

Burnt Mounds, Roundhouse, Charcoal-Production Kiln and Vernacular Cottage near Newcastle West, Co. Limerick

SHANE DELANEY

This paper presents the results of archaeological excavations in the townland of Garryduff, southwest of Newcastle West, Co. Limerick. Important evidence of Bronze Age settlement, including a roundhouse and burnt mounds, was discovered as well as Iron Age and Early Medieval activity in the area. A nineteenth-century house site was also investigated.

Introduction

During January 2012 three sites, Garryduff 1, 2 and 3, were excavated in the townland of Garryduff, parish of Monagay, Co. Limerick (Fig. 1). These sites had been identified during archaeological test excavations carried out by Irish Archaeological Consultancy Ltd (IAC) on behalf of Limerick County Council the previous October.¹ The archaeological excavations were undertaken as part of an archaeological programme completed on behalf of the National Roads Authority (NRA) and Limerick County Council prior to the construction of the N21 Killarney Pole to Barnagh Road Safety Scheme.²

The three sites discovered at Garryduff were situated between 108 – 118m Ordnance Datum (OD) and were positioned on reasonably flat, well-drained pastureland in an area surrounded by many small watercourses which are depicted on the first edition Ordnance Survey (OS) mapping (1841). A small watercourse extends west to east immediately south of the sites and a canalised stream is recorded running west to east approximately 200 metres to the north. The wider landscape is characterised by fields of pasture with some woodlands located to the west. The sites were on the edge of an open plain with good views to the north, east and south while Barnagh Hill dominates the landscape to the west.

Garryduff 2

Garryduff 2 was located *c.*2.8km south-west of Newcastle West town centre.³ Four distinct phases of activity were identified⁴ (Fig. 2). The earliest was focussed on a roundhouse (Plate 1) which has been radiocarbon dated to the Middle Bronze Age period. This was characterised by pits, post-and-stake holes, foundation gullies and a second stake-built building. An area to the east of the roundhouse produced a number of pits, one of

¹ T. Coughlan and D. Bayley, 'N21 Killarney Pole to Barnagh Road Safety Scheme Archaeological Testing Report 11E0349' (Unpublished report prepared by IAC Ltd on behalf of Kilgallen and Partners Consulting Engineers for Limerick County Council, 2011).

² The work was carried out under Licence No. 12E001 (Garryduff 1), Licence No. 12E002 (Garryduff 2) Licence 12E003 (Garryduff 3) from the National Monuments Service, Department of Arts, Heritage and the Gaeltacht, Dublin and the National Museum of Ireland.

³ Garryduff 2 was located at 123735/132038 (National Grid): Garryduff 2 lay at 118.70m Ordnance Datum (OD).

⁴ S. Delaney, 'Garryduff 2 12E002 Final Report' (Unpublished Final Report prepared by IAC Ltd for Limerick County Council, Dublin, 2013).

which contained heat-shattered stone and has been interpreted as the truncated trough of a burnt mound. The pits and associated stakeholes were typical of those found at burnt mound sites and one of these, a possible well, produced a Middle-to-Late Bronze Age date. A single charcoal-rich pit to the west of the roundhouse produced an Iron Age date, indicating activity at the site during that period. The truncated floor and western end of a nineteenth-century vernacular house was also recorded. This was depicted on the first edition six-inch OS map (1841).⁵

The earliest archaeological evidence identified at Garryduff 2 was the Middle Bronze Age roundhouse that was partially defined by a curvilinear slot trench, postholes, stakeholes, hearths and pits (Figs 2 and 3; Plates 1 and 2). A second building defined by stakeholes was identified immediately to the east of the roundhouse (Plate 3). Little diagnostic material was identified from any of the features although sherds of Middle Bronze Age pottery⁵ were recovered from a pit in the interior of the house.

The Middle Bronze Age period saw an increased construction of domestic house and settlement sites across the island with sites identified from most landscape zones, their occupants primarily farming and exploiting the immediate surrounding areas for crop production and animal husbandry. The typical location for domestic sites was on well-drained thin soils. Domestic sites were usually located close to funerary monuments and burnt mounds; the burnt mounds often occupying poorer, wetter ground on the edges of wetlands and stream and river basins. During this period the climatic conditions appear to have been drier. It is also the period that sees the burial rite change from inhumation to cremation. A number of well-dated Middle Bronze Age house sites have been excavated throughout the country in recent years, such as those excavated along the route of the N8 Cashel to Mitchelstown road scheme,⁶ the Gas Pipeline to the West⁷ and the N7 Nenagh to Castletown road scheme, and have added greatly to our understanding of their construction and in illustrating a variety of ground plans.

At Garryduff 2 there appears to have been activity just prior to the construction of the house. Hazel (*Corylus*) charcoal from a pit was dated to 1748-1534 BC.⁸ The pit contained evidence for burning in the form of a charcoal-rich soil containing oak, hazel, alder and blackthorn/cherry charcoal. This pit was re-cut and enlarged and backfilled with waste material including heat-shattered stone and some unidentifiable burnt bone fragments. The backfilled pit was on the line of the later house wall and the wall stakes were driven into its fill.

The house (estimated external diameter 7.3m with a max. estimated internal area of c.45m²) was comprised of two stretches of foundation trench oriented on a north-facing opening, possibly a door. However, it would appear that this was obstructed (perhaps at a later date) by the deliberate driving of stakes across it which may have meant it operated as a grille or vent. This gap or door-way was approximately 0.80m wide. There may have been another opening elsewhere as the favoured location for a door in most Bronze Age houses was on the eastern or south-eastern sides⁹ as this would have taken advantage of the morning light and heat. However no evidence was identified for a door on this side of

⁵ E. Grogan and H. Roche, 'Prehistoric pottery report' in Delaney, 'Garryduff 2 12E002 Final Report'.

⁶ M. McQuade, B. Molloy and C. Moriarty, *In the shadow of the Galtees Archaeological excavations along the N8 Cashel – Mitchelstown Road Improvement Scheme, NRA Monographs Number 4* (Dublin, 2010).

⁷ E. Grogan, L. O'Donnell and P. Johnston, *The Bronze Age Landscapes of the Pipeline to the West* (Bray, 2007).

⁸ A sample of hazel (*Corylus* sp.) charcoal returned an AMS date of 3372±37 BP (UBA 20857). The two-sigma (2σ) calibrated result for this was 1748-1534 BC indicating a date in the Early to Middle Bronze Age period for this feature.

