# N7 Nenagh to Limerick High Quality Dual Carriageway
# Archaeological Resolution Project
# E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary

**Final Archaeological Excavation Report**

**for**

**Limerick County Council**

**Aisling Mulcahy and Kate Taylor**
**TVAS Ireland Ltd**

**Job J06/15**

NRA An tÚdarás um Bóithre Náisiúnta National Roads Authority

Comhairle Chontae Luimnigh Limerick County Council

NDP National Development Plan Transforming Ireland

European Union Structural Funds

transport21 progress in motion

**6th March 2012**

## Summary

**Scheme name:** N7 Nenagh to Limerick High Quality Dual Carriageway

**Scheme number:** A026/000

**Site name:** E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary

**Scheme sub number:** N/A

**Record number:** E3327

**Townland:** Carrigatogher (Ryan)

**Parish**: Burgesbeg

**Barony:** Owney and Arra

**County:** Tipperary (NR)

**NGR:** 181550 176780

**OS 6" Sheet No:** Co. Tipperary Sheet 020

**Chainage:** 25950

**Client:** Limerick County Council, Mid West National Road Design Office, Lissanalta House, Dooradoyle Road, Dooradoyle, Co. Limerick

**Naturally occurring geology:** Glacial till. Mid orange sandy clay with limestone boulders, cobbles and chips

**TVAS Ireland Job No:** J06/15

**Licence Eligible Director:** Kate Taylor

**Report author:** Aisling Mulcahy and Kate Taylor

**Site activity:** Excavation

**Site area:** 1777.8m$^2$

**Date of fieldwork:** 2$^{nd}$ April to 17$^{th}$ May 2008

**Date of report:** 6$^{th}$ March 2012

**Summary of results:** Mid-second millennium BC settlement site with fragments of pottery vessels and a copper alloy razor.

**Monuments identified:** Two Early/Middle Bronze Age roundhouses, ancillary structure, pits, posthole and burnt stone spread.

**Location and reference of archive:** The primary records (written, drawn and photographic) are currently held at TVAS Ireland Ltd, Ahish, Ballinruan, Crusheen, Co. Clare.



*Report edited/checked by: Nora Bermingham √February 2012*

# N7 Nenagh to Limerick High Quality Dual Carriageway, E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary Final Archaeological Excavation Report

Aisling Mulcahy and Kate Taylor

## Introduction

This report documents the final results of the archaeological excavation of two Bronze Age roundhouses, a burnt stone spread, a trough, a structure, pits and postholes (site E3327) on the route of the N7 Nenagh to Limerick High Quality Dual Carriageway (HQDC), Carrigatogher (Ryan) Site 3, Co. Tipperary (NGR 181550 176780) (Fig. 1). The excavation described here forms part of the N7 Nenagh to Limerick HQDC Archaeological Resolution Contract.

A preliminary report on the excavation was produced in December 2009 (Mulcahy and Taylor 2009).

The National Monuments Act 1930 (as amended) provides the legislative framework within which archaeological excavation can take place and the following government publications set out many of the procedures relating to planning/development and archaeology:

*Framework and Principles for the Protection of the Archaeological Heritage* (DAHGI 1999a)

*Policy and Guidelines on Archaeological Excavation* (DAHGI 1999b)

*Code of Practice between the National Roads Authority and the Minister for Arts, Heritage, Gaeltacht and the Islands* (NRA/MAHGI 2001)

The archaeological work was carried out following Ministerial Direction given under the National Monuments (Amendment) Act 2004.

## Project background

The excavation was carried out on the route of the new N7 Nenagh to Limerick HQDC. The scheme starts at the existing Newport Junction in the townlands of Carrowkeel and Mountshannon, runs north-eastwards towards Nenagh (Carrigatogher) and continues to Ballintotty at the end of the Nenagh Bypass, which will be widened. The total length of the route is 35.7 km.

The archaeological work included assessment of sites previously recognised and prospection for sites without surface expression by means of mechanical test trenching. A number of archaeological sites were confirmed or recognised during this testing. As preservation *in situ* was not a reasonable option, the resolution strategy for these sites was preservation by record, i.e. full archaeological excavation.

The archaeological fieldwork and post-excavation work were funded by Limerick County Council through the National Roads Authority.

## Location, topography and geology

Archaeological site E3327 was located at NGR 181550 176780 in Carrigatogher (Ryan) townland, parish of Burgesbeg, barony of Owney and Arra, Co. Tipperary (Figs 1 and 2). The route of the new Nenagh to Limerick HQDC traverses a gently undulating landscape of lowland pasture broken only by a large peat filled basin that straddles the border between Counties Limerick and Tipperary. The

region is overlooked by the Silvermines Mountains to the east and the Arra Mountains to the north and west.

Carrigatogher (Ryan) Site 3 was located north-west of a minor road on a plateau in the foothills of the Arra Mountains, overlooking the Kilmastulla valley to the east. The area was formerly a house and gardens that were demolished in advance of development (Property 44; ID No. 44). The site was bounded on the south-west by an earthen bank and a small stream (Scheme No. A026/350, ID No. TB46) which separates the townland from Carrigatogher (Harding) and on the south-east by a minor road. The natural geology is glacial till, specifically mid orange sandy clay with limestone boulders, cobbles and chips. The site lay at approximately 90 m above Ordnance Datum (OD) and had expansive views to the east and south-east.

## Archaeological and historical background

A search of documentary and cartographic sources was made. Information was gathered from, amongst other sources, the Sites and Monuments Record (SMR), Record of Monuments and Places (RMP) files, The National Monument Service website www.archaeology.ie, the *Excavations* database and publications (www.excavations.ie and Bennett 1987-2008) and from holdings of the County Tipperary Local Studies Centre, Thurles.

### *Cartographic sources*

The Down Survey map, 1655-56, of Burges (Burgesbeg) parish shows the townland of Carrigtogher (Fig. 3). A tower house and two hills are depicted within the townland. North-east of the townland is Knockanerapesig part of Carrigtogher and to the south-west is Curraghnenane in Carrintogher Arabb. To the south-east are bog and wood in common.

There are ten buildings depicted on the Ordnance Survey (OS) 1st edition 1843 map in Carrigatogher (Ryan) townland within the road take (Fig. 4). There is one building 75 m south-west of the site, adjacent to the road and the townland boundary with Carrigatogher (Harding). Outside the road take there a number of dwellings situated on the minor road that runs through the townland, two farmsteads to the north-west of the townland and sparse settlement to the south-east.

The 1851 Griffith Valuation map shows no changes in the townland. The 1901-1902 25" OS edition and the 3rd edition OS map, surveyed 1901-05, no longer shows the building seen on the 1st edition map adjacent the road and the townland boundary. There were no above ground remains visible of the building with the exception of a dry-stone wall marking the townland boundary. Indeed there are fewer dwellings marked on these maps. 'Carrigatogher House' is annotated on both editions.

### *Sites and Monuments Record/Record of Monuments and Places*

There are no previously recorded monuments in the townland. Recorded monuments TN020:05701-04, a tower house, bawn, dwelling and earthworks, are located approximately 400 m from site E3327.

### *The* Excavations *database*

A search of the *Excavations* database was made for the townland of Carrigatogher (Ryan) and the neighbouring townlands of Bawnakey, Carrigatogher (Abbott), Carrigatogher (Harding), Carrigatogher Bog (Ryan), Monaroan, Patrickswell, Kilcolman, Toorfune and Tullahedy. Investigations undertaken as part of this road scheme are not included here as they are discussed in detail elsewhere. There were two licences issued for Carrigatogher and fourteen for Tullahedy as part of the Nenagh Bypass assessment. One licence was issued for Kilcolman townland.

*Tullahedy, 96E317 – AR12*
A curving ditch like feature was identified in the EIS for the proposed Nenagh Bypass. An 8 m cutting was hand dug in the feature and it was interpreted as a lake bed (Eogan 1996).

*Tullahedy, 96E317 – AR14*
A single trench was excavated in a knoll identified as being of archaeological potential in the EIS for the proposed Nenagh Bypass. No subsurface archaeological features were found (ibid.).

*Tullahedy, 96E317 – AR18 (SMR 20:80)*
Two hand cuttings were dug at the location of 'Tullahedy Old House' as depicted on the OS 6" map. A mortar-bonded wall, whose northern face only survived was found; to a maximum height of two courses of squared, but not dressed, limestone blocks. Abutting the wall and extending for a maximum of 1.60 m to the north of it was a layer of cobbles. The cobbles immediately abutting the wall were a mixture of sub-angular and rounded pebbles and gave the impression of being disturbed, but in from the face of the wall the nature of the cobbling changed, the cobbles being firmly bedded and uniformly rounded. Red brick must have been a significant component of the structure of 'Tullahedy Old House' as a considerable amount was found (ibid.).

*Tullahedy, 96E317 – AR19*
The remains of a post-medieval field enclosure and associated drainage system were uncovered. The rectangular field, which was identified in local oral tradition as the paddock associated with 'Tullahedy Old House', was defined on two sides by a low rounded bank (ibid.).

*Carrigatogher, 96E318 – AR10*
Four test trenches were opened on a dry raised platform, close to the Dublin road, in an otherwise marshy field. Two low walls were present at the location of a farmstead noted on the 1st edition OS map, and they were dated to the post-medieval period (McConway 1996a).

*Tullahedy, 96E318 – AR 11*
Three trenches were opened across low banks. The banks were constructed from sand and were heavily flecked with charcoal but as they were ploughed out their function was unknown (McConway 1996b).

*Tullahedy, 97E317*
Three test trenches were excavated at this site. Three banks, a possible fourth bank and two marl pits were uncovered. Marl would have been used as fertiliser in boggy areas in 19th century (Logue 1997).

*Tullahedy, 97E472 (SMR 20:79)*
This site encompasses a large mound that the interior of which has been quarried for sand and stone over the centuries. Monitoring of topsoil revealed extensive archaeological remains. Material recovered included Neolithic pottery, chert scrapers, arrowheads, flakes and debitage, along with stone axes (McConway 1997).

*Carrigatogher/Tullahedy, 98E160*
A corridor 600 m x 20 m was monitored along the western limit of the N7, Nenagh Bypass, from Tullahedy (SMR 20:79) in the east, linking up with the N7 in the west. During monitoring, large sub-rectangular pits were uncovered. It was concluded that these pits form part of the extensive post-medieval/industrial archaeological landscape identified at Tullahedy. The pits appear to have been dug for the purpose of excavating the lime marl, to be used as a fertilizer in the reclaiming of the surrounding bogland. Such activity was common during the 19th century (McConway 1998a).

*Tullahedy, 97E472 cont. (SMR 20:79)*
The site including the large mound investigated in the previous year and it was agreed that due to the amount of archaeological remains that the lower slopes of the mound be covered with terram and topsoil. The mound itself was almost entirely enclosed by a linear ditch. There was evidence of a

palisade along the inner edge of the ditch. A number of pits, postholes and stakeholes were excavated. One large pit in particular was lined with wooden planks burnt in situ. Finds included polished stone axes, chert arrowheads, struck chert, chert scrapers, stone beads and pendants, Neolithic pottery and bone (McConway 1998b).

*Tullahedy, 98E540*
Three burnt mounds were found in Tullahedy townland near the Nenagh-Limerick railway line. Site A was separated from Sites B and C by the Nenagh bypass. Sites D and E contained ditches (O'Brien 1998 and 1999).

The southern part of Site A was destroyed by the construction of the railway line. The burnt stone mound was roughly circular 23.50 m by 19 m and 0.70 deep. Up to seven clay lined troughs, a hearth, stone cobbling and structural stakeholes were found under the mound. Smelting activity was evident as there were large quantities of waste slag, ash and ore and a possible furnace pit was excavated. Another pit contained burnt animal bone, iron nails, charcoal, hazelnuts and apples seeds. Other finds included stone weights, flint and a stone bead.

Site B's mound was also roughly circular, 22 m by 26 m and 1.50 m deep. The site was located on the edge of the bog. Two phases of burning activity was recorded with clay lined pits and cobbled areas cut into the natural. Finds were only recovered from the secondary fulacht activity and include rubbing stones, hone stones, worked, burnt and unburnt bone, slag and part of a rotary quern. The remains of a stakehole structure was found at the south-west of the site. Site C was 3 m to the east of Site B and were joined by a cobbled stone surface. Two phases of burning activity was also recorded at Site C. The burnt stone was roughly horseshoe-shaped and was 0.30 m. A raised platform of ground was seen in the centre of the stone spread and was surrounded by four deep postholes. Two possible troughs/pits were also excavated. Site D consisted of two ditches located to the north-west of Site B. Finds included butchered animal bones, slag, metal and charcoal. Site E was located to the west of Site B and consisted of two to three drains that only survived in section. The ditches were covered with bog suggesting an early date.

*Tullahedy, 00E222-00E226*
Five areas were investigated as part of the N52 Nenagh-Limerick Road (Murphy 2000). The area around a turlough was stripped but the feature was deemed to be natural. Two large *fulachtaí fia* were found in the south of the site. The first *fulacht* was 21 by 36 m and was cut by a modern field boundary ditch. Fourteen pits were uncovered under the spread along with stakeholes and postholes possibly indicating a raised surface and a hut or shelter. The second *fulacht* was 41 by 21.50 m and was also cut by a modern field boundary. Thirty pits were revealed under the spread.

To the south-west of the site was a ringfort whose ditch was 2.40 m wide by 0.90 m deep. The ditch was cut to the south by a field boundary. A small souterrain was located within the interior of the ringfort. The souterrain measured 7.25 by 2.80 m and contained a single chamber with a creep leading north-west. Wooden planks and a large wooden beam were found in the chamber and the beam was dated to AD 661-8. Some pits within the ringfort contained burnt clay and iron slag.

To the east were two prehistoric enclosures. Only two ditches of a sub-rectangular enclosure survive, 9.80 m and 9.62 m. Six pits/postholes were recorded within. The second enclosure was oval, c. 22 m long and 0.40-0.60 m wide. Five postholes, ten pits and three stakeholes were excavated within.

*Kilcolman, 02E0035*
Monitoring for a single house near a ringfort revealed no archaeological material (Hodkinson 2002).

***National Museum of Ireland Topographic Files***

No stray finds are recorded on the National Museum of Ireland Topographic Files for Carrigatogher (Ryan) or surrounding townlands.

***Documentary sources***

The townland name Carrigatogher derives from the Irish *Carraig an Tóchair*. *Carraig* is the Irish for rock while *tóchar* signifies a trackway or causeway. In the Civil Survey of 1654-6 Carrigatogher is called 'Carrigtoghir' and is listed with Curraghnennan. In 1640 the proprietors of Carrigtohgir and Curraghnennan were 'Lewes Wailsh Esqr. Irish Papist and Richard Lennard of the Citty of Lymicke Sheoo maker an English Protestt' (Simington 1934, 147). The lands contained an estimated 300 plantacon acres, including 200 arable acres, two meadow acres, 20 pasture acres and 78 red bog acres. The land was valued at 12 li and is described below:

*The sd three plds of Carrigtohir & Curraghnennane are bounded on the West wth. ye lands of Bunagurt, on the East wth ye lands of Gurrane both in this Parish, on the South wth. the Lands of Lissinenaclouty in Upp Ormond & the Parish of Kilmore, and on the North wth. the lands of Carrigmadden in the Parish of Youghill The sd. Lewes Wailsh pprietor in fee in Right of his Wife Onora of a third pte of the sd three plds, and of the other two third ptes pprietor in fee by purchas long before the Rebellion from Margarett & More Bryen Sisters to the said Onora (as wee are informed) Of wch. Three plds one pld & the Castle stands mortgadged unto Richard Lennard of the Citty of Lymicke Sheoo maker (as wee are informed). Upon these 3 plds stands a Castle & a stone house the Ruines of a mill & two thatcht Tennemts* (ibid.).

The Ordnance Name Book 1840 translates Carrigatogher as the 'rock of the causeway' and tells us that the family names were added later. Carrigatogher (Ryan) townland is described thus:

*A middling sized townland chiefly under cultivation having a large piece of bog in the East side and some furze in the West end and the Mail Coach road from Dublin to Limerick passes through it* (O'Flanagan 1930, 101).

Samuel Lewis writing in the mid 19th century describes Burges Beg parish (Lewis 1837, 231-2) but not Carrigatogher townland itself. According to Griffith's Valuation (1851) there were 71 listings for the townland of Carrigatogher (Ryan). The tenants listed of the part of the townland within the road take are Catherine Kenna, William Brien, Mary Morgan, Patrick Morgan and John Lacy. Burgess School took part in the Schools Folklore Scheme 1937-39 and among the topics recorded by the school were hedge schools. The following is an extract from the information gathered by the school:

*The hedge schools in this district were a) Carrigatogher Abbot; this was so called after a landlord's name, b) Bawnakey, c) Carrigatogher Ryan. Among the hedge school masters may be mentioned Pat Seymour, Paddy Gleeson. Subjects were Fosters Reading and Spelling Book. Arithmetic- 'The rule of three'. The school was conducted in a barn or dwelling house that not be occupied. The majority of the pens were quill, no desks but there were kinds of forums or planks, no fire. The School was in operation until 3pm with a break of about an hour for dinner. From 20 to 30 attended. The fee was 1d per week. Teachers lived on the income they got from pupil. The parish priest used to supply books. Very few spoke Irish seventy five years ago* (Irish Folklore Commission, 1937-39, 60-61).

***Environmental Impact Statement***

As part of the Environmental Impact Statement (EIS) for this road project, an Architectural, Archaeological and Cultural Heritage Report (MGL 2003) was commissioned. This statement of archaeology and built/cultural heritage was based on a desktop study of published and unpublished documentary and cartographic sources, supported by a field inspection and aerial inspection of the proposed route.

In addition to the Recorded Monuments described above the report identified the following areas of potential:

Three houses of late 20th century date in the townland were demolished in advance of road construction. These are Property 43 (ID No. 43), Property 44 (ID No. 44) and Property 45 (ID No. 45). These properties were deemed to be of no archaeological merit in the EIS. The buildings along the scheme that were to be demolished were architecturally recorded (O'Brien and Quinn 2006).

A raised platform was noted in the environs of recorded monuments TN020:05701-04, a tower house, bawn, dwelling and earthworks. This was thought to be possibly natural but was given ID No 46 in the EIS.

Part of the road development skirts the property boundary which surrounds Carrigatogher House (Property 46; ID No. 47), 350 m north-east of the site. Carrigatogher House is not named on the 1843 1st Edition OS map but is indicated as a rectangular structure with a north to south alignment with two possibly associated smaller buildings to the west and a possible orchard with enclosing orchard wall to the north. The house is named is on the revised 1901-05 edition OS map as 'Carrigatogher House'. The two smaller buildings appear as a single structure, and the orchard is no longer marked. The property was noted as being of architectural merit but was not directly impacted upon by construction works.

***Archaeological investigation on the N7 Nenagh-Limerick HQDC***

Archaeological test trenching by means of mechanically excavated centre-line and offset trenching along the route of the road project was undertaken by Aegis Archaeology Ltd and Judith Carroll and Company Ltd in early 2006. Areas of potential identified in the EIS were tested more intensively where possible and at this time the watercourses and townland boundaries were also examined. Further testing was undertaken by Headland Archaeology Ltd and TVAS (Ireland) Ltd in early 2007. This further testing was targeted on previous inaccessible areas i.e. under power lines etc. It was during the latter phase of testing that the archaeological deposits at Carrigatogher (Ryan) Site 3 were identified.

Sites also investigated in Carrigatogher (Ryan) were E2408, E2407 and E2473. Site 1, E2408, 400 m east, produced evidence of a Final Neolithic/Early Bronze Age phase, a possible early medieval ditch, early medieval charcoal production pits and post-medieval linear features and furrows (O'Connell 2009); Site 2, E2407, a large area beginning 10 m east of the site, contained Neolithic pits, Early Bronze Age pits, postholes and stakeholes, Middle and Late Bronze Age activity, Late Iron Age/early medieval charcoal production pits and kiln (MacLeod and O'Neill 2009) and Site 4, E2473, 34 m north-west, produced a large Late Neolithic/Early Bronze Age *fulacht fia* with associated pits and troughs (Hackett 2009a).

Six sites in Carrigatogher (Harding) were also excavated nearby during this scheme. Site 1, E2406, approximately 200 m south, contained a possible late Neolithic/Early Bronze Age roundhouse, pits and postholes, Late Bronze Age troughs and burnt spreads, early medieval hearth and post-medieval activity (MacLeod and Clarke 2009); Site 2, E3325, 43 m south-west, contained Middle and Late Bronze Age pits, an undated burnt stone spread and four undated pits (Taylor 2010); Site 3, E2474, between 47 and 277 m south-west, was a large site that incorporated Middle Neolithic pottery associated with occupation, Early Bronze Age trough and burnt spreads, two Middle Bronze Age roundhouses and cremation burials, Middle to Late Bronze Age *fulacht fia* with associated features, Late Bronze Age metalled working surface with burnt deposits and pits and early medieval pits (Hackett 2009b); Site 4, E2469, 270 m south-west, Early Neolithic pottery, Early to Middle Bronze Age circular structure, hearth and kiln and post-medieval features (Hackett 2009c); Site 5, E2285, 480 m south-west, had an Early Bronze Age roundhouse, two Middle Bronze Age roundhouses and *fulacht fia* activity, Late Bronze Age postholes, Iron Age pits, various undated pits, postholes and a modern drain (Ruttle and Taylor 2011) and Site 6, E2286, 675 m south-west, revealed an Early Bronze Age pit, a Middle Bronze Age *fulacht fia* and settlement, a multi-phased early medieval ditched enclosure containing graves, an early medieval structure, a medieval kiln, post-medieval iron-working waste and undated pits and postholes (Taylor 2012).

***Discussion of archaeological and historical background***

Other excavations within the townland and indeed the neighbouring townlands have proven that there was continuous occupation from the Middle Neolithic to the Late Bronze Age; evidence was of occupation associated with roundhouses, pottery and *fulacht fia* sites. The next phase of activity was charcoal production pits dated to the early medieval period, followed by post-medieval farming activity.

The structure adjacent to the townland boundary with Carrigatogher (Harding) depicted on the 1st edition map now has no above ground expression. There is however a dry-stone wall marking the townland boundary which may have been associated with the structure or the stone from the structure was re-used to build the wall.

**Earlier test excavations**

Carrigatogher (Ryan) Site 3 was identified during test trenching of areas that were not examined during the original testing programme due to their inaccessibility. In this case the land was occupied by a dwelling house and gardens (Property 44; ID No 44). This phase of testing was carried out by Headland Archaeology Ltd (MacLeod and O'Neil 2007). The archaeological deposits were found on 23rd February 2007 and the site was partially stripped at this time.

There were three main areas of archaeology identified by Headland Archaeology Ltd. At Chainage 25880 an area of burnt material containing heat-affected stone with a diameter of 3.40 m was found in a matrix of brownish black silty clay that was rich in charcoal. This area became E3327 Area A. A group of features at Chainage 25990 including a possible circular gully with a maximum internal diameter of 7.50 m, one rectangular pit, four archaeological spreads, eight postholes and thirty-two stakeholes were interpreted as representing a structure. At Chainage 25965 a possible pit 0.90 m in diameter was uncovered in one of the test trenches. The stripped area at Chainage 25990 containing the possible structure was subsequently extended by TVAS (Ireland) Ltd on the 4th April 2007, incorporating the pit found at Chainage 25965. This larger area formed E3327 Area B. The site was excavated under Ministerial Directions.

**Excavation aims and methodology**

The aims of the excavation were to:

1) Preserve by record all archaeological deposits and features within the excavation area
2) Produce a high quality report of the findings

The fieldwork took place between 2nd April and 17th May 2007 and was directed by Kate Taylor, supervised by Aisling Mulcahy and assisted by Monika Bednarczyk, Bartosz Bomba, Piotr Ciesla, Borbola Dios, Mateusz Dudziak, Brigid Fitzsimmons, Arkadiusz Gnas Denise Hennessy, Lukasz Jaworski, Krzysztof Kacprzak,, Jacek Kacprzak Katarzyna Kozyra, Wojciech Krol, Robert Laczak, Fintan McCarthy, Joe McCooey, Owen Murtagh, Adam Mrozowski, Marcin Olejnik, Pawel Pobudkiewicz, Iwona Sliwka, Kamila Sliwka, Roman Szajna, Mara Tesorieri, Monika Widelka, Pawel Wieczorek and Mariusz Wolny.

Area A was sub-rectangular in shape with extensions to the east and west and measured approximately 19 m by 12 m (197.30 $m^2$). Area B was sub-square and measured approximately 39 m by 44 m (1580.50 $m^2$). The total area examined was 1777.80 $m^2$. Topsoil was removed by a tracked mechanical excavator fitted with 6-foot (1.80 m) toothless grading bucket and operated under direct and continuous archaeological supervision. The spoil was visually scanned for artefacts. Archaeological

features were excavated completely by hand. A full written, drawn and photographic record was made according to the TVAS (Ireland) Ltd Field Recording Manual (First Edition 2003). The site was tied into the National Grid using a Global Positioning System (GPS) unit.

**Excavation results** (Figs 4-23, Plates 1-12)

Area A contained a burnt stone spread, a possible trough and some pits. Area B yielded two roundhouses, a smaller structure and an array of other cut features. All features and contexts are listed in Appendix 1. Most of the archaeological features are prehistoric, specifically Middle Bronze Age, in origin. This activity has been divided into three phases based on dating results with a fourth, early medieval, phase represented by a single dated feature suggesting later unrelated occupation of the site. Two earlier phases are represented by lithic artefacts but no features.

***Area A*** (Figs 5-6, Plates 1-2)

The excavation of Area A focused on a shallow, burnt stone spread identified in testing and also revealed a number of pits (Plate 1). Three pits were identified within Area A. Two had no clear function (3 and 6) and one (4) was probably a trough. A fourth feature proved to be non-archaeological on excavation (1). This was a shallow and irregular depression filled with topsoil (2.00 m long, 0.70 m wide and 0.18 m deep).

Within Area A, topsoil (50) was mainly mid-brown silty clay, except at the west and north where the wetter conditions gave the topsoil a slightly higher clay content. Within the centre of the excavation area, around 0.22 m of sediment had been deposited over an area 8.00 m by 2.10 m (52). This deposit extended beyond the excavated area towards the north and overlay the probable trough (4). The sediment was probably deposited by flood water originating from the modern drain that traversed the excavation area.

*Phase 4 - Middle Bronze Age*

A burnt stone spread (54) occupied a gently inclined south-facing slope that rose towards a steep hill located north-west of the site. The spread was sub-circular in plan and measured 2.43 m by 1.65 m and was up to 0.05 m thick. The spread comprised loose clayey silt and ranged in colour from dark grey to black. It contained frequent heat-affected limestone (70%) and moderate charcoal (10%) inclusions.

Pit 3 was sub-oval in plan, concave in profile and measured 2.20 m by 1.60 m and 0.45 m deep. The pit contained seven fills (58, 59, 60, 61, 62, 63 and 64) mainly sandy grey clay except fill 64 which was black. The pit contained heat-affected stones and charcoal of hazel and oak. The stone and charcoal fill suggest the pit played a role in heating water and may have functioned as a trough.

Pit 4 was just north-west of the centre of the excavation area. The pit was sub-oval with near-vertical sides and a flat base that sloped downwards towards the south. The pit measured 1.74 m by 1.41 m and 0.70 m deep. The pit was truncated in the west by modern field drain 7. The pit was lined with 0.05 m thick, pale grey, clayey sand (69) that appears to have functioned as a watertight lining. Once removed the pit naturally began to fill with water. Due to the proximity of the water-filled modern field drain 7, it was unclear whether the water derived from the natural water table or from the drain.

The pit contained two main deposits (56 and 65). Fill 65 comprised fine grained, dark grey silty sand (0.30 m thick) with occasional stone inclusions. This was overlain by compact, dark grey to black fine sand with a high concentration of heat affected stone (56). Charcoal from the pit fills derived from alder, ash, hazel and oak. This pit may have functioned as a trough in which water was heated using hot stones. Ash charcoal from fill 56 returned a radiocarbon date of 1602-1427 cal. BC (UBA-13850).

*Unphased*

Towards the northern end of the site lay pit 6, an elongated oval pit with a concave profile that measured 1.42 m by 0.51 m and up to 0.30 m deep. The base of the feature sloped down from north to south. The single fill (57) was brown clayey silt with moderate stone and occasional ash and hazel charcoal inclusions. The fill was similar to topsoil and the stone was not heat-affected. This feature had no clear relationship to others on the site.

***Area B*** (Figs 7-23, Plates 3-12)

Area B contained two roundhouses, one sub-circular structure and a number of pits scattered across the site (Fig. 7, Plate 3). Radiocarbon dates suggest occupation during the Middle Bronze Age and the early medieval period. The activity can be further sub-divided into four phases of activity. Earlier activity was indicated by lithic artefacts. Across the excavation, was a moderate amount of disturbance in the area caused by foundations and drains associated with the modern dwelling that had previously occupied the site. Topsoil was mid-brown silty clay (150) which was homogenous across the excavation area.

*Phase 1 - Neolithic*

Two flint scrapers dating to the second half of the Neolithic were recovered from posthole 346 and pit 402, both associated with one of the Middle Bronze Age roundhouses. These artefacts were therefore residual in later features.

*Phase 2 – Final Neolithic / Early Bronze Age*

Another residual artefact, a flint core, was recovered from a Phase 5 hearth. This type of core is generally associated with the Final Neolithic or Early Bronze Age.

*Phase 3 – Middle Bronze Age*

Roundhouse 104 (Figs 8-10 and 17-19, Plates 4-8)

The ground plan of Roundhouse 104 was defined by a narrow, sub-circular penannular trench (Group 140), enclosing a space measuring approximately 6.7 m by 7.0 m (35.5 m²). Within the interior was a ring of postholes as well as several pits and stakeholes. A porch, represented by slot trenches and postholes (Group 313) occurred on the south-east side of the house. Two curving lines of stakeholes extended from the porch around the house in the east.

Eight slots were excavated through foundation trench 140 to ascertain its nature and extent (Table 1), and the feature was then fully excavated. The foundation trench was 0.17-0.40 m wide and 0.09-0.34 m deep (Plate 5), being deepest at the south-east, at the entrance, and shallowest at the rear of the structure, the north-west side. The trench was mostly ‘U’-shaped in profile, with some variation noted.

The trench was filled with fairly uniform dark clayey or sandy silt deposits overlain in places by a pale orange deposit. Charcoal occurred throughout and in places, stone lining or packing survived. Charcoal was mainly of oak and hazel with smaller amounts of alder and ash also represented. Small quantities of charred barley, wheat and weed seeds were also present. Within the trench prehistoric pottery (Vessels 5 and 6), was found in three locations, burnt animal bone in two and high temperature waste (vitreous material, probably from a domestic hearth) was recovered from slot 247. The only species identified from the burnt bone assemblage was pig with medium or large-sized mammals also represented.

The foundation trench terminated at the south-east to form the entrance. A pair of postholes formed each terminus (Group 313) which was separated by a gap of 0.48 m. A single stakehole (331) survived within the base of the trench in the south. The stakehole was 0.10 m in diameter and 0.16 m deep.

**Table 1: Roundhouse 104 – Excavated slots through foundation trench (Group 140)**

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Profile |
|---|---|---|---|---|---|
| 117 | 165, 276 | 1.90 | 0.30 | 0.28 | 'V'-shaped |
| 125 | 181, 290 | 1.90 | 0.24 | 0.15 | 'U'-shaped |
| 136 | 268, 281 | 0.90 | 0.24 | 0.15 | Concave |
| 145 | 257, 269 | 2.00 | 0.40 | 0.13-0.24 | Western face 'U'-shaped, eastern face concave |
| 205 | 277 | 1.50 | 0.29 | 0.16 | Concave |
| 214 | 288 | 4.30 | 0.17 | 0.17 | Concave |
| 247 | 360, 361 | 2.20 | 0.26 | 0.21 | 'U'-shaped |
| 301 | 376 | 0.80 | 0.39 | 0.34 | Probably concave, but the base was cut by postholes 219 & 249 |

Roundhouse entrance – Group 313 (Figs 8-9 and 15, Plate 6)

The entrance was located at the south-east and marked by 0.48 m wide gap defined by two pairs of large postholes at the termini of the foundation trench, two at the north-eastern terminus (219 and 249) and two at the south-western terminus (200 and 201). These postholes were the most substantial features associated with the roundhouse and could have accommodated large door posts. In addition, a deeper posthole (311) was cut into the base of the foundation trench immediately behind the north-eastern terminus. Oak, hazel, alder and ash charcoal were retrieved from postholes 219 and 249 while oak was the only taxa represented in posthole 311.

The area immediately outside the entrance had been subject to root damage with several features disturbed by tree roots. A series of gullies defined an almost rectangular area adjacent to the entrance which may represent the remains of a porch or extended entrance. Two gullies flanked the entrance, one the north and one in south with a third occurring immediately opposite the entrance in the east. The gullies enclosed an area of 4.2 m by 2.5 m (10.5 $m^2$).

The southern gully (224) was curved and irregular in plan. Charcoal from this gully included oak, hazel and elm. Inside and almost parallel to this gully, was a second smaller gully, the fill of which could not be easily distinguished from the adjacent outer gully. The northern gully (314/414) was linear and contained a substantial posthole (425) in what would have been the corner of the structure. The gully contained charcoal of oak, hazel and Pomoideae. Gully 430 formed the structure's eastern side and contained oak and alder charcoal within its fill. In part, this gully was not easily distinguished from a series of smaller features occupying the same general area. The latter comprised an irregular gully or depression (344) within which the large posthole 511 was incorporated. This posthole contained oak, alder and hazel charcoal. A single stakehole (431) occurred within gully 430 at its north end.

There was no evidence to suggest gully 430 was once longer or that it connected to the gullies forming either end of the porch. This may, however, be a product of preservation rather than representative of the porch's original construction. The gap between gully 430 and the southern gully 224 opposes the entrance into the house and may indicate the position of an outer entrance through the porch.

Within the area defined by the porch were a series of post and stakeholes. There were stakeholes and a posthole (513) at the foot of the foundation trench for the house (in the south stakeholes 518, 519, 520, 526; in the north stakeholes 342, 403 and 404). Posthole 513 contained hazel and oak charcoal. A single stakehole opposed each terminus of the foundation trench (516 and 405) with a further two stakeholes (602 and 514) extending eastwards from stakehole 405. Other features include a relatively

substantial posthole (511) preserved within gully 344 and which appears to have an equivalent extending from the inner arc of gully 224 to the south. These features suggest internal sub-division of the porch area in which small spaces flanked the entrance. Oak, hazel, and elm charcoal were retrieved from the stakeholes within the porch.

A large posthole (418) positioned almost in the middle of the gap between gullies 224 and 430 appears to have an equivalent opposing posthole outside the porch to the east (posthole 540). These were probably some sort of central supporting posts for the porch and what may have been an external screen.

The features described above were generally filled with dark grey brown, black sandy clay or silt with high stone content (some burnt) and a moderate amount of charcoal from oak, hazel, alder, elm and Pomoideae. Two charred cereal grains, both of wheat were retrieved from the porch gully and an internal stakehole. A spread of similar material (182), measuring 2.20 m by 1.60 m overlay several features including the foundation trench itself at the southern side of the doorway (not depicted on plan). Charcoal of hazel and of an indeterminate species was represented within spread 182.

**Table 2: Roundhouse 104 - Entrance features**

| Cut | Deposit(s) | Group | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|---|
| 200 | 773 | 104 | 0.40-0.50 | 0.40 | 0.42 | Sub-circular / 'U'-shaped |
| 201 | 774 | 104 | 0.41 | 0.41 | 0.28 | Circular / Concave |
| 219 | 365 | 104 | 0.30 | 0.30 | 0.30 | Circular / 'U'-shaped |
| 224 | 374, 498, 499 | 104, 313 | 3.50 | 1.60 | 0.27 | Perforated elongated oval / Concave |
| 249 | 370 | 104 | 0.40 | 0.40 | 0.30 | Circular / 'U'-shaped |
| 311 | 390, 391 | 104 | 0.30 | 0.30 | 0.37 | Circular / 'U'-shaped |
| 314 | 395 | 104, 313 | 1.00 | 0.54 | 0.15 | Linear / Irregular |
| 344 | 485, 486 | 104, 313 | 1.70 | 1.55 | 0.38 | Irregular / Concave |
| 414 | 556 | 104, 313 | 0.60 | 0.40 | 0.11 | Linear / Concave |
| 418 | 581 | 104 | 0.37 | 0.37 | 0.30 | Circular / 'U'-shaped |
| 425 | 572 | 104 | 0.98 | 0.32 | 0.23 | Oval / Steep sides, concave base |
| 430 | 580 | 104, 313 | 0.85 | 0.42 | 0.28 | Linear / Concave |
| 511 | 656 | 104 | 0.66 | 0.26 | 0.19 | Elongated oval / Concave |
| 540 | 693 | 104 | 0.60 | 0.49 | 0.17 | Sub-circular / Concave side, flat base |

**Table 3: Roundhouse 104 - Stakeholes inside the porch**

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 342 | 477 | 0.09 | 0.09 | 0.12 | Circular / Tapering |
| 403 | 490 | 0.10 | 0.10 | 0.09 | Circular / Steep sides, concave base |
| 404 | 491 | 0.16 | 0.16 | 0.13 | Circular / Vertical sides, concave base |
| 405 | 492 | 0.15 | 0.15 | 0.12 | Circular / Tapering |
| 431 | 582 | 0.05 | 0.05 | 0.14 | Circular / Steep sides, concave base |
| 513 | 663 | 0.34 | 0.28 | 0.34 | Oval / Steep sides, concave base |
| 514 | 664 | 0.21 | 0.21 | 0.22 | Circular / Tapering |
| 516 | 667 | 0.12 | 0.11 | 022 | Sub-circular / Vertical sides, concave base |
| 518 | 669 | 0.10 | 0.10 | 0.16 | Circular / Tapering |
| 519 | 670 | 0.12 | 0.10 | 0.13 | Oval / Tapering |
| 520 | 671 | 0.11 | 0.10 | 0.15 | Sub-circular / Tapering |
| 526 | 679 | 0.09 | 0.08 | 0.14 | Oval / Vertical sides, concave base |
| 602 | 755 | 0.12 | 0.10 | 0.13 | Oval / Tapering |

External stakeholes (Figs 7-8 and 18)

Two curving lines of post and stakeholes extended northwards and southwards from posthole 540 which occupied a central position opposite the house entrance and outside the porch. The northern arc comprised 15 stakeholes and extended over 15 m (137, 138, 215, 217, 245, 248, 347, 348, 431, 433, 443, 529, 610, 611 and 612). The southern arc retained 11 stakeholes extending over 7 m (226, 227, 228, 230, 231, 246, 528, 530, 618, 619 and 620). Each arc of stakeholes was between 1.00 m and 1.66 m distant from the house trench. Between the house trench and the northern arc of stakeholes, was a shorter inner arc of eleven stakeholes (216, 218, 221, 222, 243, 244, 342, 343, 403, 404 and 513). The occurrence of two lines of stakeholes suggests repeated construction, repair or replacement. Charcoal from the stakeholes showed multiple taxa occurring within each group and included alder, ash, hazel, oak and Pomoideae with elm also present in small amounts. Hazel and oak were the most commonly occurring taxa. A single charred grain of wheat was retrieved from one of the stakeholes (137).

There is no evidence to suggest the stakeholes formed a complete circuit around the house. There are a number of possible explanations for the recorded arrangement. For example, the stakeholes may have once held upright wattle screens which afforded the eastern side of the house with added definition and protection. Alternatively they may represent earlier (or later) unrelated structures although this would seem to be the less likely of the two suggested explanations.

Seemingly, randomly distributed stakeholes also occur within the general vicinity of the house, its porch and probable screens. For example, stakeholes 524, 527 and 547 all occur to the east of the porch. The role these stakeholes played is unclear but could relate to the erection of temporary or shorter-lived structures.

**Table 4: Roundhouse 104 - External stakeholes**

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 137 | 299 | 0.16 | 0.15 | 0.30 | Oval / Vertical sides, pointed base |
| 138 | 350 | 0.16 | 0.14 | 0.24 | Oval / Vertical sides, concave base |
| 215 | 297 | 0.13 | 0.13 | 0.16 | Circular / Vertical sides, concave base |
| 216 | 298 | 0.13 | 0.13 | 0.06 | Circular / Concave |
| 217 | 363 | 0.15 | 0.15 | 0.20 | Circular / Vertical sides, concave base |
| 218 | 364 | 0.08 | 0.08 | 0.09 | Circular / Vertical sides, concave base |
| 221 | 371 | 0.10 | 0.09 | 0.08 | Oval / Steep sides, concave base |
| 222 | 372 | 0.10 | 0.07 | 0.07 | Oval / Steep sides, flat base |
| 226 | 262 | 0.15 | 0.14 | 0.18 | Oval / Steep sides, concave base |
| 227 | 263 | 0.15 | 0.13 | 0.10 | Irregular / Irregular |
| 228 | 264 | 0.15 | 0.11 | 0.12 | Oval / Tapering |
| 230 | 266 | 0.18 | 0.11 | 0.22 | Oval / Vertical sides, flat base |
| 231 | 267 | 0.11 | 0.09 | 0.15 | Oval / Vertical sides, flat base |
| 233 | 271 | 0.20 | 0.15 | 0.15 | Oval / Tapering |
| 243 | 352 | 0.10 | 0.08 | 0.15 | Oval / Tapering |
| 244 | 353 | 0.08 | 0.07 | 0.09 | Oval / Tapering |
| 245 | 354 | 0.13 | 0.11 | 0.20 | Oval / Vertical sides, concave base |
| 246 | 355 | 0.10 | 0.09 | 0.08 | Oval / Concave |
| 248 | 362 | 0.12 | 0.12 | 0.20 | Circular / Vertical sides, concave base |
| 342 | 477 | 0.09 | 0.09 | 0.12 | Circular / Tapering |
| 343 | 478 | 0.10 | 0.10 | 0.11 | Circular / Steep sides, concave base |
| 347 | 488 | 0.10 | 0.10 | 0.33 | Circular / Vertical sides, concave base |
| 348 | 489 | 0.11 | 0.10 | 0.33 | Sub-circular / Tapering |
| 433 | 584 | 0.22 | 0.16 | 0.17 | Oval / Vertical sides, concave base |
| 443 | 593 | 0.13 | 0.13 | 0.23 | Circular / Tapering |
| 449 | 650 | 0.12 | 0.12 | 0.24 | Circular / Vertical sides, concave base |
| 527 | 680 | 0.14 | 0.14 | 0.18 | Circular / Tapering |

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 528 | 681 | 0.12 | 0.10 | 0.14 | Oval / Steep sides, flat base |
| 529 | 682 | 0.30 | 0.21 | 0.29 | Oval / Steep side, flat base |
| 530 | 683 | 0.08 | 0.07 | 0.09 | Sub-circular / Steep sides, flat base |
| 547 | 750 | 0.09 | 0.09 | 0.19 | Circular / Tapering |
| 610 | 763 | 0.08 | 0.08 | 0.12 | Circular / Tapering |
| 611 | 764 | 0.07 | 0.07 | 0.20 | Circular / Tapering |
| 612 | 765 | 0.08 | 0.08 | 0.10 | Circular / Tapering |
| 618 | 775 | 0.20 | 0.20 | 0.16 | Circular / Steep sides, flat base |
| 619 | 776 | 0.16 | 0.16 | 0.14 | Irregular / Steep sides, concave base |
| 620 | 777 | 0.10 | 0.10 | 0.12 | Circular / Tapering |

Features inside the house (Figs 8-9 and 18, Plate 7)

Postholes:
Eleven postholes were excavated within the interior of the roundhouse (Table 5). Six formed a U-shaped ring that mirror the overall shape of the house (114, 107, 220, 113, 207 and 120). The postholes were regularly spaced with an average distance of 1.90 m between their centres and lay approximately 0.95 m from the house foundation trench. The postholes represent the remains of inner roof supports for the house. Charcoal taxa from the postholes were mainly of oak or hazel with alder and elm also occurring. Two postholes contained artefacts. Posthole 107, situated in the south-west of the interior, was the deepest internal posthole, and yielded multiple finds including a copper alloy razor, pottery (Vessels 2 and 3) and burnt animal bone. Posthole 220 contained a piece of vitrified material, probably hearth waste. Posthole 120 was possibly truncated by depression 106.

Additional internal support is suggested by a series of postholes and a gully flanking the house's internal entrance. Three postholes (123, 124, 315) occur south of the entrance and these may correspond with a gully (225) located on the opposing side of the entrance. Two other postholes (307 and 133) did not form part of the primary ring of roof supports but could have provided additional support next to the house's outer wall. The postholes were circular or oval, around 0.35 m in diameter and depth. Oak and hazel charcoal were retrieved from postholes 133 and 315.

The postholes were predominately filled with dark brown sandy silt; some had clay inclusions with charcoal flecks and there were occasional small stone and pebble inclusions. Posthole 315 contained a oak and hazel charcoal and heat-affected sandstone. Small quantities of charred cereal grains, namely barley, wheat and oats were presented in some of the postholes. Charred hazelnut shell from posthole 220 was dated to 1780-1620 cal. BC (Beta-244834), placing the structure in the Early/Middle Bronze Age.

**Table 5: Roundhouse 104 - Internal postholes**

| Cut | Deposit | Length (m) | Width (m) | Depth (m) | Plan / Profile. Comment |
|---|---|---|---|---|---|
| 107 | 158 | 0.33 | 0.30 | 0.53 | Sub-circular / 'V'-shaped |
| 113 | 161 | 0.63 | 0.39 | 0.38 | Sub-oval / 'U'-shaped |
| 114 | 162 | 0.28 | 0.24 | 0.21 | Sub-circular / 'U'-shaped |
| 120 | 169 | 0.47 | 0.47 | 0.33 | Circular / 'U'-shaped |
| 123 | 771 | 0.30 | 0.30 | 0.20 | Circular / 'U'-shaped |
| 124 | 772 | 0.40 | 0.30 | 0.30 | Sub-circular / 'U'-shaped with sloping base |
| 133 | 251 | 0.45 | 0.20 | 0.22 | Oval / Irregular concave |
| 207 | 282 | 0.30 | 0.30 | 0.45 | Circular / Concave |
| 220 | 369 | 0.31 | 0.28 | 0.48 | Sub-circular / 'U'-shaped |
| 307 | 386, 387 | 0.29 | 0.20 | 0.24 | Oval / Steep sides, flat base |
| 315 | 396 | 0.28 | 0.28 | 0.15 | Circular / Concave |

Gully: (Figs 8-9 and 19)
Gully 225 was a curvilinear feature located just inside the entrance to the house. The gully was 1.52 m long, 0.25 m wide and 0.10 m deep with a concave profile. The north-western edge of gully 225 was truncated by later pit 116.

Internal stakeholes: (Figs 8-9 and 18)
Eleven stakeholes were identified within the house (Table 6). Eight clustered in the south-east part of the interior (130, 131, 132, 223, 304, 305, 306 and 312); two occurred in the south-west (308 and 309) and one in the north-east (300). The stakeholes had an average diameter of 0.10 m and an average depth of 0.15 m. Each contained a single fill of mid grey/brown sandy silt with occasional small stone inclusions. No artefacts were recovered from the stakeholes. The stakeholes may represent internal sub-divisions of the house floor or could relate to later occupation of the site.

**Table 6: Roundhouse 104 - Internal stakeholes**

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 130 | 192 | 0.13 | 0.11 | 0.15 | Oval / Steep sides, concave base |
| 131 | 193 | 0.10 | 0.10 | 0.13 | Circular / Tapering |
| 132 | 194 | 0.08 | 0.06 | 0.05 | Oval /Concave |
| 223 | 373 | 0.15 | 0.12 | 0.16 | Oval / Vertical sides, concave base |
| 300 | 375 | 0.19 | 0.19 | 0.20 | Circular / Tapering |
| 304 | 383 | 0.07 | 0.07 | 0.10 | Circular / Steep sides, concave base |
| 305 | 384 | 0.08 | 0.08 | 0.11 | Circular / Steep sides, concave base |
| 306 | 385 | 0.05 | 0.05 | 0.16 | Circular / Tapering |
| 308 | 393 | 0.11 | 0.11 | 0.16 | Circular / Steep sides, concave base |
| 309 | 394 | 0.11 | 0.11 | 0.23 | Circular / Steep sides, concave base |
| 312 | 392 | 0.05 | 0.05 | 0.13 | Circular / Tapering |

Pits situated within Roundhouse 104: (Figs 8-10 and 19, Plate 8)
Four pits and a depression that may be a small pit (Table 7) were recorded within the house. Dating showed that at least one, Pit 116, is significantly later than the house. Feature 106 truncated one of the roof support postholes (120) and its topsoil-like fill suggests it may have recent origins.

**Table 7: Roundhouse 104 - Internal pits**

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 106 | 157 | 0.65 | 0.58 | 0.12 | Oval / Concave |
| 115 | 163 | 1.49 | 1.00 | 0.15 | Irregular / Irregular sides, flat base |
| 129 | 191 | 0.66 | 0.30 | 0.15 | Oval / Steeply concave |
| 235 | 166, 174, 175, 176, 465 | 3.35 | 1.51 | 0.56 | Elongated oval / ‘U’-shaped |

Pit 115 had an irregular shape with three gently sloping sides, one vertical side and a flat base. The pit had been subject to root disturbance which extended under the pit base. The pit had a single fill (163) of firm coarse sand, brown-grey in colour with moderate charcoal inclusions that may have been introduced as a result of root damage. Charred barley grains, in low amounts, were present in the pit.

A large pit (235) was cut into the centre of the house. The pit had a roughly elongated oval shape with an irregular profile that sloped upwards from north to south. The pit had four fills (174/166, 175, 176 and 465). The primary fill (465) in the southern portion of the pit was composed of silty sand, heavily compacted and brownish grey in colour (maximum depth 0.43 m). Above this was a dump of oxidised clay (176), 0.34 m thick which was overlain by grey-black firm silty sand 0.56 m thick (175) with small stone and pebble inclusions, hazel charcoal and burnt bone. The upper fill (174/166) was compact yellow-brown silty sand with frequent small stone and pebble inclusion and a small amount of alder and Pomoideae charcoal. A few fragments of burnt bone were recovered from fill 175 within

the pit. The pit may have functioned as a hearth although its position in the centre of the house would have left little room to navigate around the pit. Its size and position may relate to later occupation of the site, such as that implied by pit 116.

Pits and spreads associated with House 104 (Fig. 10)

A series of filled cut features were also excavated within the immediate vicinity of Roundhouse 104 (Table 8). The area to the south and south-west of the house was characterised by spreads of material often overlying small pits, e.g. pits 108 and 109. The fill of pit 210 appeared to extend outside the pit forming a spread (188), 0.54 m by 0.30 m and 0.04 thick that contained hazel and oak charcoal. This spread yielded sherds of Middle Bronze Age pottery (Vessel 4) which may make the deposition contemporary with the house. The spread lay immediately adjacent to a second similarly sized deposit (187) in which hazel charcoal was represented. Pit 209 was covered by a deposit of charcoal-rich silt (167) that yielded pottery fragments (also Vessel 4). Alder charcoal was identified from this deposit. Four stakeholes occurred within the vicinity of pits 209 and 210 (203, 204, 212 and 213).

Pit 211 was located to the east of house 104. The pit appears to represent the remains of a hearth and though undated may be associated with the house. There was evidence of *in situ* burning in the base of the pit and a high concentration of ash and hazel charcoal in the fills. The hearth also contained charred wheat and barley grains. This feature yielded the greatest concentration of cereal grains from the site. The hearth may have been used in processing cereals and/or food preparation. The hearth was truncated on its northern side by a post-medieval furrow (332).

**Table 8: Pits and spreads associated with Roundhouse 104**

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 108 | 159 | 0.32 | 0.28 | 0.34 | Sub-circular / Irregular |
| 109 | 160 | 0.95 | 0.80 | 0.30 | Sub-circular / Concave |
| 209 | 167 | 0.23 | 0.23 | 0.13 | Circular / Concave |
| 210 | 188 | 0.30 | 0.30 | 0.14 | Circular / Broad 'U'-shaped |
| 211 | 284, 366-368, 382 | 2.00 | 1.50 | 0.20 | Sub-square / Near vertical sides, uneven base |

Northern Roundhouse: Group 110 (Figs 11-13 and 20-21, Plates 3 and 9-11)

Located 4–5 m north of Roundhouse 104 were the remains of a second house, Roundhouse 110. This house was represented by a sub-circular ground plan defined by narrow foundation trenches (Group 330) in the south-east and in the east by a series of stakeholes. The entrance was in the south-east and was defined by a porch represented by postholes and slot trenches. A series of stakeholes placed outside the porch and external to the house suggest the presence of protective screens or fences immediately east of the house. The house enclosed a space measuring approximately 7.4 m by 6.5 m or 30.6 m².

House foundations (Figs 11-12 and 20, Plate 9)

The foundation trenches for the house were recorded as Group 330. These trenches were excavated in individually numbered slots before being fully excavated (Table 9). The house foundations consisted of two curvilinear trenches (328 and 410), which were best preserved in the south-east and became progressively shallower towards the west until they eventually petered out. The trenches were 0.17–0.32 m wide and 0.06–0.21 m deep with a concave or 'U'-shaped profile. Trench fills were fairly uniform comprising dark brown/black silt deposits with clay and/or sand, stones and pebbles. In places, multiple fills occurred which consisted of re-deposited glacial till and silt variations. Charcoal was occasionally present in the fills in low or moderate amounts and no artefacts were retrieved from the house trenches. Charcoal was predominantly of oak with hazel and a small quantity of ash also occurring. Charred barley, wheat and weed seeds were present in the trench fill albeit in small

quantities. Pit 420 was on the line of the house trench in the south and probably represents a substantial post-pit (0.80 m by 0.60 m and 0.50 m deep) that formed part of the house wall in this area. Oak charcoal was present in the pit.

**Table 9: Roundhouse 110 - Slots through main foundation trench (Group 330)**

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Profile |
|---|---|---|---|---|---|
| 324 | 454 | 1.00 | 0.17 | 0.21 | 'U'-shaped |
| 328 | 462 | 1.90 | 0.22 | 0.06 | Concave |
| 410 | 497 | 2.60 | 0.25 | 0.15 | Concave |
| 413 | 553, 554, 782 | 2.00 | 0.32 | 0.21 | Concave |

Roundhouse entrance and porch (Figs 11-12 and 20, Plate 10)

The entrance was located in the south-east and was defined by a porch and a 0.40-m-wide depression (401) that straddled the line of the house foundation trenches. The depression was filled with redeposited glacial till overlain by a layer of oak charcoal and burnt clay This depression is the result of footfall, i.e. people entering and leaving the building caused the floor in this area to become worn. The depression truncated some stakeholes that occupied the space in front of the entrance inside the house and may have been related to the doorway (434, 436, 447 and 506).

The porch survived as two curvilinear gullies that enclosed an area of approximately 4.5m$^2$. Gully 517 extended southwards from the house foundation trench towards Gully 329/421. A gap of 0.71 m separated the gullies each of which terminated in a substantial posthole (325 and 427). Sub-division or possible repair or alteration to the porch is suggested by two short gullies, each terminating in a posthole that extended north (327) and south (515) from the southern arm of the porch (329/421). Oak and ash charcoal were retrieved from the southern porch gully. Posthole 327 contained oak charcoal while oak and hazel were present in postholes 427 and within 515. Cereals, namely wheat and barley, were also represented but in minute quantities (<10 grains in total).

A pit (326) was situated inside the northern arm of the porch. The pit was filled with dark grey–brown silty clay with bands of charcoal and occasional orange clay. Charcoal from the pit was predominantly oak but elm and hazel were also represented. The pit may have truncated the porch trench although the precise relationship could not be readily determined. Charred hazelnut shell from the pit fill was dated to 1690-1510 cal. BC (Beta-244835).

Two postholes, one inside the porch (448) and one about 1 m west of the porch (525) were sufficiently substantial to have held supporting uprights. Charcoal from posthole 448 suggests these uprights were of oak. These relate in some way either to the porch or house construction. A small pit (428) located centrally within the porch contained oak charcoal. It too may have once held some sort of supporting upright.

**Table 10: Roundhouse 110 - Entrance features (Group 330/110)**

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 325 | 455, 456 | 0.45 | 0.45 | 0.30 | Circular / 'V'-shaped |
| 326 | 457-460 | 1.06 | 0.50 | 0.30 | Oval / Concave, slightly flattened base |
| 327 | 461, 594 | 0.30-1.10 | 0.30 | 0.24 | Linear / Concave |
| 329 | 463 | 0.51 | 0.17 | 0.07 | Linear / Concave |
| 401 | 475, 476, 552, 555, 665 | 1.60 | 0.90 | 0.20-0.40 | Irregular / Concave |
| 412 | 551 | 0.20 | 0.20 | 0.22 | Circular / Vertical sides, concave base |
| 421 | 567 | 2.60 | 0.26 | 0.24 | Linear / Concave |
| 427 | 576 | 0.26 | 0.15-0.17 | 0.32 | Oval / 'U'-shaped |

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 428 | 578 | 0.65 | 0.33 | 0.10 | Oval / Concave |
| 434 | 585 | 0.15 | 0.15 | 0.20 | Circular / Steep sides, concave base |
| 435 | 586 | 0.12 | 0.12 | 0.20 | Circular / Steep sides, concave base |
| 436 | 587 | 0.06 | 0.06 | 0.42 | Circular / Tapering |
| 447 | 598 | 0.08 | 0.08 | 0.23 | Circular / Tapering |
| 448 | 599 | 0.13 | 0.13 | 0.17 | Circular / Vertical sides, flat base |
| 501 | 652 | 0.55 | 0.15 | 0.13 | Elongated oval / 'U'-shaped |
| 506 | 676 | 0.04 | 0.04 | 0.10 | Circular / Tapering |
| 515 | 666 | 0.74 | 0.74 | 0.35 | Circular / Concave with step at south |
| 517 | 668 | 1.84 | 0.30 | 0.28 | Linear / 'U'-shaped |
| 525 | 678 | 0.34 | 0.30 | 0.13 | Oval / Concave, steeper at east |

External screens/fences (Figs 11-12 and 20, Plate 9)

The porch appears to have been fronted by two lines of stakeholes that lay parallel to the porch gullies. These survived best in the north (237-240, 317-323, 415, 508, 531, 542-546, 600, 601 and 604). Oak was the only taxa represented in charcoal from these stakeholes. A small pit (303) or possibly an expanded stakehole resulting from the removal of a stone occurs within the line of the stakeholes. Pit 303 was located within the north-western arc of external stakeholes in house 110. It is possible that this feature was a posthole or that in order to insert a stake in this location a stone had to be removed creating the concave feature.

Three stakeholes located immediately outside the southern porch gully appear to represent a corresponding feature (533, 624 and 625). These probably originally extended around the southern side of the house as far as stakeholes 417, 419 and 426 (Table 11). Oak and hazel charcoal was recovered from stakeholes 417 and 533. The latter also yielded a single charred cereal grain of wheat.

A third curvilinear arrangement of 23 stakeholes (Table 12) extends from the northern end of the porch gully (517) and around the outside of the northern house trench (410), i.e. between the trench and the screen that fronted the porch in the north. The stakeholes had an average diameter of 0.10 m and an average depth of 0.15 m. Each stakehole contained a single fill with the majority filled with greyish brown silty clay. Charcoal from the stakeholes was mainly of oak and hazel with ash and willow also represented. One stakehole (614) yielded a single charred grain of wheat.

The stakeholes most probably indicate where a protective screen or fence. The sequence of construction of this and the screens fronting the porch is unknown.

**Table 11: Roundhouse 110 – Stakeholes fronting the porch**

| Cut | Deposit | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 237 | 291 | 0.08 | 0.08 | 0.08 | Circular / Steep sides, concave base |
| 238 | 292 | 0.08 | 0.08 | 0.14 | Circular / Steep sides, concave base |
| 239 | 293 | 0.08 | 0.08 | 0.11 | Circular / Steep sides, concave base |
| 240 | 294 | 0.12 | 0.06 | 0.10 | Oval / Steep sides, concave base |
| 317 | 397 | 0.14 | 0.10 | 0.11 | Oval / Vertical sides, irregular base |
| 318 | 398 | 0.12 | 0.08 | 0.17 | Oval / Tapering |
| 319 | 399 | 0.11 | 0.11 | 0.16 | Circular / Steep sides, flat base |
| 320 | 450 | 0.11 | 0.11 | 0.16 | Circular / Steep sides, concave base |
| 321 | 451 | 0.11 | 0.11 | 0.14 | Circular / Tapering |
| 322 | 452 | 0.10 | 0.10 | 0.16 | Circular / Steep sides, concave base |
| 323 | 453 | 0.15 | 0.15 | 0.26 | Circular / Vertical sides, concave base |
| 415 | 562 | 0.12 | 0.12 | 0.24 | Circular / Concave sides and base |
| 417 | 564 | 0.13 | 0.13 | 0.10 | Circular / Concave |

| Cut | Deposit | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 419 | 565 | 0.09 | 0.09 | 0.15 | Circular / Steep sides, concave base |
| 426 | 577 | 0.08 | 0.08 | 0.08 | Circular / Vertical sides, concave base |
| 439 | 590 | 0.08 | 0.08 | 0.15 | Circular / Tapering |
| 508 | 653 | 0.08 | 0.08 | 0.18 | Circular / Steep sides, concave base |
| 531 | 684 | 0.09 | 0.09 | 0.12 | Circular / Irregular |
| 533 | 686 | 0.14 | 0.09 | 0.20 | Oval / Steep sides, concave base |
| 542 | 695 | 0.09 | 0.09 | 0.13 | Circular / Steep sides, concave base |
| 543 | 696 | 0.07 | 0.07 | 0.11 | Circular / Steep sides, concave base |
| 544 | 697 | 0.13 | 0.13 | 0.12 | Circular / Steep sides, concave base |
| 545 | 698 | 0.13 | 0.13 | 0.11 | Circular / Steep sides, concave base |
| 546 | 699 | 0.07 | 0.07 | 0.09 | Circular / Concave |
| 600 | 753 | 0.09 | 0.09 | 0.08 | Circular / Steep side, flat base |
| 601 | 754 | 0.09 | 0.09 | 0.08 | Circular / Vertical sides, flat base |
| 604 | 757 | 0.10 | 0.10 | 0.10 | Circular / Steep sides, concave base |
| 623 | 781 | 0.08 | 0.08 | 0.10 | Circular / Tapering |
| 624 | 783 | 0.10 | 0.08 | 0.08 | Oval / Tapering |
| 625 | 784 | 0.08 | 0.08 | 0.12 | Triangular / Tapering |

**Table 12: Roundhouse 110 – Stakeholes surrounding the northern house trench**

| Cut | Deposit | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 303 | 388 | 0.55 | 0.45 | 0.10 | Sub-circular / Concave |
| 336 | 468 | 0.08 | 0.08 | 0.18 | Circular / Tapering, angled |
| 438 | 589 | 0.08 | 0.08 | 0.10 | Circular / Concave |
| 444 | 595 | 0.15 | 0.15 | 0.10 | Circular / Vertical sides, concave base |
| 445 | 596 | 0.08 | 0.08 | 0.13 | Circular / Steep sides, concave base |
| 446 | 597 | 0.08 | 0.08 | 0.13 | Circular / Steep sides, concave base |
| 509 | 654 | 0.09 | 0.09 | 0.17 | Circular / Steep sides, concave base |
| 510 | 655 | 0.12 | 0.12 | 0.16 | Circular / Steep sides, concave base |
| 512 | 657 | 0.09 | 0.09 | 0.14 | Circular / Steep sides, concave base |
| 534 | 692 | 0.08 | 0.08 | 0.12 | Circular / Steep sides, concave base |
| 535 | 687 | 0.10 | 0.10 | 0.11 | Circular / Steep sides, concave base |
| 536 | 688 | 0.08 | 0.08 | 0.03 | Circular / Concave |
| 537 | 689 | 0.08 | 0.08 | 0.05 | Circular / Concave |
| 538 | 690 | 0.08 | 0.08 | 0.06 | Circular / Steep sides, concave base |
| 539 | 691 | 0.09 | 0.09 | 0.10 | Circular / Steep sides, concave base |
| 548 | 751 | 0.11 | 0.09 | 0.10 | Oval / Vertical sides, concave base |
| 549 | 752 | 0.12 | 0.10 | 0.07 | Oval / Concave sides and base |
| 614 | 767 | 0.09 | 0.09 | 0.14 | Circular / Steep sides, concave base |
| 615 | 768 | 0.06 | 0.06 | 0.05 | Circular / Concave |

Internal postholes and stakeholes (Figs 11-12 and 20)

Four postholes survived within the house which could represent the location of internal roof supports (139, 408, 429 and 437) (Table 13). Charcoal from some of the postholes suggests these posts had been of oak. Hazel charcoal was also identified from posthole 437. It is probable that there were more postholes originally that have been lost due to truncation and erosion. The average width of the postholes was 0.30 m and they had an average depth of 0.34 m. The postholes were filled with light brown to black clayey or sandy silts. Posthole 139 produced some fragments of burnt animal bone and oak charcoal. A fifth posthole (346) had been cut into the internal edge of the southern house foundation trench. The posthole was shallow <0.10 m and its purpose is unclear but it did contain charcoal of oak and elm

**Table 13: Roundhouse 110 – Structural postholes**

| Cut | Deposit | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 139 | 351 | 0.33 | 0.30 | 0.53 | Sub-circular / Wide 'V'-shaped |
| 408 | 495 | 0.30 | 0.30 | 0.20 | Circular / Broad 'U'-shaped |
| 429 | 579 | 0.21-0.45 | 0.20 | 0.18-22 | Sub-circular / Irregular concave |
| 437 | 588 | 0.30 | 0.30 | 0.45 | Circular / Concave |

Within the house there were up to 15 stakeholes and small postholes (Table 14). Most were clustered in the south-west (119, 333, 334, 409, 432, 502, 503, 504, 505, 507, 607, 608 and 609). It is likely that these features represent the remains of internal partitions or temporary structures erected within the house. The stakeholes had an average diameter of 0.10 m and an average depth of 0.15 m. Each contained a single fill, greyish brown silty clay with oak and hazel charcoal present in small quantities. Stakehole 432 yielded a single charred grain of barley. There were no finds retrieved from the stakeholes.

**Table 14: Roundhouse 110 – Internal postholes and stakeholes**

| Cut | Deposit | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 119 | 168 | 0.12 | 0.10 | 0.08 | Oval / Tapering |
| 333 | 466 | 0.07 | 0.07 | 0.17 | Circular / Vertical sides, flat base |
| 334 | 467 | 0.08 | 0.08 | 0.16 | Circular / Vertical sides, flat base |
| 346 | 487 | 0.30 | 0.30 | 0.09 | Irregular / Concave |
| 409 | 496 | 0.12 | 0.12 | 0.12 | Circular / Steep sides, concave base |
| 432 | 583 | 0.18 | 0.18 | 0.23 | Circular / Tapering |
| 502 | 659 | 0.14 | 0.14 | 0.11 | Circular / Vertical sides, flat base |
| 503 | 660 | 0.08 | 0.08 | 0.10 | Circular / Tapering |
| 504 | 661 | 0.07 | 0.07 | 0.11 | Circular / Tapering |
| 505 | 662 | 0.11 | 0.11 | 0.14 | Circular / Steep sides, concave base |
| 507 | 677 | 0.06 | 0.06 | 0.20 | Circular / Vertical sides, flat base |
| 522 | 673 | 0.08 | 0.08 | 0.10 | Circular / Steep sides flat base |
| 607 | 760 | 0.07 | 0.07 | 0.23 | Circular / Tapering |
| 608 | 761 | 0.07 | 0.07 | 0.15 | Circular / Tapering |
| 609 | 762 | 0.06 | 0.06 | 0.16 | Circular / Tapering |
| 613 | 766 | 0.10 | 0.10 | 0.10 | Circular / Concave |

Hearths (Figs 11-12 and 21, Plate 11)

A single probable hearth was located in the middle of the house. The remains of the hearth consisted of a large patch of *in situ* burning (575). This oxidised orange-red area was sub-rectangular, measured 1.90 by 1.12 m and contained occasional charcoal flecks.

External features that may be contemporary with roundhouse 110 (Fig. 13)

Immediately south of house 110 was an egg-shaped pit (144), 2.80 m long, 0.50 m wide and 0.50 m deep, with a single fill that produced burnt and unburnt animal bone and teeth. Cow was the only species positively identified within the small assemblage which probably represents domestic butchery waste. The pit may therefore have functioned as a waste pit for the house. Charcoal from the pit derived exclusively from Pomoideae. Similarly, a pit (127) situated 3 m south-west of the house retained evidence of *in situ* burning in the form of a thick layer (256) of burnt glacial till. The upper fills of the pit were not particularly charcoal-rich. This pit may represent the remains of a hearth. Pit 100 was located halfway between houses 104 and 110 and could have been associated with either structure. The pit had a primary fill of loose grey-brown sandy silt (189) and topsoil-like upper fill (170) that contained some oak charcoal and burnt bone, the calcined partial remains of a sheep or deer.

Stakehole 241 and postholes 242 and 411 were on the north-east side of roundhouse 110. The postholes had charcoal-rich fills and contained sherds of prehistoric pottery (Table 15).

**Table 15: External postholes and stakehole related to Roundhouse 110**

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 241 | 295 | 0.12 | 0.12 | 0.11 | Circular / Vertical sides, concave base |
| 242 | 296 | 0.35 | 0.20 | 0.15 | Oval / Steep sides, flat base |
| 411 | 550 | 0.18 | 0.15 | 0.10 | Oval / Concave |

Structure: Group 135 (Figs 14 and 22-23, Plate 12)

At the northern edge of the site was a series of trenches, post and stakeholes that may represent the remains of a small, sub-circular structure with an approximate internal diameter of 2.40 $m^2$. The ground plan was not particularly well preserved and had been disturbed by a later and undated pit (500) (Table 16).

The eastern half of the structure was formed by two irregular but substantial trenches (142 and 149) with a gap of 0.48 m in the south-east that formed an entrance. Three postholes occupied the gap forming the entrance to the structure (406, 422 and 423). Their precise function is unclear but may have served to support or elaborate the entrance.

Trenches 142 and 149 were steep-sided, narrow and deep and could have held upright wattle walls or planks. Charcoal from the trenches suggests the walls were made from oak, hazel and willow. The southernmost of these trenches (149) was truncated by pit 500 and the northernmost (142) truncated a natural depression (356/377). The deeper of the two trenches, 142, contained multiple fills; orange brown silt/clay on the base that was overlain by two grey fills that produced prehistoric pottery (Vessel 6). A piece of vitrified material, possibly fuel ash slag, was recovered from the mid grey-brown fill of trench 149. Hazel charcoal from this trench was dated to 1610-1491 cal. BC (UBA-13850). The date suggests Structure 135 is contemporaneous with houses 104 and 110.

The north end of trench 142 was T-shaped and may once have contained postholes. Up to six postholes (310, 338, 339, 340, 341 and 407) extended westwards from the 'T' of trench 142. Two others (337 and 617) flanked the line formed by Trench 142 and the postholes. The postholes were generally irregular shallow features, probably as a result of erosion. Posthole 337 was sub-rectangular in shape with rounded edges may have held a plank rather than a post in the round. Posthole 310 produced prehistoric pottery (Vessel 7) and charcoal of indeterminate taxa. Oak and hazel charcoal were retrieved from posthole 617.

**Table 16: Structure 135 – Structural features**

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Feature type | Plan / Profile |
|---|---|---|---|---|---|---|
| 142 | 357-359, 378-380 | 2.30 | 0.40 | 0.45 | Foundation trench slot | Linear / Broad 'U'-shaped |
| 149 | 261 | 1.80 | 0.80 | 0.30 | Foundation trench slot | Irregular / Concave |
| 310 | 389 | 0.34 | 0.32 | 0.10 | Posthole | Sub-circular / Concave |
| 337 | 469 | 0.19 | 0.10 | 0.25 | Stakehole | Oval / Broad 'U'-shaped |
| 338 | 470 | 0.52 | 0.30 | 0.22 | Posthole | Sub-oval / Broad 'U'-shaped |
| 339 | 471 | 0.40 | 0.40 | 0.06 | Posthole | Sub-circular / Shallow concave |
| 340 | 472 | 0.11 | 0.11 | 0.25 | Stakehole | Circular / Broad 'V'-shaped |
| 341 | 473 | 0.16 | 0.16 | 0.20 | Stakehole | Circular / Broad 'U'-shaped |
| 406 | 493 | 0.22 | 0.14 | 0.08 | Posthole | Sub-rectangular / Broad 'U'-shaped |

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Feature type | Plan / Profile |
|---|---|---|---|---|---|---|
| 407 | 494 | 0.30 | 0.26 | 0.12 | Posthole | Sub-circular / Broad 'U'-shaped |
| 422 | 568 | 0.12 | 0.12 | 0.17 | Stakehole | Circular / Wide 'V'-shaped |
| 423 | 569 | 0.10 | 0.10 | 0.14 | Stakehole | Circular / Tapering |
| 617 | 770 | 0.25 | 0.25 | 0.16 | Posthole | Circular / Steep side, concave base |

*Phase 5 – Middle-Late Bronze Age*

Pit (Figs 11-12 and 21)

Pit 316, a sub-rectangular pit, 0.86 m by 0.62 m and 0.25 m deep was located slightly east of the centre of Roundhouse 110. The pit contained five fills which increased in charcoal content from the bottom up. The base of pit was filled with sterile, dark grey, sandy silt (480) in the west and compact oxidised clay with oak charcoal flecking (481) elsewhere. This was overlain by light red oxidised clay (482) and red sandy clay with occasional oak charcoal inclusions (483). The uppermost fill consisted of soft black sandy silt with a high oak and alder/hazel charcoal content (479). There were no finds retrieved from the pit but the nature of the pit fills suggest it functioned as a hearth. Alder/hazel charcoal from the pit was dated to 1311-1114 cal. BC (UBA-13856) which suggests the pit post-dates the activity represented by the house.

*Phase 6 – Early medieval*

Pits (Figs 8-9 and 19)

In Area B, within the area occupied by Roundhouse 104 was a pit (116) that truncated a gully contemporary with the roundhouse. Pit 116 was oval with a concave profile and measured 1.60 m by 1.24 m and 0.37 m deep. The pit had six distinct fills (164, 196, 197, 198, 199 and 250). The primary fill (250) accumulated naturally and comprised yellow-brown silt up to 0.29 m thick. Ash charcoal was present in this horizon. Above this was similarly coloured sandy silt (199) with some pebbles, up to 0.27 m deep. This in turn was overlain by deposit 198, 0.17 m of firm light brown-grey silty clay with pebbles in which hazel and oak charcoal occurred. This was followed by a 0.08 m deep deposit (197) of firm mid-purple/grey silty clay with some hazel charcoal. A heat-affected fill of firm red-brown clay with charcoal (of indeterminate taxa) (196) overlay deposit 197. The fill 196 probably represents a dump of oxidised material from elsewhere as there was no evidence of *in situ* burning within the pit. The upper pit fill (164) was firm mid-brown silty clay (i.e. topsoil-like) up to 0.07 m thick that contained charcoal of alder, oak and Pomoideae. The pit produced a piece of iron slag from the upper fill and animal bone fragments from each of the pit fills. Charred cereal grains of oats, wheat and barley occurred within the pit fills but in very small quantities. Fragments of burnt bone from small/medium sized mammals or birds were retrieved. The assemblage composition suggests the material represents food waste. Charred hazelnut shell from the pit was dated to cal. AD 1053-1266 (UBA-13853) placing the activity in the early medieval period.

Pit 116 was cut by a small, shallow pit (129) filled with soft black/brown sandy clay with a high oak charcoal content (191).

*Undated*

Undated pits that post-date roundhouse 110 (Figs 11-13 and 22)

Eight pits were found in and around the roundhouse (Table 17). Most appear to post-date or are unrelated to activities either within or contemporary with the occupation of the house. Pit 302 was situated within the house in the north. The pit had a single sterile fill and is most probably relatively recent in origin. Outside the house in the north-west was an elongated pit, 424. The pit contained oak charcoal but its purpose remains unknown. To the east but on the other side of the house, was a second

elongated pit, 416. The pit truncated stakehole 415 that formed part of one of the outer house screens. Pit 416 appears therefore to represent later activity, possible unrelated to the house.

**Table 17: Pits located in and around Roundhouse 110**

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 232 | 270, 279, 280 | 0.87 | 0.83 | 0.29 | Oval / Stepped concave |
| 302 | 381 | 0.70 | 0.42 | 0.15 | Oval / Irregular |
| 335 | 484 | 2.20 | 1.07 | 0.13 | Oval / Sloping concave sides, undulating base |
| 349 | 557, 558, 559 | 1.05 | 0.80 | 0.20 | Oval / Concave |
| 402 | 560, 561, 573 | 2.00 | 1.00 | 0.26 | Oval / Concave |
| 416 | 563 | 1.15 | 0.43 | 0.20 | Irregular oval / Concave |
| 424 | 570 | 1.20 | 0.30 | 0.09 | Sub-oval / Sloping sides, irregular base |
| 442 | 574 | 2.50 | 2.50 | 0.60 | Sub-oval / Convex base, sloping sides |

A large pit 442 broke the projected line of the house in the west. The relationship between the pit and house is unclear as no stratigraphic relationship survived. The pit had a fairly sterile fill but was cut by two smaller pits (349 and 402) that contained evidence of burning (402), charred barley grains (402) and oak charcoal. These smaller and later features may represent disposal of hearth waste. Pit 402 contained burnt animal bone derived from a small or medium sized mammal or bird. Given the position of this pit in relation to the projected ground plan of the house, it probably post-dates the house.

Inside the house were a number of pits. Pit 232 was situated close to the inner edge of the house in the south. The pit had three fills, two of which were charcoal rich (270 and 280) with oak the only taxa identified from the pit. This feature appeared to have functioned as a refuse pit. Pit 335 was situated inside the door on the northern side and its relatively large-size suggests it is unrelated to activities contemporary with the house. Charcoal from the pit could not be identified to species. The pit also appeared to truncate the edge of the probable hearth 316, which itself post-dates the house.

Undated pit that post-dates Structure 135 (Figs 14 and 23, Plate 12)

Pit 500 cut foundation trench 149 within Structure 135. The pit was oval with steep sides and a concave to a flat base. The pit measured 1.58 m by 1.15 m, was 0.30 m deep and contained a single fill (651), a grey-brown sandy silt with moderate gravel and small stone inclusions.

*Unphased*

Unphased pits and hearths (Figs 7, 10, 13 and 15-16)

Twelve pits were excavated across the site with the majority located in the western half of the excavation area up to 14 m from the house sites. A variety of pit shapes and fills were recorded (Table 18). There were no finds recovered from the pits, consequently hindering their interpretation. A number of the pits (e.g. 134 and 147) retained fairly archaeologically-sterile fills and presumably relate to relatively recent ground works on site. A small number of undated pits may be contemporary with the house activity based on their sparse contents and composition.

Pit 206 was situated east of Roundhouse 110. The pit was shallow with a topsoil-like fill that included oak charcoal. The pit is probably of relatively recent origin. Similarly, pit 121 the southernmost feature in Area B is most probably of relatively recent origin. The pit contained multiple grey fills of sandy clay with stones, occasional charcoal and charred cereal grains, namely oats. Feature 532 was situated north-east of roundhouse 104 and on excavation was revealed to be a boulder socket.

Pits 128 and 143 were the most north-westerly situated features on the site. Both of these pits were oval with concave profiles. Pit 128 contained a single fill of red-brown sandy clay with moderate small stone inclusions. The feature had been machine truncated during the topsoil stripping. Pit 143 also contained a single fill, dark grey sandy silt with occasional small stone inclusion. There were no finds retrieved from either pit. Pit 147 was close to the back of structure 135 but did not appear to be related. The pit was oval with concave sides and an irregular base and produced no artefacts from its sterile fill.

Pits 126 and 134 were in the west of the excavation area. Pit 126 was filled with two deposits of sandy silt with moderate stone inclusions. Pit 134 was located close to the modern waste pipe system and contained a sterile fill. Pit 236 had a single fill with oak charcoal inclusions.

Also in the west, was a sub-circular pit (105). The pit had undergone root disturbance with seven root holes visible (102, 103, 141, 146, 148, 202 and 208) penetrating the pit edges. The pit contained six fills, all of which were clayey silt with the exception of deposit 173, which was sand. No finds were recovered from the fills, but four of the fills contained charcoal inclusions, namely ash, alder and hazel (153, 173, 179 and 180).

**Table 18: Unphased pits and hearths**

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 100 | 170, 189 | 2.13 | 1.20 | 0.28 | Oval / Sloping sides, irregular concave base |
| 105 | 153, 173, 177-180 | 1.38 | 1.19 | 0.70 | Oval / Bowl-shaped |
| 121 | 171, 172 | 1.50 | 1.10 | 0.16 | Oval / Broad 'U'-shaped |
| 126 | 183, 195 | 1.43 | 0.90 | 0.25 | Oval / Concave sides, flat base |
| 127 | 185, 186, 256 | 1.22 | 1.20 | 0.34 | Sub-circular / Steeply concave |
| 128 | 190 | 0.53 | 0.52 | 0.33 | Sub-circular / Concave |
| 134 | 255 | 0.73 | 0.42 | 0.07 | Irregular / Irregular |
| 143 | 254 | 0.88 | 0.65 | 0.14 | Oval / Concave |
| 147 | 259 | 1.30 | 1.15 | 0.15 | Oval / Irregular |
| 206 | 278 | 0.85 | 0.80 | 0.22 | Sub-circular / 'U'-shaped |
| 236 | 289 | 1.80 | 1.20 | 0.30 | Kidney-shaped / Broad 'V'-shaped |
| 532 | 685 | 1.35 | 0.80 | 0.34 | Trapezoidal in plan. U-shaped profile. |

Unphased postholes and stakeholes (Figs 7, 10, 13 and 15-16)

Eighteen postholes and stakeholes were investigated that could not be directly associated with any of the structures on the site. These features are illustrated and most are not discussed or mentioned below other than in Table 19. An isolated and substantial posthole (101) was situated at the western side of the excavation area. Oak charcoal was represented within this posthole.

Posthole 524 was located almost 2 m to the east of the northern end of the porch of Roundhouse 104. Its relationship, if any, with the house is unknown but it did contain oak charcoal and a small amount of charred wheat. Of similarly, ambiguous status are five stakeholes (111, 229, 234, 621 and 622) that occur south of Roundhouse 104 and close to pits 108 and 109. Stakehole 111 contained ash and hazel charcoal.

Posthole 440 and stakeholes 441 and 521 were situated between the two roundhouses. The relationship of roundhouse 110 with four stakeholes (603, 605-6 and 616) lying within 2 m of the house in the north is unknown.

**Table 19: Unphased postholes and stakeholes**

| Cut | Deposit(s) | Length (m) | Width (m) | Depth (m) | Plan / Profile |
|---|---|---|---|---|---|
| 101 | 152, 154 | 0.30 | 0.20 | 0.40 | Oval / Vertical sides, concave base |
| 111 | 253 | 0.22 | 0.22 | 0.11 | Circular / Concave |
| 203 | 274 | 0.11 | 0.11 | 0.20 | Circular / Tapering |
| 204 | 275 | 0.10 | 0.07 | 0.28 | Oval / Tapering |
| 212 | 286 | 0.10 | 0.09 | 0.09 | Sub-circular / Tapering |
| 213 | 287 | 0.12 | 0.11 | 0.09 | Sub-circular / Tapering |
| 229 | 265 | 0.12 | 0.12 | 0.10 | Irregular / Concave sides and base |
| 234 | 272 | 0.22 | 0.22 | 0.22 | Irregular / Irregular |
| 440 | 591 | 0.18 | 0.18 | 0.24 | Circular / Vertical sides, concave base |
| 441 | 592 | 0.10 | 0.10 | 0.16 | Circular / Tapering |
| 521 | 672 | 0.13 | 0.13 | 0.21 | Circular / Vertical sides, concave base |
| 524 | 675 | 0.24 | 0.24 | 0.24 | Circular / Steep sides, concave base |
| 603 | 756 | 0.11 | 0.09 | 0.07 | Oval / Concave |
| 605 | 758 | 0.30 | 0.20 | 0.16 | Oval / Irregular |
| 606 | 759 | 0.32 | 0.12 | 0.08 | Oval / Concave sides, flat base |
| 616 | 769 | 0.09 | 0.09 | 0.12 | Circular / Tapering |
| 621 | 778 | 0.10 | 0.08 | 0.09 | Oval / Irregular |
| 622 | 779 | 0.14 | 0.12 | 0.18 | Oval / Steep sides, concave base |

Unphased deposits

Three deposits or spreads could not be directly associated with any of the structures (Table 20). Deposit 151 was located at the western edge of the excavation and comprised charcoal-rich, loose black sandy silt. The charcoal was of hazel. The deposit may represent a dumped hearth waste.

Deposits 356 and 377 were situated in the north near structure 135. Both were truncated by the gully 142 indicating the deposits pre-date structure 135. Deposit 356 was composed of grey sandy silt with moderate stone inclusions. Deposit 377 was composed of similar material to deposit 356.

**Table 20: Unphased deposits**

| Deposit | Length (m) | Width (m) | Depth (m) | Shape in plan |
|---|---|---|---|---|
| 151 | 0.90 | 0.40 | 0.06 | Oval |
| 187 | 0.30 | 0.25 | 0.06 | Oval |
| 356 | 0.97 | 0.50 | 0.24 | Irregular |
| 377 | 0.60 | 0.57 | 0.26 | Oval |

## Finds

A modest but important assemblage of artefactual material was recovered during the course of the excavations (Appendix 2). Finds of note include a copper alloy razor and sherds of at least seven pottery vessels. Three lithics, that pre-date the excavated archaeological activity, were also retrieved. A small assemblage of animal bone, mainly burnt material, was also recovered.

***Animal Bone*** by Fiona Beglane

*Methodology*

Contexts were grouped on the basis of the stratigraphic information supplied by the excavator. Mammalian faunal remains were identified using comparative collections and by reference to Hillson

(1992) and Schmid (1972). For cattle and pigs toothwear was recorded per Grant (1982) and Higham (1967) (after Silver (1963)). Evidence for chopping, cutting and sawing were recorded, as was gnawing by carnivores and rodents. Burnt material was classified as singed for bone with only partial blackening, burnt for blackened bones or calcinated for those bones that were predominantly white/blue-grey in colour. Where pathologies, developmental defects and non-metric traits were identified on bones these were examined and recorded in further detail

Cortical bone is found in the shafts of long bones, while trabecular bone is found at the ends of the long bones and is also used to make up the form of the flat and irregular bones such as the pelvis, ribs and scapula. In an Irish context the classification "Large Mammal" includes cattle, horse and large deer, "Medium Mammal" includes species such as pig, sheep, smaller deer and larger dogs and "Small Mammal" includes small dogs, foxes, cats and hares. Throughout the text the common names for species have been used. A translation of common to Latin names is shown in Table 21, based on Schmid (1972).

**Table 21: Translation of Latin to common names**

| Common Name | Latin Name | Common Name | Latin Name |
|---|---|---|---|
| Bird | Aves | Red deer | *Cervus elaphus* |
| Cattle | *Bos sp.* | Sheep/Goat | *Ovis/Capra* |
| Pig | *Sus sp.* | | |

*Results*

This small assemblage of bone was entirely calcinated, suggesting that the bone had been burnt at high temperatures. The bone came from a range of features and will be discussed in these groupings (see Table 22).

Pit 100

Fill 170 of this pit contained a number of identifiable elements that are likely to represent a single individual, probably a sheep or deer. These included calcinated fragments of mandible (lower jaw), skull, and tooth. The head is generally discarded early in the butchery process once the edible brain, cheek-meat and tongue have been removed. Alternatively, once these parts are removed the head can also be cooked by boiling, so that meat remaining on the skull provides a stock for a soup or stew. For the bones to have become calcinated in this way the head must have been disposed of into the fire.

Roundhouse 104

A number of deposits in this area yielded bone. These included the fills of a hearth, two stakeholes and one posthole. None of the fragments could be identified to species, however fill 158 of stakehole 107 contained medium or large mammal long bone fragments. The bone fragments in the fills of the stakeholes and postholes are likely to be incidental inclusions. Fill 175 of the pit-hearth 235 contained a number of burnt fragments, suggesting that food waste was disposed of into the fire.

Foundation slot trench features 136 and 145 yielded a number of fragments of bone, including a calcinated pig calcaneus or heel-bone from fill 268. This portion of the pig is part of the edible trotter of the pig, so that it again probably represents food waste.

Roundhouse 110

There were two small fragments of calcinated bone from fill 351 of posthole 139, a number from the fill 475 of hollow 401 and one fragment from fill 654 of stakehole 509, all of which are probably incidental inclusions. Pit 402 contained evidence for the disposal of burnt waste, and fill 475 within

this included long bone fragments from a small or medium sized mammal or a bird, suggesting that this was food waste.

Pit 116

A number of fills of this pit yielded calcinated bone. A sesamoid bone from the foot of a medium-sized mammal was well preserved. A fragment of mandible or maxilla (lower or upper jaw) was identified, as was a fragment of possible skull bone. Head and foot elements are commonly disposed of in the early stages of butchery, suggesting that this pit may contain butchery waste. A number of long bone and flat-bone fragments from small/medium sized mammals or from birds were also recovered in these fills, suggesting the presence of food waste.

Pit 144

This pit contained a number of identifiable fragments from fill 184. From cattle there were two maxillary (upper) molar teeth that were almost complete, fragmentary remains of at least one further molar tooth and one maxillary deciduous premolar tooth. