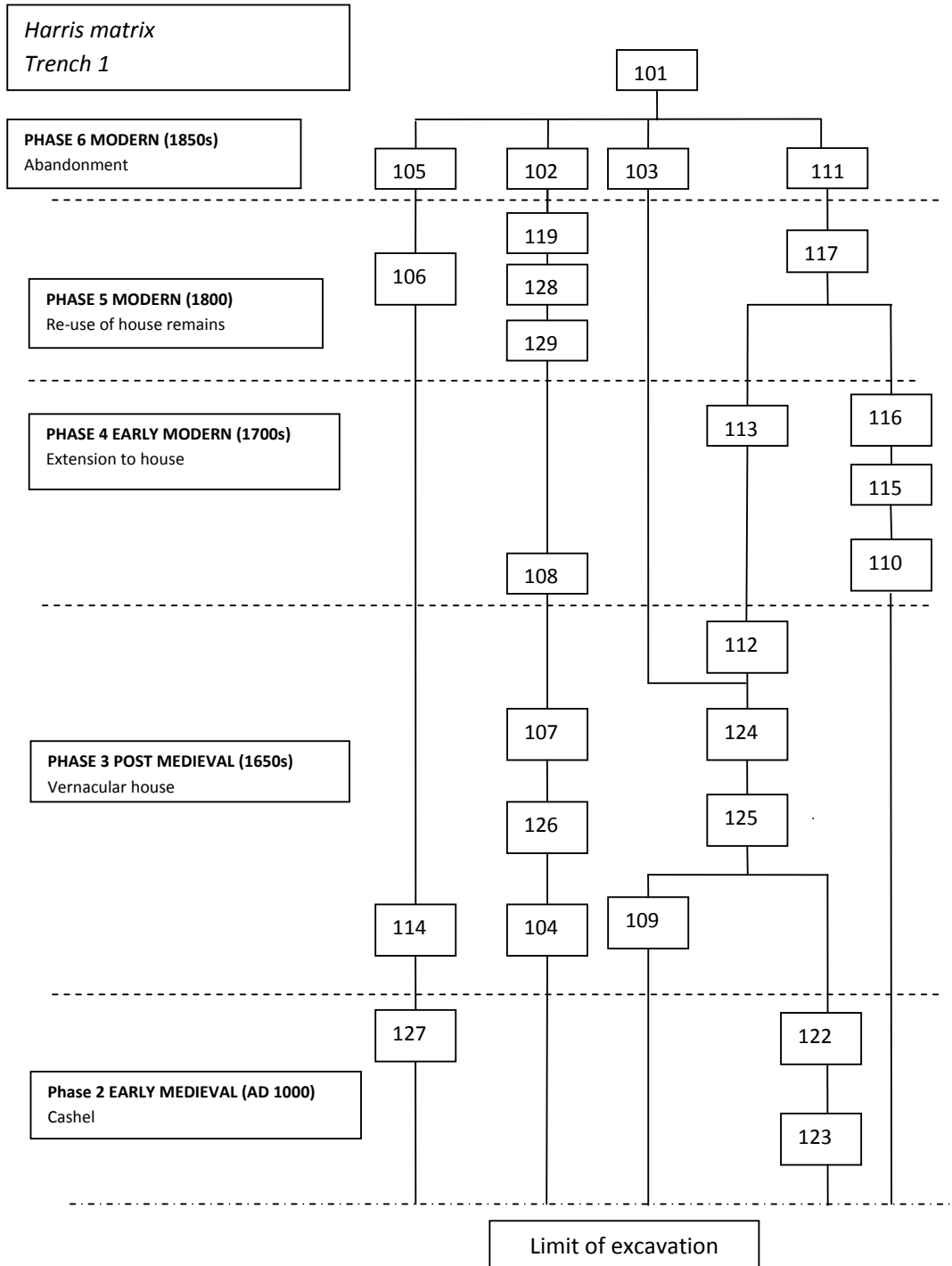
Trench 5

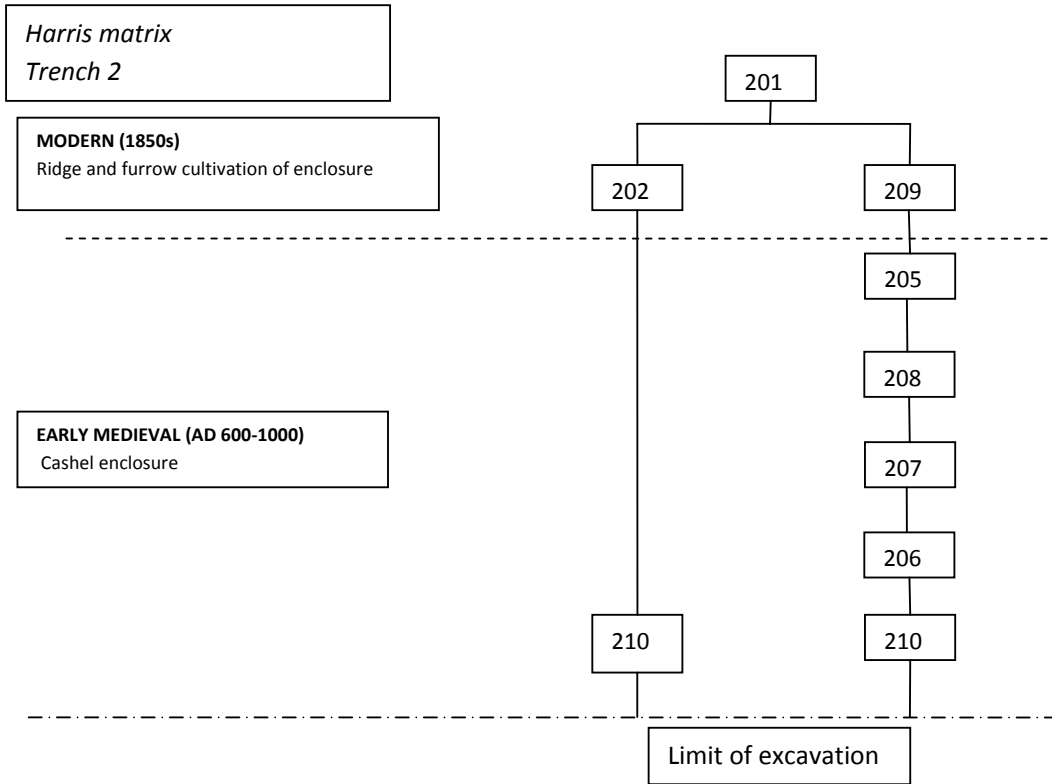
Context No.	Description
501	Turf layer
502	Abandonment layer immediately below C501
503	Blocking stone
504	Angular stone deposit around C503
505	Linear stone feature – east wall of house? (external face)
506	Mid-brown clayey loam under C504

Trench 6

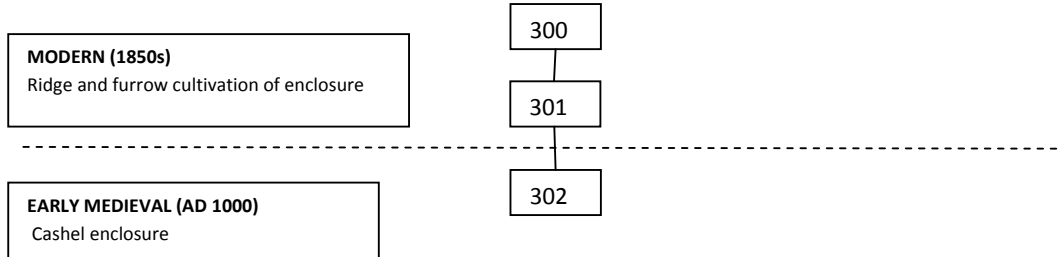
Context No.	Description
601	Turf layer
602	Linear stone feature – west wall of vernacular house? (internal face)
603	Angular stone rubble from wall collapse, contained in mid-brown clayey loam
604	Clay floor of vernacular house
605	Dark-brown clay bonding for wall C602

Appendix 2: Harris matrices

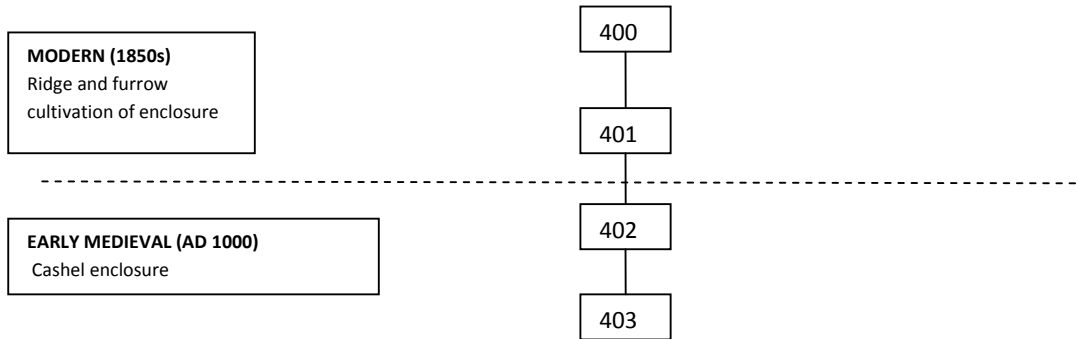


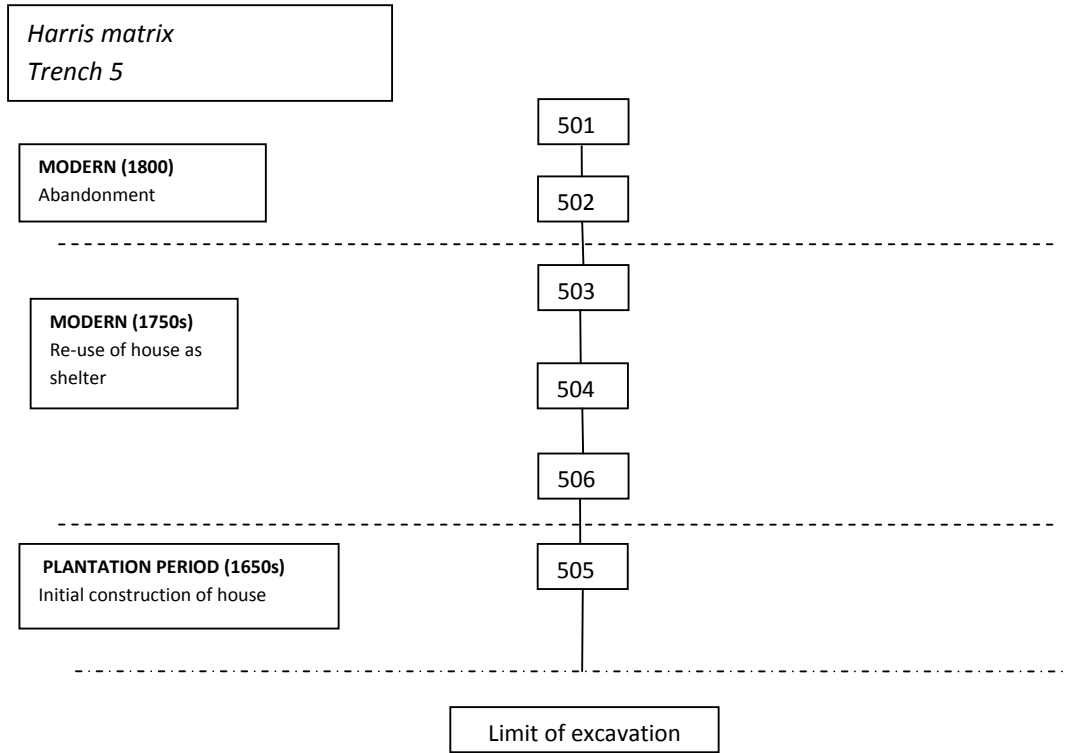


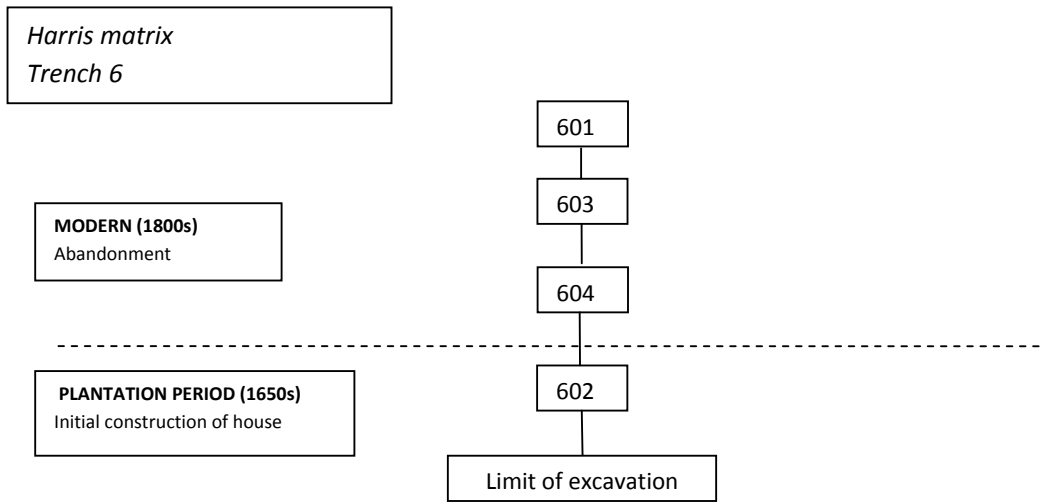
Harris matrix
Trench 3



Harris matrix
Trench 4







Appendix 3: Field Drawing Register

Drawing No.	Scale	Type	Date	Description
1	1:20	Plan	18/10/11	Mid-excavation plan of Trench 1 (northern end)
2	1:20	Plan	19/10/11	Mid-excavation plan of south gable Trench 1
3	1:20	Plan	20/10/11	Mid-excavation plan of Trench 1, northern end
4	1:10	Section	24/10/11	Mid-excavation east-facing section C107
5	1:20	Plan	25/10/11	Mid-excavation plan of Trench 5
6	1:20	Section	28/10/11	Post-excavation section (east-facing) of Trench 2
7	1:200	Plan	23/10/11	Site survey (UAS) of cashel
8	1:200	Profile	23/10/11	North/south profile (UAS) of cashel
9	1:20	Plan	27/10/11	Post-excavation plan & overlay of Trench 2
10	1:20	Plan	27/10/11	Post-excavation plan of Trench 5
11	1:20	Section	28/10/11	Post-excavation (east-facing) section of Trench 1 (southern end)
12	1:20	Plan	28/10/11	Post-excavation plan of Trench 1 (southern end)
13	1:20	Plan	28/10/11	Post-excavation plan of Trench 6
14	1:20	Section	27/10/11	Post-excavation section (east-facing) of Trench 5
15	1:20	Section	28/10/11	Post-excavation section (east-facing) of Trench 1 (northern end)
16	1:50	Plan	28/10/11	Post-excavation plan of vernacular house and excavation trenches
17	1:20	Section	28/10/11	South-facing section of Trench 3
18	1:20	Section	28/10/11	South-facing section of Trench 4

Appendix 4: Small finds register*Trench 1*

Context No.	Description	Quantity	Weight (g)
102	Flint	9	60.7
102	Pottery	5	
103	Sandstone (inscribed)	1	162.3
103	Pottery (post-medieval)	3	11.2
103	Claypipe stem	3	9.2
103	Cut sandstone	1	19.4
103	Flint	109	616.6
106	Flint	3	40.2
107	Claypipe stem	3	7.5
107	Pottery (post-medieval)	1	
107	Glass (green bottle glass)	1	
107	Glass (1 modern, 2 green bottle glass)	3	11.6
107	Flint	5	4.3
107	Glazed pot sherd (black buckley ware)	1	3.0
111	Claypipe stem	1	1.1
111	Flint flake	1	61.9
112	Flint	6	17.6
112	Granite	1	45.3
112	Burnt bone	-	<0.1
113	Flint	8	42.5
113	Pottery	1	2.4
114	Flint	44	755.4
117	Flint	7	33.8
119	Slag?	3	0.5
119	Flint	3	<0.1
125	Ironwork	1	29.0
125	Flint (including 1 scraper)	38	372.3
126	Flint	21	70.4
Surface	Flint flakes	11	31.4

Trench 2

Context No.	Description	Quantity	Weight (g)
202	Ceramic/pottery (2 sherds of possible souterrain/prehistoric pottery)	16	29.5
202	Brick	1	45.5
202	Coal/clinker	-	54.7
202	Burnt bone	-	5.0
202	Granite	7	23.2
202	Glass (1 modern, 1 green bottle glass)	2	14.6
202	Metalwork (1 hinge, 2 nails, 1 miscellaneous)	3	355.9
202	Chalk	6	224.6
202	Flint	357	1684.7

202	Flint	50	95.5
203	Flint	2	7.0
Unstratified	Flint	13	178.3
Unstratified	Worked stone (cuboid)	1	342.9

Trench 3

Context No.	Description	Quantity	Weight (g)
301	Burnt bone	-	0.5
301	Ceramic	1	0.8
301	Flint	29	24.4
302	Burnt bone	-	0.2
302	Ceramic/pottery (3 modern, 1 post-medieval)	4	6.6
302	Flint	84	190.7

Trench 4

Context No.	Description	Quantity	Weight (g)
401	Ceramic/pottery (3 modern, 1 post-medieval)	4	9.7
401	Flint	29	72.1
402	Quartz	1	12.2
402	Burnt bone	-	4.7
402	Glass	4	1.5
402	Ceramic	2	0.9
402	Metalwork (ferrous material)	1	3.9
402	Flint	180	856.6
403	Burnt bone	-	5.1
403	Flint	30	63.1

Trench 6

Context No.	Description	Quantity	Weight (g)
603	Ceramic	2	8.2
603	Flint	2	27.6

Context No.	Description	Quantity	Weight (g)
Unstratified	Flint	11	34.6

Appendix 5: Samples Record*Bulk samples taken*

Sample Number	Sample Material	Context	Number of bags
1	Soil (hearth deposit)	107	1
2	Soil (occupation layer)	112	1
3	Soil (burnt deposit)	205	1
4	Soil (hearth deposit)	111	1
5	Soil (fill of pit)	116	1
6	Soil (fill of gully)	113	1
7	Soil (hearth deposit)	119	1

Dating material obtained from processing bulk samples

Sample No.	Context No.	Short-lived charcoal	Hazelnut Shell	Charred grain	Charred seed
1	107	0.1	0.1	<0.1	-
2	112	<0.1	-	<0.1	-
3	205	-	-	-	-
4	113	-	<0.1	-	-
6	113	<0.1	-	-	-
7	119	0.1	-	<0.1	<0.1

Appendix 6: Photographic Record*Ricoh Caplio 500 G wide, 8 Megapixel and Nikon Coolpix 950, 4.9 megapixel**(a) Excavation*

Reference	Details
DSCN0069	Trench 1 View of cobbled surface C122 looking west
DSCN0061	View of paved surface C112, looking east
RIMG0024(3)	Trench 1, south gable wall of vernacular house, looking west
DSCN0082	Trench 1, stone setting C108 and top of cashel wall C123
DSCN0072	Trench 1, North gable of vernacular house, looking west
DSCN0064	Trench 1, external face of north wall of extension, looking south
DSCN0059	Trench 1, Internal face of north wall of extension, looking north
RIMG0061(2)	Trench 1, remains of single-event camp fire deposit C119, looking west
RIMG0044	Trench 1, Hearth deposit C107 at south gable of house, looking west
DSCN0026	Trench 2, Possible animal walkway (C210), looking south
DSCN0032	Trench 2, Internal face of cashel bank, looking south [scale 0.5m]
DSCN0030	Trench 2, External face of cashel bank, with stone revetment, looking north
RIMG0001(2)	Post-excavation view of Trench 3, looking east
RIMG0074	Post-excavation view of Trench 4, looking west
RIMG0084	Mid-excavation view of Trench 5, looking north
RIMG0112(2)	Post-excavation view of Trench 5, looking north
RIMG0087	Post-excavation view of Trench 6, looking south
RIMG0093(2)	Mid-excavation view of 'gully' C125 levelling deposit, looking west
RIMG0027(2)	Post-excavation view of Trench 1, southern end, looking north
RIMG0024(2)	Post excavation view of Trench 1, southern end, looking west
RIMG0013(2)	Mid-excavation view of Trench 1, house extension C113 C112, looking west
DSCN0070	Mid-excavation view of Trench 1, looking south
DSCN0077	Trench 1, Post-excavation view of stone feature C128
DSCN0035	Trench 2, Post-excavation view of cashel bank, looking east
DSCN0038	Trench 2, Post-excavation view of cashel bank, looking west
RIMG0004(2)	Trench 3, south-facing section, looking north
RIMG0053	Mid-excavation view of Trench 3, looking north
RIMG0107(2)	Post-excavation view of Trench 5, looking west
RIMG0091	Mid-excavation view of Trench 6, looking west
RIMG0119	View of cashel, looking north-west

(b) Supplementary

Reference	Details
RIMG0118	View of stone-embanked drainage ditch to south of cashel, looking east
RIMG0116	View of stone-embanked drainage ditch to south of cashel, looking west
DSCN0002	View of rectangular enclosure to south of cashel, looking south-west
DSCN0049	View of ridge and furrow beds in cashel enclosure, looking south-west
DSCF0043	View from vernacular house, looking south-east

Figures



Figure 01: Area location map

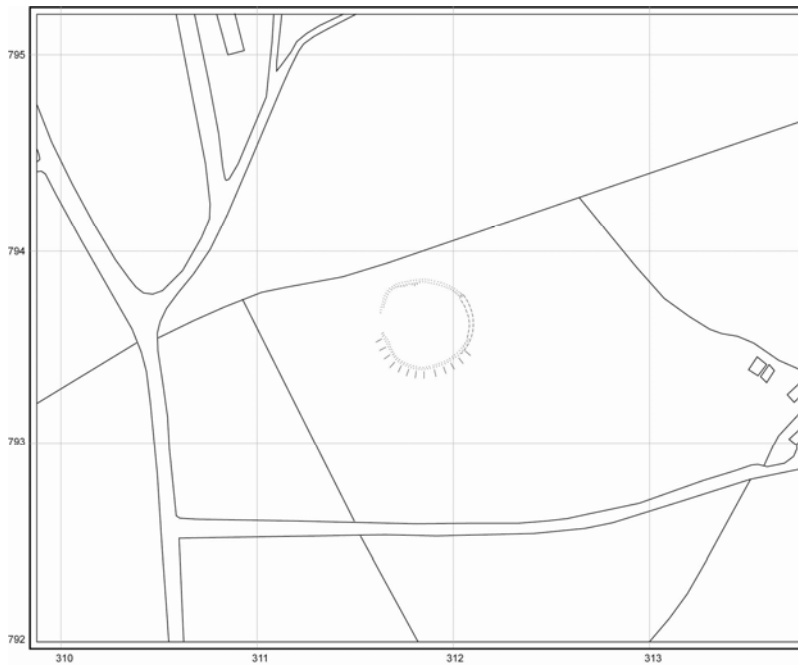


Figure 02: Site location map

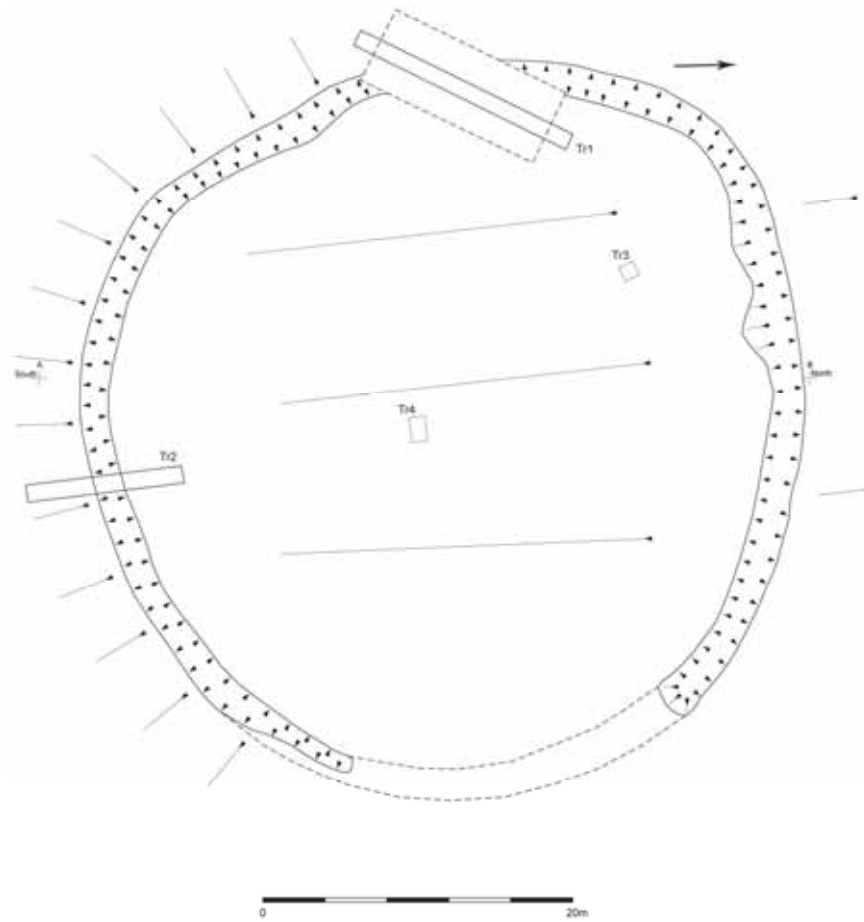


Figure 03: Plan of cashel, with location of excavation trenches. *Ulster Archaeological Society*

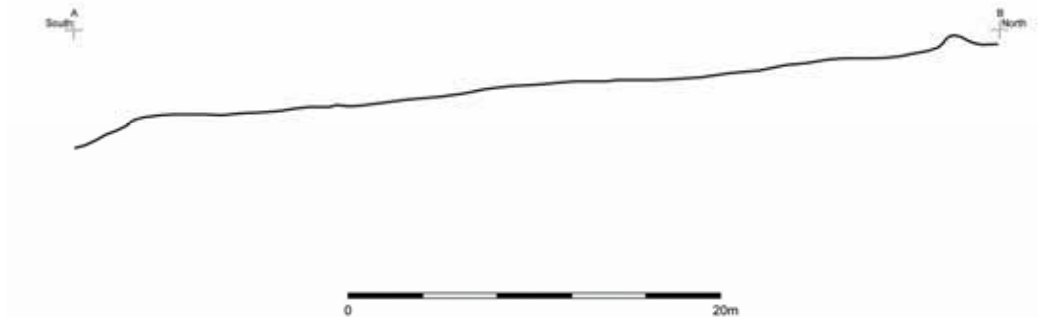


Figure 04: Profile (north/south) drawing of cashel enclosure. *Ulster Archaeological Society*

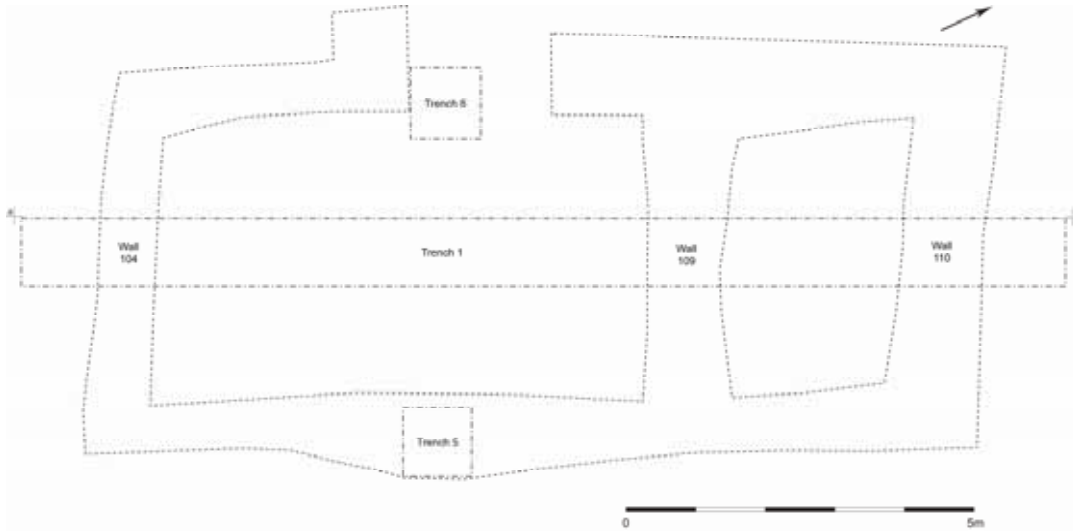


Figure 05: Plan of vernacular house, showing location of trenches

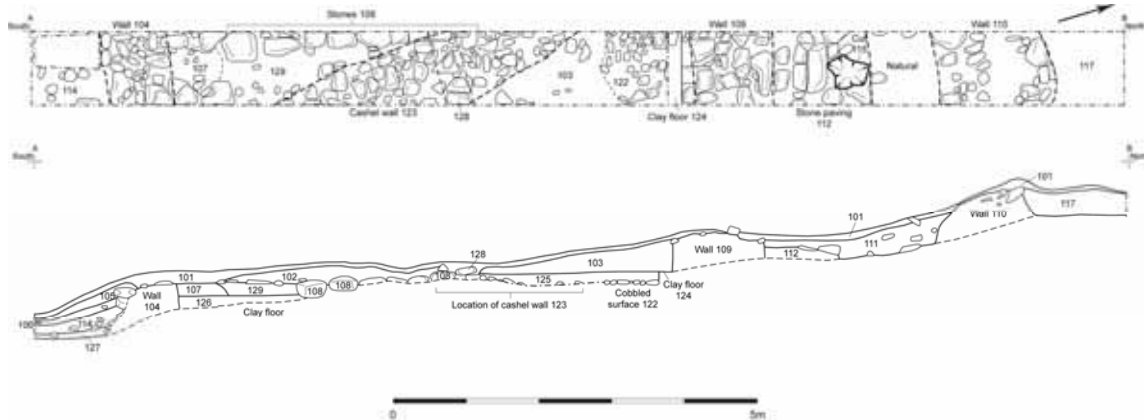


Figure 06: Trench 1, post-excitation plan and east-facing section

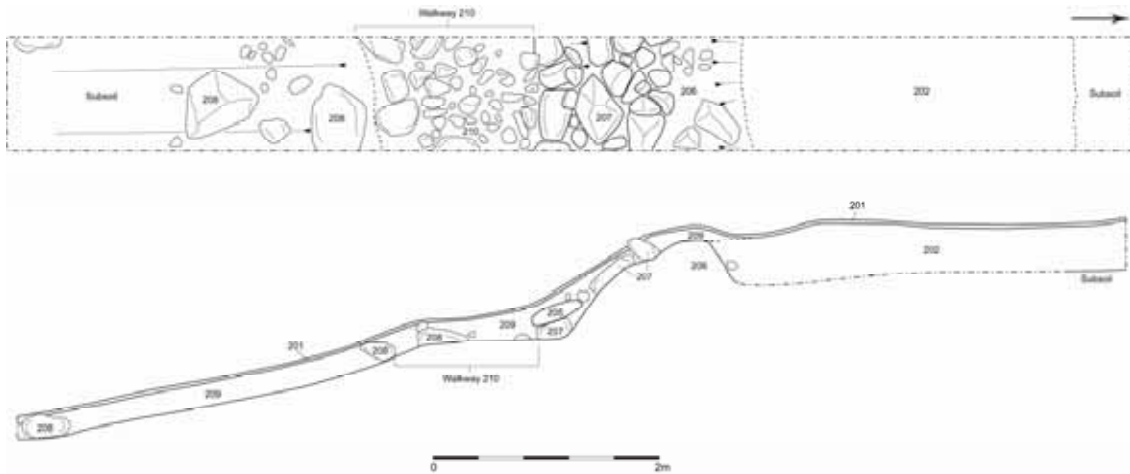


Figure 07: Trench 2, post-excitation plan and east-facing section

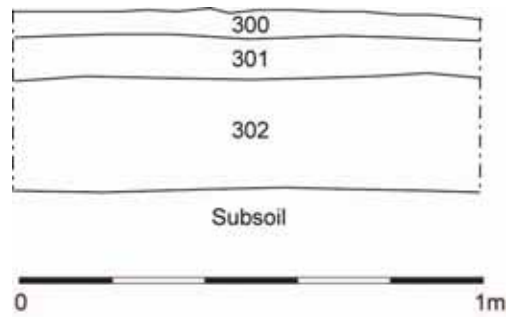


Figure 08: Trench 3, south-facing section



Figure 09: Trench 4, south-facing section

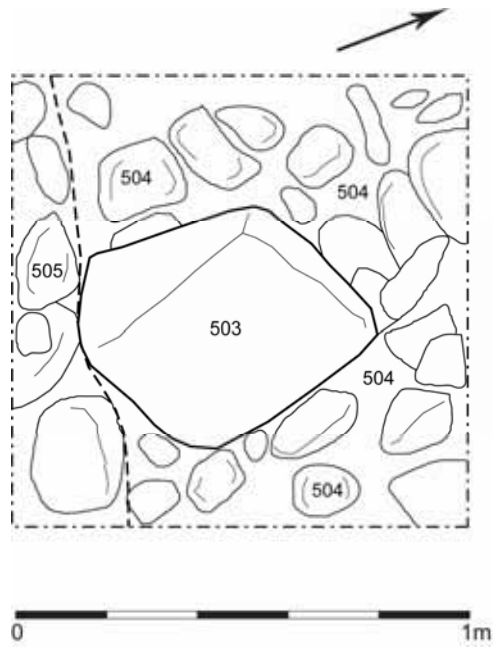


Figure 10: Trench 5, mid-excavation plan

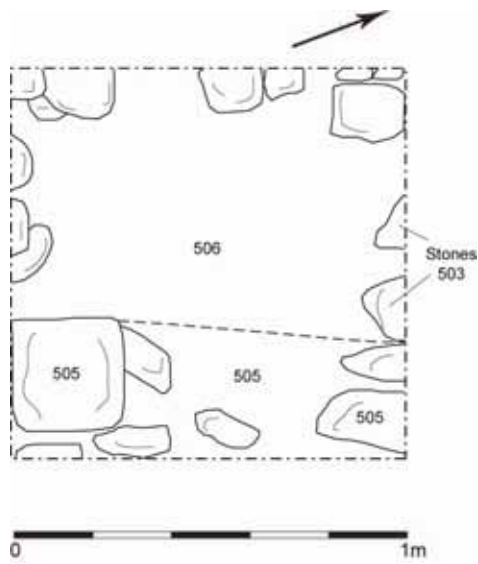


Figure 11: Trench 5, post-excavation plan

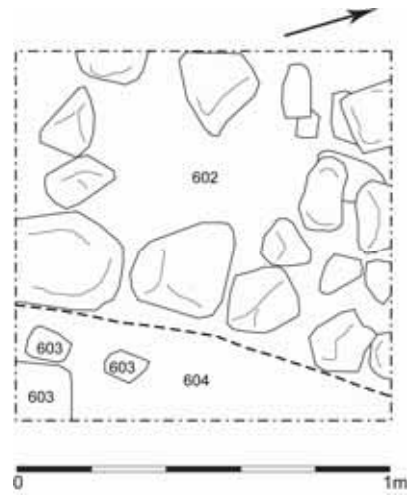


Figure 12: Trench 6, post-excitation plan

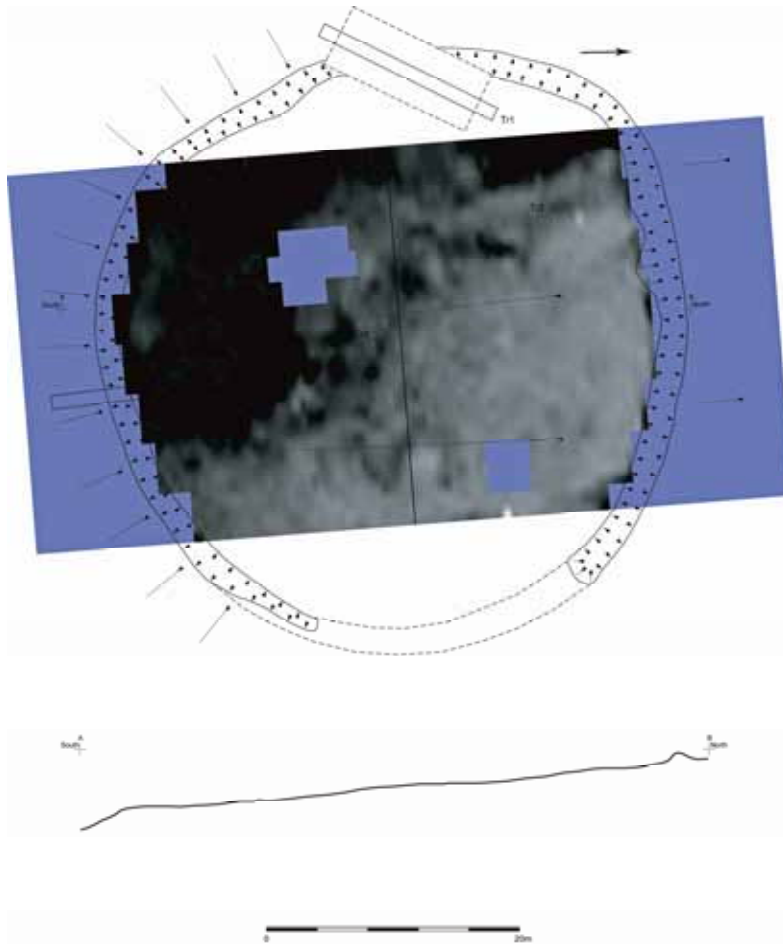


Figure 13: Geophysical survey results (overlay on site plan)

Plates



Plate 01: Trench 1, View of cobbled surface C122, looking west [scale 0.5m]



Plate 02: Trench 1, View of paved surface C112 and ash deposit C113, looking east [scale 0.5m]



Plate 03: Trench 1, south of gable wall C104 of vernacular house, looking west [scale 0.5m]

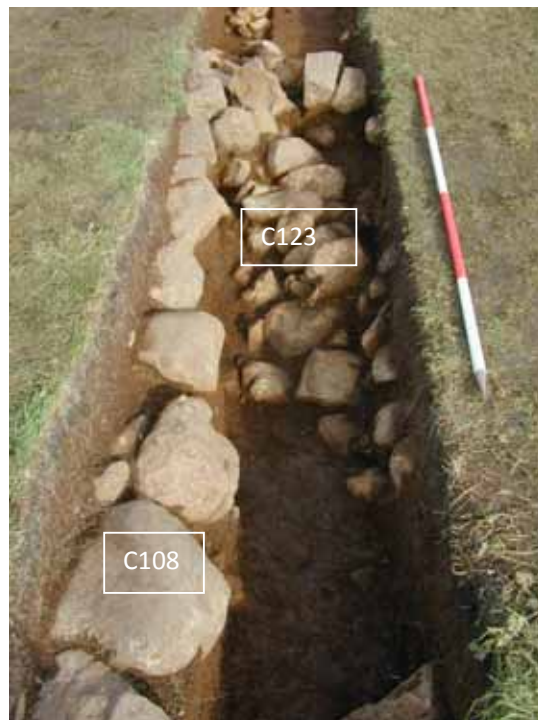


Plate 04: Trench 1, stone setting C108 and top of cashel wall C123, looking north [scale 1m]



Plate 05: Trench 1, north gable C109 of vernacular house, looking west [scale 0.5m]



Plate 06: Trench 1, external face of north gable C110 of extension, looking south [scale 0.5m]



Plate 07: Trench 1, internal face of north gable C110 of extension, looking north [scale 0.5m]



Plate 08: Trench 1, remains of single-event camp fire deposit C119, looking west [scale 0.5m]



Plate 09: Trench 1, hearth deposit C107 at south gable of house, looking west [scale 0.25m]



Plate 10: Trench 2, possible animal walkway C210, looking south [scale 0.5]



Plate 11: Trench 2, internal face of cashel bank C206, looking south [scale 0.5m]



Plate 12: Trench 2, external face of cashel bank, with stone revetment C207, looking north
[scale 0.5m]



Plate 13: Trench 3, post-excitation view, looking east



Plate 14: Trench 4, post-excitation view, looking north [scale 1m]



Plate 15: Trench 5, mid-excavation view, looking north [scale 0.5m]



Plate 16: Trench 5, post-excavation view, looking north [scale 0.5m]



Plate 17: Trench 6, post-excavation view, looking south [scale 0.5m]



Plate 18: view of inscribed stone, recovered from Trench 1, C125