⁹ See McQuade, Molloy and Moriarty, *Archaeological excavations along the N8 Cashel – Mitchelstown Road*, p. 86.

the structure. An arc of stakeholes respected the curve of the foundation trench on the exterior. This is unusual as these stakes would normally be expected to be on the interior of the wall. It may reflect a later screening of the main wall with wickerwork, perhaps as a weatherproof cladding or to patch up the existing wall. Alder (*Alnus* sp.) charcoal from the western stretch of foundation trench produced a date of 1620-1461 BC.¹⁰ Similar houses with two short lengths of slot trench oriented on a door opening, with the rest of the building defined by post and stakeholes on the interior, were excavated at Drumbaun¹¹ and Drumroe,¹² on the M7 Castletown to Nenagh road scheme, and were also dated to the Middle and Late Bronze Age periods.

It is unlikely that the external wall was load bearing as there was a group of internal features that may represent base-pads or the base of truncated postholes that once held roof supports. C40 was centrally placed and may have been the centre post of the house. Three other postholes appeared to arc around C40 and were approximately equidistant from the roundhouse wall. Another two postholes may also have held structural posts; however, they were not aligned on the same arc. No post-pipes or the detritus associated with post packing was identified from any of the features. They were all extremely shallow and merely represented the very basal elements of the postholes/base-pads. Oak (*Quercus*) charcoal from one produced a date of 1767-1615 BC¹³ however this may reflect the old wood effect and cannot be trusted as definitive.

Four shallow scoops or pits which produced evidence for *in-situ* burning are likely to represent hearths within the roundhouse. Hazel and holly charcoal were identified from the fill of one hearth, both of which would have been gathered locally.¹⁴ Alder (*Alnus* sp.) charcoal from the fill of one of the other hearths was dated to 1678-1502 BC.¹⁵

A number of pits, postholes and stakeholes were identified within the projected area enclosed by the roundhouse. The pits may have been used for storage or for supporting pots or baskets to prevent them falling over. One pit contained seven sherds of pottery representing a single Middle Bronze Age domestic vessel and is the first recorded assemblage of prehistoric pottery reported in south-west Limerick.¹⁶ Oak (*Quercus*), alder (*Alnus* sp.) and hazel (*Corylus*) charcoal were identified from the pit fill¹⁷ and the alder charcoal produced a date of 1880-1614 BC.¹⁸ This fill also produced carbonised hulled and naked barley and some grains of indeterminate cereal.¹⁹

Approximately 4m to the east of the roundhouse was a concentration of stakeholes which formed a trapezoidal structure or possibly an annex to the roundhouse. This measured c.3m in length (north northwest-south southeast) by c.2.8m (east northeast-west

¹⁰ A sample of alder (*Alnus* sp.) charcoal returned an AMS date of 3270±28 BP (UBA 20862). The two-sigma (2σ) calibrated result for this was 1620-1461 BC indicating a date in the Middle Bronze Age period for this feature.

¹¹ J. Kiely, J. Tierney and E. Chrobak, 'Archaeological Excavation Report, E3912 - Drumbaun, Co. Tipperary. Bronze Age houses and medieval metalworking site' (Eachtra Archaeological Projects for Laois County Council, 2011).

¹² E. O'Mahony and J. Tierney, 'Archaeological Excavation Report, E3773 - Drumroe, Co Offaly. Late Bronze Age structure, Iron Age pits and late medieval field boundaries' (Eachtra Archaeological Projects for Laois County Council, 2011).

¹³ A sample of oak (*Quercus* sp.) charcoal returned an AMS result of 3395±31 BP (UBA 20860). The two-sigma (2σ) calibrated result for this was 1767-1615 BC, indicating a date in the Early-Middle Bronze Age period for this feature.

¹⁴ E. O'Carroll, 'Charcoal remains report' in Delaney, 'Garryduff 2 12E002 Final Report'.

¹⁵ A sample of alder (*Alnus* sp.) charcoal returned an AMS result of 3304±34 BP (UBA 20859). The two-sigma (2σ) calibrated result for this was 1678-1502 BC indicating a date in the Middle Bronze Age period for this feature.

¹⁶ E. Grogan and H. Roche, 'Prehistoric pottery report' in Delaney, 'Garryduff 2 12E002 Final Report'.

¹⁷ O'Carroll, 'Charcoal remains report' in Delaney, 'Garryduff 2 12E002 Final Report'.

¹⁸ A sample of alder (*Alnus* sp.) charcoal returned an AMS result of 3417±48 BP (UBA 20854). The two-sigma (2σ) calibrated result for this was 1880-1614 BC, indicating a date in the Early-Middle Bronze Age period for this feature.

¹⁹ N. Gilligan, 'Plant remains report' in Delaney, 'Garryduff 2 12E002 Final Report'.

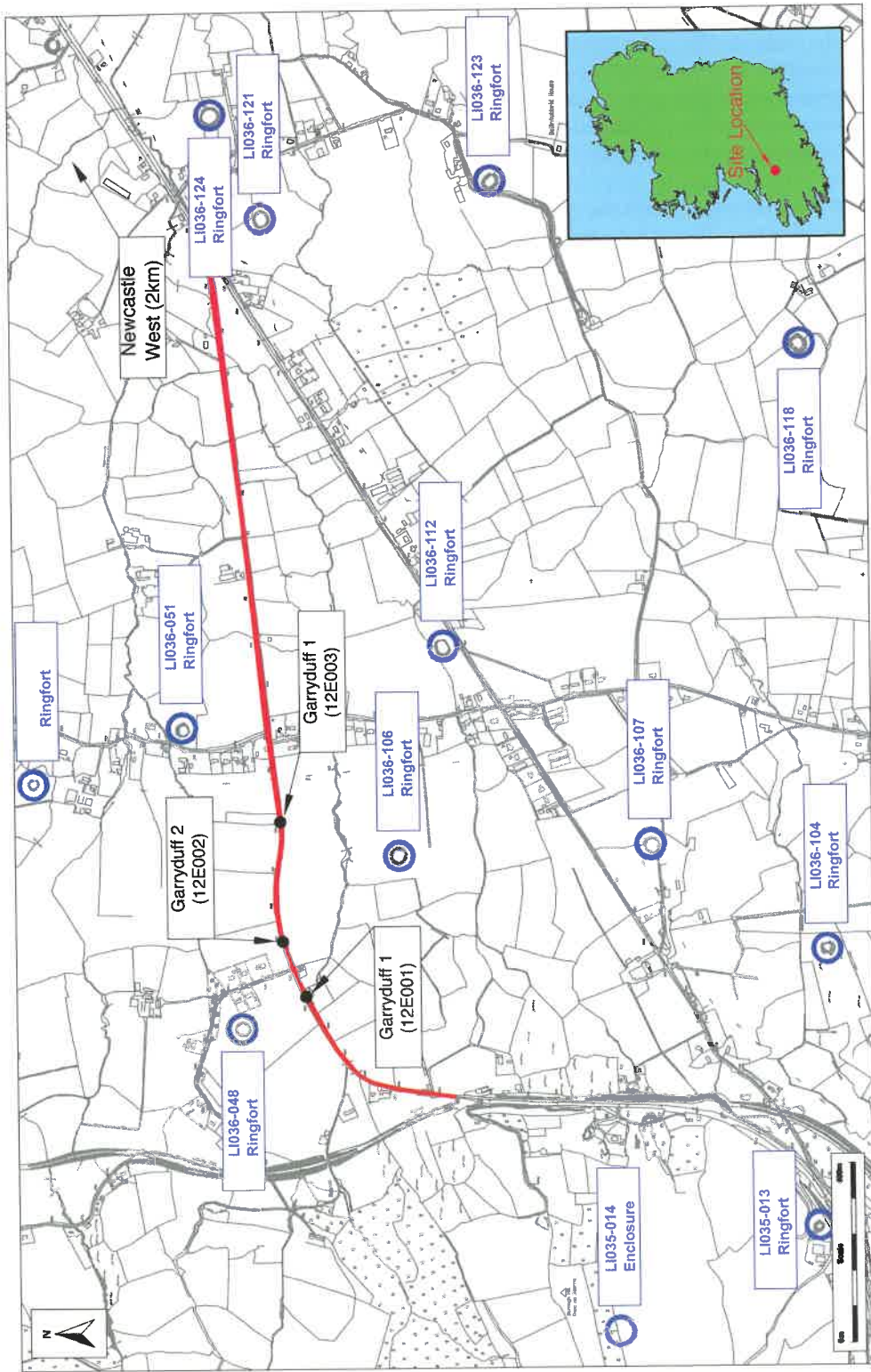


Fig. 1 Site location



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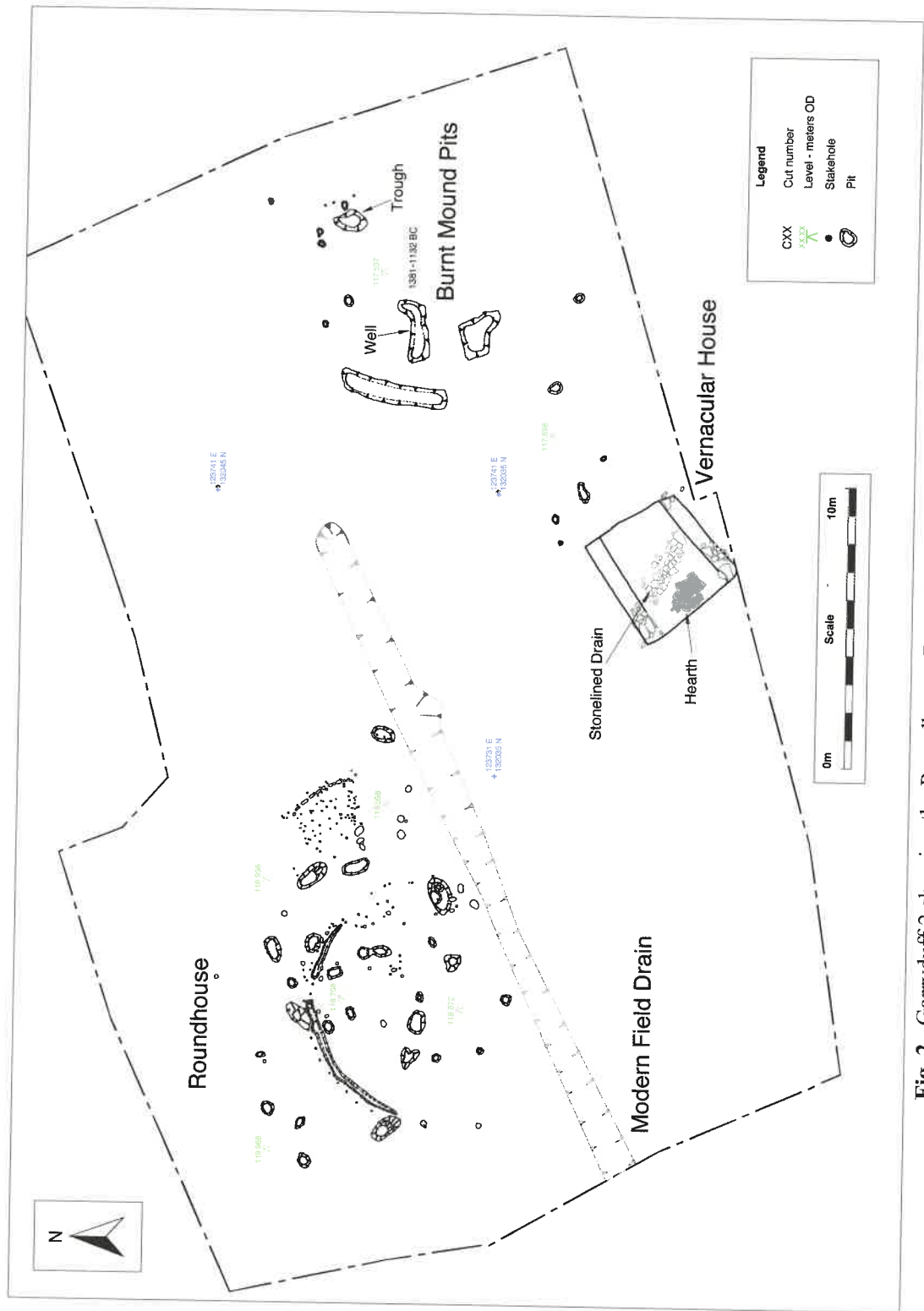


Fig. 2 Garryduff 2 showing the Roundhouse, Burnt Mound features and vernacular house

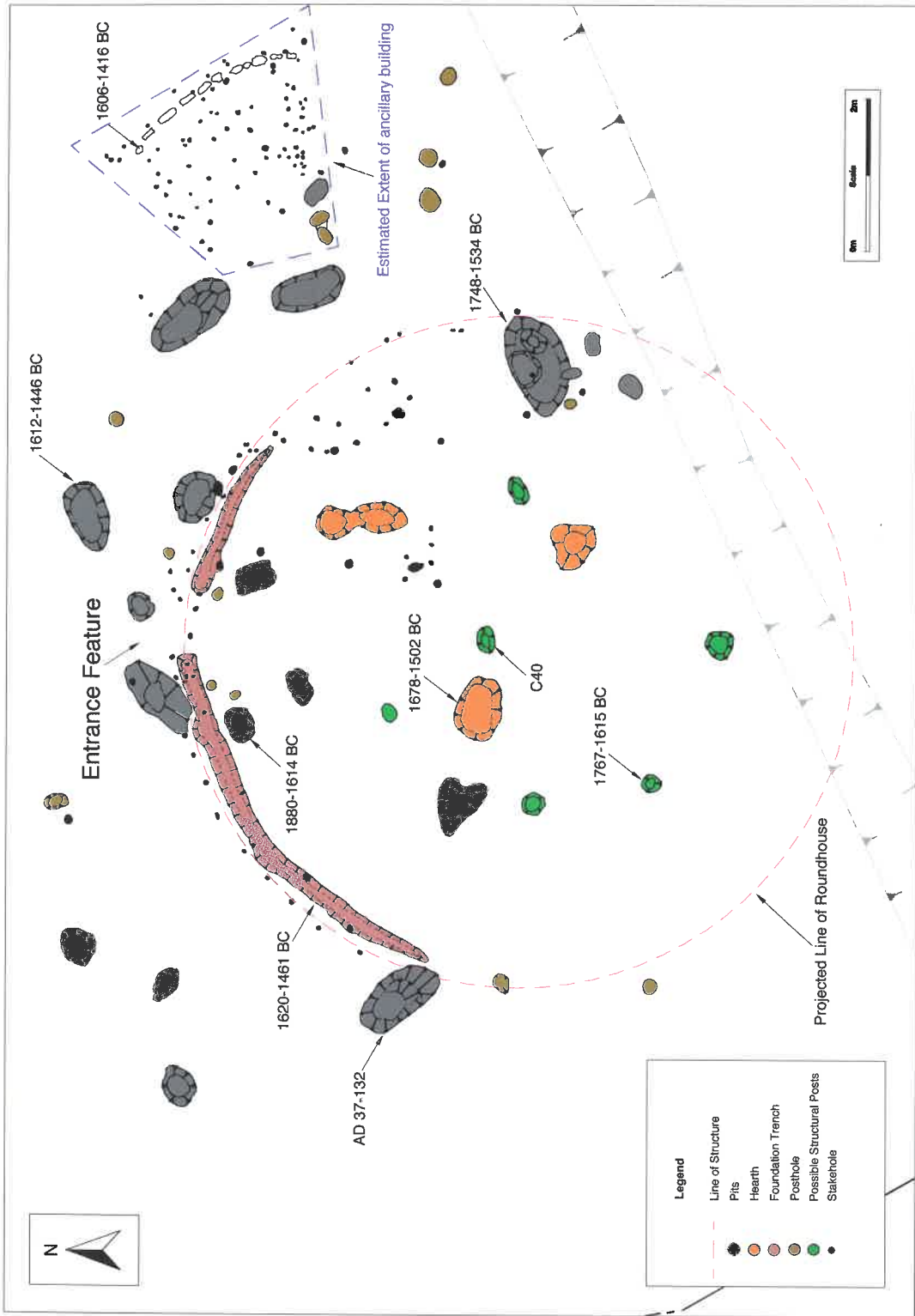


Fig. 3 Detail of Roundhouse





Plate 1 Post-excitation view of the roundhouse facing southwest



Plate 2 Foundation gully showing entrance feature, post-excitation, facing west

Fig. 3 Detail of Roundhouse



Plate 3 Stakehole structure post-excavation, facing south southeast

southwest) with an estimated internal area of *c.* 4m². The stakeholes were generally single stakes, however, along the east side of the cluster there were elongated depressions (some focused around stakeholes) arranged along a north-south orientation. These may be impressions left by the bottom line of sails (horizontal rods) from a wicker wall/fence that was pressed into the ground or may have been footings for a series of upright planks. These all appeared to have been burnt *in situ* indicating that this wall had burned down. Elm (*Ulmus* sp.), ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*), Pomoideae, hazel (*Corylus*) and alder (*Alnus* sp.) charcoal were identified from the fill of one of the footings.²⁰ Alder (*Alnus* sp.) charcoal from the same fill returned a date of 1606-1416 BC.²¹

A pit and posthole, immediately to the southwest of the stakehole structure may have been associated with it. Four fragments of unidentified burnt bone were recovered from the fill of the pit.²² Oak, hazel, alder and ash charcoal were also identified from this fill,²³ as well as a very small quantity of hulled barley and indeterminate cereal.²⁴ A pit located to the southeast of the stakehole structure (Fig. 2), appears to have been a shallow cooking/industrial pit. It was filled with charcoal and heat-shattered stone in a sandy silt matrix. This deposit was similar to the material that is usually associated with a burnt mound. Four stakeholes were driven into the base of the pit and may have supported a lining or a rack/spit when the pit was used. It is likely that this is contemporary with the house.

²⁰ O'Carroll, 'Charcoal remains report' in Delaney, 'Garryduff 2 12E002 Final Report'.

²¹ A sample of alder (*Alnus* sp.) charcoal returned an AMS date of 3218±37 BP (UBA 20858). The two-sigma (2σ) calibrated result for this was 1606-1416 BC indicating a date in the Middle Bronze Age period for this feature.

²² A. McCarthy, 'Burnt bone report' in Delaney, 'Garryduff 2 12E002 Final Report'.

²³ O'Carroll, 'Charcoal remains report' in Delaney, 'Garryduff 2 12E002 Final Report'.

²⁴ Gilligan, 'Plant remains report' in Delaney, 'Garryduff 2 12E002 Final Report'.

Bronze Age burnt mounds Garryduff 1 and 2

Two of the sites, Garryduff 1 and 2 were dated to the Bronze Age period and produced archaeological features in the form of burnt spreads or mounds and Garryduff 2 also produced settlement evidence in the form of a roundhouse. Garryduff 1²⁵ was approximately 100m to the west of Garryduff 2 and comprised the remnants of a small burnt spread (Fig. 4; Plate 4). A stream would have originally flowed quite close to the site but has since been canalised and obscured by farm buildings immediately to the south, on the opposite side of the N21. The site was situated on level ground which was prone to flooding. All that remained of the burnt spread was the basal horseshoe shaped deposit of washed out silt (C9; 6m x 0.70m) and a centrally placed pit with flanking postholes, possibly representing a spit or rack. Other heavily truncated features in the vicinity included stakeholes and possible pits. Three postholes to the west of the cooking pit may have been the truncated remains of the upright posts of a southeast to northwest aligned rack or simple fence which measured approximately 3m long. Two very shallow features, to the northwest of these posts, may represent the very truncated remains of pits; however, their fills were sterile. Six stakeholes to the northwest of the pit may have been the uprights for a rack associated with the central pit. They were concentrated on a shallow linear pit of unknown function.

Two samples of charcoal were submitted for analysis from the fill of the central pit (C4) and from the fill of one of the postholes. The range of species identified included large trees (oak and alder), small trees (hazel) and scrub (blackthorn, hazel). Seventy-one percent of the identified taxa was hazel, 11% oak, 9% alder and 9% blackthorn/cherry.²⁶ It can be assumed that most fuel, for convenience, would have been gathered close to where it was burnt, presuming there was a sufficient fuel source near the site. Hazel in particular, as well as alder, oak and *Prunus* sp. (blackthorn/cherry) would have been available and possibly widespread in the immediate area. Hazel was a favoured fuel and was the dominant wood-type identified in both the cooking pit and posthole. Hazel was also the dominant taxon present in the hearth features at nearby Garryduff 2. The *Prunus* sp. charcoal returned a date for the cooking pit of 1371-1060 BC,²⁷ indicating a Middle to Late Bronze Age date for the feature. The Middle Bronze Age house site at Garryduff 2 appears to have been at least two hundred years earlier than the activity at Garryduff 1.

Features typically associated with a burnt mound were identified at the eastern end of the area excavated at Garryduff 2 (Fig. 2) where a number of pits and stakeholes were identified. One of the pits was stepped and was likely to have been a well, associated with the truncated trough located just to the east-northeast. The well was dated to 1381-1132 BC²⁸ indicating a Middle to Late Bronze Age period but some time after the activity at the roundhouse. Although cooking sites or burnt mounds are not rare, this site is still an important addition to the Bronze Age archaeology of the local area and adds to our knowledge of Middle to Late Bronze Age activity in the wider regional landscape.

Burnt mounds (also referred to as *fulachtaí fia*) are one of the most common pre-historic sites identified across the archaeological landscape. In excess of 1,022 burnt mounds have been excavated in recent years through development-led archaeological

²⁵ Garryduff 1 was located at 123632/131992 (National Grid) and lay at 118.60m Ordnance Datum (OD).

²⁶ E. O'Carroll, 'Charcoal remains report' in S. Delaney, 'Garryduff 1 12E001 Final Report' (Unpublished Final Report prepared by IAC Ltd for Limerick County Council, Dublin, 2013).

²⁷ A sample of ash (*Fraxinus* sp.) charcoal returned an AMS result of 3011±26 BP (UBA 20861). The two-sigma (2σ) calibrated result for this was 1381-1132 BC, indicating a date in the Middle-Late Bronze Age period for this feature.

²⁸ A sample of alder (*Alnus* sp.) charcoal returned an AMS date of 3270±28 BP (UBA 20862). The two-sigma (2σ) calibrated result for this was 1620-1461 BC, indicating a date in the Middle Bronze Age period for this feature.

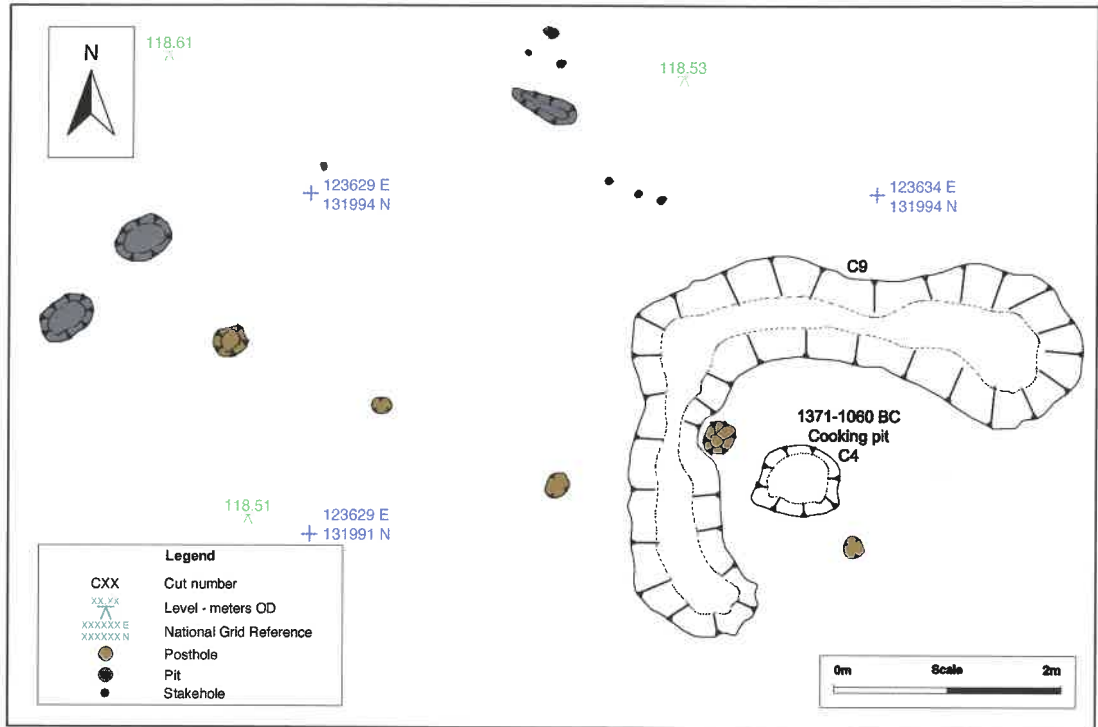


Fig. 4 Garryduff 1



Plate 4 Pre-excavation view of Garryduff 1 facing east

investigations.²⁹ In spite of this, no clear understanding of their precise function has been established. Mounds of heat-shattered stone have been dated as far back as the Neolithic period and as recently as the medieval period, however, those associated with a formal trough have generally been dated to the Bronze Age.

Discussion on the Bronze Age features

Distribution of known prehistoric sites in the region south of the Shannon indicates small-scale communities that exploited the better soils extending to the wetter terrain along the eastern estuary of the Shannon.³⁰ This is illustrated by newly identified sites in the wider area. A Bronze Age roundhouse (RMP LI030-163) was excavated at Kiltenan South,³¹ c.21 km east of Garryduff; the excavated features comprised two lengths of gully, 33 post-holes, 70 stakeholes, twelve pits and a hearth. Bronze Age settlement sites were also recently unearthed in advance of the construction of the Limerick Southern Ring Road and the N20/N21 Adare to Limerick scheme,³² c.35 km north-east of Garryduff. These included Bronze Age houses, pits, a wooden trackway and burnt mounds. The construction of the M8 Cashel to Mitchelstown, M7 Nenagh to Limerick and M18 motorway schemes have also unearthed a wealth of Bronze Age settlement evidence in the wider landscape suggesting that this area – like many parts of the country in the Bronze Age – was extensively settled at the time. The Lough Gur complex, positioned c.25–30 km to the east-northeast of Garryduff, was a major population centre in the Bronze Age and represents a substantial Bronze Age landscape with upstanding evidence for standing stones, barrows and burnt mounds.

Evidence for Bronze Age domestic activity is generally identified in two forms. The first consists of the obvious remnants of houses, usually in the form of foundation trenches and well-defined patterns of postholes, while the second consists of more ephemeral evidence in the form of postholes and stakeholes, pits and hearths. House sites often occur in isolation, as at Garryduff 2, but have also been found in clusters and large groups such as those at Corrstown, Co. Derry.³³ On occasion they may be enclosed by ditches, banks or palisades, such as at Chancellorsland, Co. Tipperary³⁴ and Ballybrowney, Co. Cork.³⁵ The enclosures were not always defensive and in some cases may have been used to delimit the occupational area, as at Tober, Co. Offaly.³⁶ Bronze Age houses have been identified in most landscape zones; lowland, uplands and wetlands. The majority of evidence for Bronze Age settlement dates to the Middle Bronze Age period, and it would appear that there was a tailing off in construction and settlement towards the end of the period which appears to coincide with wetter climatic conditions.

Circular ground-plans are the most common type in Bronze Age houses, with oval and rectilinear houses occurring less frequently in the archaeological record.³⁷ The diameters

²⁹ A. Hawkes, 'Medieval fulachtaí fia in Ireland? An archaeological assessment', *Journal of Irish Archaeology*, XX (2011) pp 77–100.

³⁰ Grogan, O'Donnell and Johnston, *Bronze Age Landscapes of the Pipeline to the West*, p. 149.

³¹ K. Taylor, 'Kiltenan South, 02E0667', *Excavations.ie database of Irish Excavation Report*, 2002:1198.

³² N. Bermingham, F. Coyne, G. Hull, F. Reilly, K. Taylor, *River Road – The Archaeology of the Limerick Southern Ring Road. NRA Scheme Monographs 14* (Dublin, 2013).

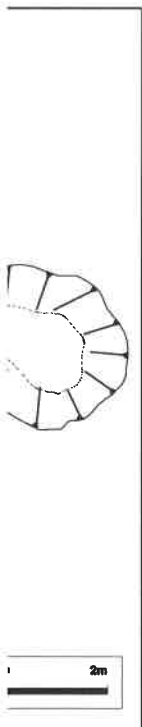
³³ V. Ginn, and S. Rathbone, *Corrstown: A Coastal Community* (Oxford, 2012).

³⁴ M. Doody, 'Bronze Age houses in Ireland' in A. Desmond, G. Johnson, M. McCarthy, J. Sheehan & E. Shee Twohig (eds), *New agendas in Irish Prehistory* (Bray, 2000) pp 135–60.

³⁵ E. Cotter, 'Bronze Age Ballybrowney, County Cork' in J. O'Sullivan & M. Stanley (eds), *Recent Archaeological Discoveries on National Road Schemes 2004* (Dublin, 2005) pp 37–45.

³⁶ F. Walsh, 'Site A016/051; E2677: Tober 1, Tober, County Offaly' (Unpublished Final Report. National Monuments Service, Department of the Environment, Heritage and Local Government Dublin, 2009).

³⁷ Doody, 'Bronze Age houses in Ireland' p. 137.



of roundhouses identified to date vary from 3m to 15m and it would appear that there was no standard size. Where the entrance is identifiable it is most commonly placed on the south-east, east and north-east, north and south, in decreasing frequency.³⁸ The entrance is usually identifiable as a gap in the slot trench and may be defined by larger posts on either side, or by parallel posts inside or outside the circle of posts defining the house and represent an internal or external entrance porch, often with door sills. The roofs were supported by at least one ring of posts and occasionally a central post. The external walls would appear to have been non-load bearing. Internal features identified from excavated sites have included stakeholes representing wall screens, storage pits, waste pits, stone paving and hearths. It is likely that a typical roundhouse could have survived for 30-75 years.³⁹ A lack of chronologically diagnostic artefacts and C14 dating of internal features associated with roundhouses has limited the sound interpretations of internal features though. Some excavated roundhouses have shown signs of repair and rebuild, as has been reported at the site of Corrstown, Co. Derry⁴⁰ where seventy-four roundhouse platforms were excavated. This nucleated site represents the highest concentration of contemporary Bronze Age houses known to date throughout Ireland and Britain. Since the research by Doody and Carlin there has been a further increase in the number of Bronze Age settlements uncovered in Ireland, especially those buildings identified in advance of road construction over the last ten years.⁴¹

Burnt mound sites generally consist of a low mound of burnt stone, often crescent-shaped and are typically found in low-lying marshy areas or close to streams, rivers and standing water where there is an available water source or a high water table. In many cases the sites have been disturbed by later agricultural activity or quarrying and are no longer visible on the field surface and are revealed through ground disturbance as spreads of heat-shattered stone. Nevertheless, even disturbed spreads of burnt mound material often preserve the underlying associated features, such as troughs, pits and gullies, intact.

The sites operated through heating or boiling water by placing fire-heated stones into troughs or pits of water. Other pits of various sizes and depths are often associated with them. The purpose of these pits remains unclear. Occasionally large pits are also identified that may have acted as wells or cisterns. Linear gullies extending across sites, often linked troughs and pits, and demonstrate a concern with on-site water management and drainage. Postholes and stakeholes are also often found on burnt mound sites and these may represent the remains of small structures, racks or windbreaks.

Burnt mound sites reached their pinnacle of use in the Middle to Late Bronze Age.⁴² Earlier sites, such as Enniscoffey Co. Westmeath,⁴³ have been dated to the Neolithic and

³⁸ N. Carlin, 'M3 research report on Bronze Age houses in Ireland' (Unpublished Research Report for ACS Ltd, 2006) p. 10.

³⁹ J. Brück, 'Houses, Lifestyles and Deposition on Middle Bronze Age Settlements in Southern England' in *Proceedings of the Prehistoric Society*, 65 (1999) p. 149.

⁴⁰ Ginn, and Rathbone, *Corrstown: A Coastal Community*.

⁴¹ E. Lyne, 'E3130 Phoenixtown 3 Final Report' (Unpublished Final Report, National Monuments Service, Department of Arts, Heritage and Gaeltacht, Dublin, 2010); McQuade, Molloy and Moriarty, *Archaeological excavations along the N8 Cashel - Mitchelstown Road Improvement Scheme*; J. Tierney and P. Johnston, 'No Corners! Prehistoric roundhouses on the N8 and N7 in counties Cork, Tipperary and Offaly' in M. Stanley, E. Danaher & J. Eogan (eds), *Dining and Dwelling: proceedings of a public seminar on archaeological discoveries on national road schemes. Archaeology and the National Roads Authority Monograph Series No. 6* (Dublin, 2009) pp 99-108; F. Walsh, 'F. Site A016/051; E2677: Tober 1, Tober, County Offaly' (Unpublished Final Report, National Monuments Service, Department of the Environment, Heritage and Local Government, Dublin, 2009).

⁴² A. Brindley, 'Radiocarbon dates from Irish *fulachta fiadh* and other burnt mounds', *Journal of Irish Archaeology* 5, (1989-90) pp 25-33; C. Corlett, 'A *fulacht fiadh* site at Moynagh Lough, County Meath', *Riocht na Midhe*, 9 (3) 1989-90) pp 46-9.

later sites, such as Peter Street, Co. Waterford,⁴⁴ have been dated to the medieval period illustrating that although they were primarily used in the Bronze Age period similar technology has been used over a much longer time.

While several theories have been proposed for their use, no single theory has received unanimous support. The most enduring theory is that burnt mounds were used as cooking sites. O'Kelly⁴⁵ and Lawless⁴⁶ have demonstrated how joints of meat could be efficiently cooked in a trough of boiling water. The use of burnt mound sites for bathing or as saunas has been suggested as an alternative function.⁴⁷ This proposal is largely influenced by references in the early Irish literature to sites of a similar character and is very difficult to prove, or disprove. Others, such as Jeffrey,⁴⁸ argue that they may have been centres of textile production for the fulling or dyeing of cloth while more recent demonstrations by Quinn and Moore⁴⁹ have shown that troughs could have been used for brewing.

There are no known burnt mounds recorded in the Record of Monuments and Places (RMP) within 5km of Garryduff however some sites are recorded in Commons townland (RMP LI028-089 and LI028-175) c.7km to the north and Rathfreedy townland (RMP LI037-109-111) c. 9km to the east. The distribution of known burnt mounds in Limerick is heavily biased by the footprint of recent large-scale infrastructural schemes. It is possible, therefore, that unidentified sites are located within proximity to Garryduff 1 and 2. A number of Bronze Age sites were discovered in advance of the Gas Pipeline to the West Project,⁵⁰ c.20-30km north and north-east of Garryduff, the majority of which comprised of burnt mounds and spreads of heat-shattered stone. A recent excavation at Bolane and Glenameade, County Limerick revealed a number of burnt mounds dating from the Early to Late Bronze Age period.⁵¹

Iron Age Pit at Garryduff 2

A sub-rectangular pit was located to the west of the roundhouse structure at Garryduff 2 but was much later in date (Figs 2 and 3). It contained heat-shattered stone and charcoal and may have been an industrial or cooking pit. Oak, hazel, ash and elm charcoal were identified from its fill.⁵² Hazel (*Corylus* sp.) charcoal from the pit returned a Late Iron Age date of 37 BC-AD 132.⁵³ Although identified in isolation this is an important find in that it demonstrates continuity of use within the landscape of Garryduff and also adds to our knowledge of Iron Age activity in the area.

⁴³ Grogan, O'Donnell and Johnston, *Bronze Age Landscapes of the Pipeline to the West*, p. 96.

⁴⁴ C. Walsh, 'A Medieval Cooking Trough from Peter Street, Waterford'. In V. Buckley (ed.), *Burnt Offerings: International Contributions to Burnt Mound Archaeology* (Dublin, 2007) p. 47.

⁴⁵ M.J. O'Kelly, 'Excavations and experiments in ancient Irish cooking-places', *JRSAL*, 84 (1954) pp 105-55.

⁴⁶ C. Lawless, 'A *Fulacht Fiadh* Bronze Age cooking experiment at Turlough, Castlebar', *Cathair na Mart*, 10 (1990) pp 1-10.

⁴⁷ A.T. Lucas, 'Washing and bathing in ancient Ireland', *JRSAL*, 96 (1965) pp 65-114; L. Barfield and M. Hodder, 'Burnt mounds as saunas, and the prehistory of bathing', *Antiquity* 61 (1987) pp 370-9; D.A. Ó Drisceoil, 'Burnt mounds: cooking or bathing', *Antiquity*, 62 (1988) pp 671-80.

⁴⁸ S. Jeffrey, 'Burnt mounds, fulling and early textiles?' in M. Hodder and L. Barfield (eds), *Burnt mounds and hot stone technology* (Sandwell, 1991) pp 97-102.

⁴⁹ B. Quinn and D. Moore, 'Ale, brewing and *fulachta fiadh*', *Archaeology Ireland*, 21 (3) (2007) pp 8-10.

⁵⁰ Grogan, O'Donnell and Johnston, *Bronze Age Landscapes of the Pipeline to the West*, p. 145.

⁵¹ F. Walsh, 'Bolane 1, 12E228', idem, 'Bolane 2, 12E229', idem, 'Glenameade 1, 12E230' (Unpublished reports prepared by IAC Ltd for Limerick County Council 2011).

⁵² O'Carroll, 'Charcoal remains report' in Delaney, 'Garryduff 2 12E002 Final Report'.

⁵³ A sample of hazel (*Corylus* sp.) charcoal returned an AMS result of 1935±34 BP (UBA 20856). The two-sigma (2σ) calibrated result for this was BC 37-AD 132 indicating a date in the Iron Age period for this feature.

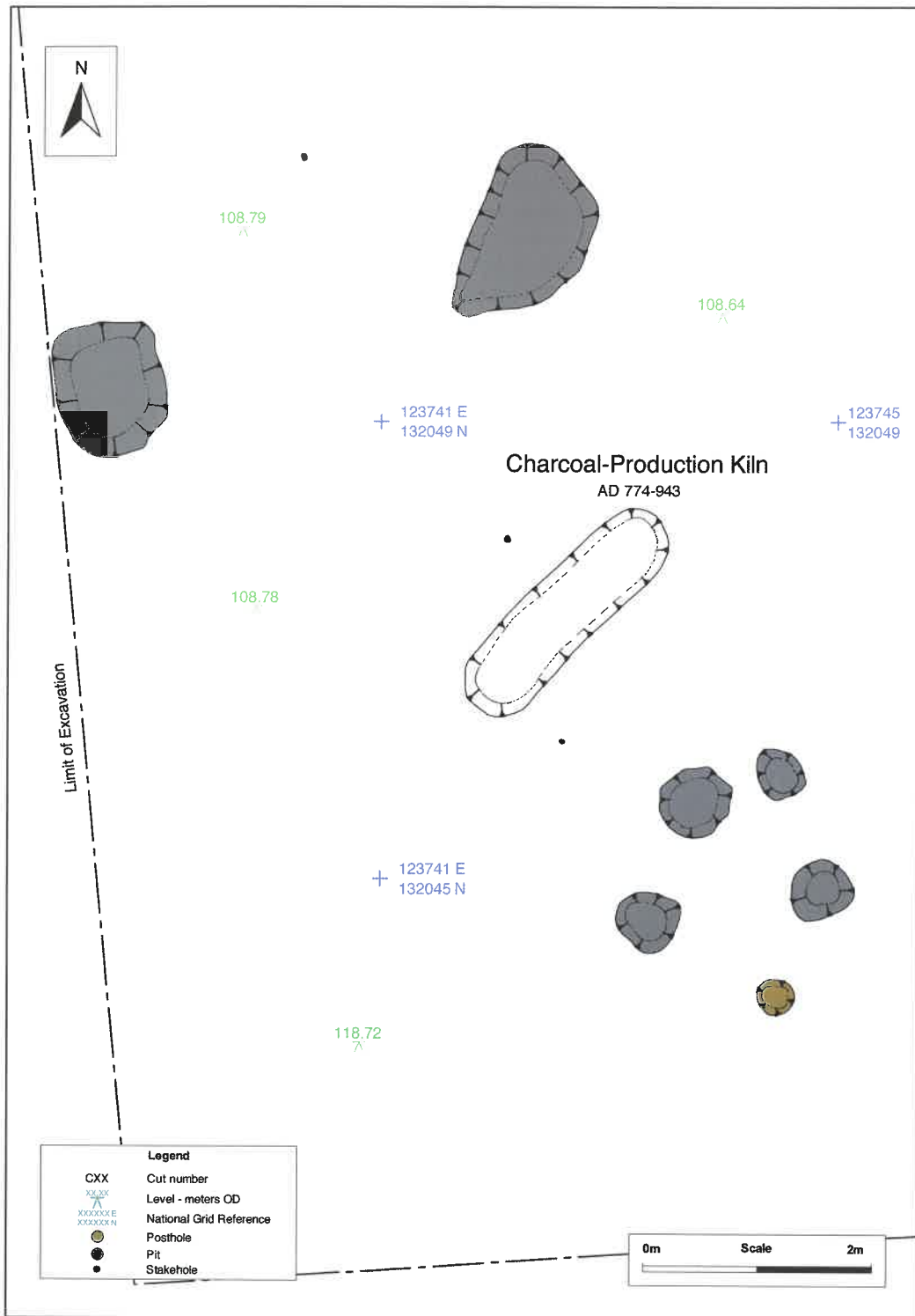


Fig. 5 Garryduff 3

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Plate 5 Charcoal-production pit, mid-excavation, facing south-west

Early Medieval charcoal-production kiln at Garryduff 3

Garryduff 3⁵⁴ was located approximately 400m to the east of Garryduff 2 and produced evidence for a charcoal-production kiln which measured 2.20m x 0.70m and 0.22m deep with some possibly associated pits and stakeholes (Fig. 5; Plate 5). The charcoal-production kiln still retained charcoal and its original sealing deposit and appeared to have been abandoned. Charcoal analysis identified hazel and Pomoideae as the main charcoal produced where oak would have been expected as it is the most commonly identified charcoal identified from this type of kiln.⁵⁵ It is likely that the type of wood used did not produce charcoal of a sufficient quality or that the charcoal got wet during the process resulting in the abandonment of the kiln. A sample of hazel (*Corylus* sp.) from the main fill returned a date of AD 774-943⁵⁶ indicating a date in the early medieval period for the use of the kiln.

Two stakeholes were identified on either side of the long axis of the kiln and may represent supports for a structure or spit built over it. This could simply have been to make use of the smoke and heat generated from the kiln for as simple a use as the expedient smoke-curing of meat or fish. Surrounding the charcoal-production kiln were a number of shallow pits. North of the kiln were two shallow pits with sterile grey clay

⁵⁴ Garryduff 3 was located at 124102/132084 (National Grid). Garryduff 3 lay at 108.80m Ordnance Datum (OD).

⁵⁵ E. O'Carroll, 'Charcoal remains report' in S. Delaney, 'Garryduff 3 12E003 Final Report' (Unpublished Final Report prepared by IAC Ltd for Limerick County Council, Dublin, 2013).

⁵⁶ A sample of hazel (*Corylus* sp.) charcoal returned an AMS result of 1182±26 BP (UBA 20863). The two-sigma calibrated result for this was AD 774-943 indicating a date in the early medieval period for this feature.

containing some iron pan staining. There was no obvious function for these pits. Five smaller pits were recorded forming a circle to the south of the kiln, one of which may represent a posthole as it was the deepest of the cuts and had vertical sides. All five features were filled with similar grey silt. There was no obvious function for these.

Charcoal-production kilns generally date through the Iron Age to the medieval period and are often linked to iron working. Charcoal is produced from the incomplete combustion of wood. It was used as an effective fuel, much more so than wood or turf for example, during the smelting and forging stages of iron working.⁵⁷

Vernacular Cottage at Garryduff 2

Early modern settlement at Garryduff 2 was represented by the remains of a vernacular house and two linear ditches (Fig. 2). The house and one of the ditches are marked on the first edition six-inch OS map. The house was defined by heavily truncated, mixed rubble walls on the northwest and southeast and by the line of the removed southwest wall (Plate 6). These remains were drystone built as there was no evidence for mortar or clay/mud bonding. The walls were 0.40-0.50m wide and survived to a height of 0.20m. There were no foundation trenches. No evidence survived of the north-eastern wall but a linear edge of the internal compacted floor surface may mark the end of the building (making it *c.*4m long internally and 3m wide internally). No evidence for a door was identified. The building material from the rest of the structure would have been robbed out but the lack



Plate 6 Vernacular house, facing east northeast

⁵⁷ For further discussion on charcoal production kilns see article by Fintan Walsh, 'Bronze Age Burnt Mounds and Charcoal-Production Kilns at Kildimo, Co. Limerick' in this volume.

of evidence for stone structure elsewhere may indicate that the building might have had some sod or earthen structure too. The floor appeared to be primarily a compacted clay silt surface. At the western end, centrally along the line of the wall, were the remains of a stone-flagged hearth. This was concentrated on a rectangular area approximately 1.40m x 1.20m and was comprised of eight thin flags of slate with some cobbles on the north side. No evidence for a chimney embrasure was identified. The flags had been burnt and their surface was scorched red implying this was the location of the hearth or fireplace. The excavation did not provide a definitive date for construction however finds of corroded iron, transfer ware and glass were recovered from close to the hearth and suggest a use-date from the nineteenth century. A drain was excavated immediately to the northeast of the fireplace. It was located running (and draining) from the northwest corner of the house to mid-way along where the southeastern wall would have been. The drain was stone-lined and capped, and was sealed by the floor surface. It is likely to have kept the area surrounding the fireplace drained and free from damp.

Conclusion

The partially defined foundations of a circular structure and associated settlement activity comprised a Middle Bronze Age settlement of some archaeological significance both at a local and a regional level. It, and the Later Bronze Age burnt mound activity at both Garryduff 1 and 2, adds greatly to our knowledge of the settlement pattern of this region during the period.

The single Iron Age industrial pit identified at Garryduff 2 is also of local and regional significance as Iron Age sites tend to be difficult to identify in the landscape. The identification of an early medieval charcoal-production kiln at Garryduff 3 is a further addition to the early medieval archaeology of the local area and adds to our knowledge of charcoal production in the wider regional area. The excavation of the vernacular house confirms the location of the house from the first edition six-inch OS map (1841) and illustrates how this location has been chosen for settlement over millennia.

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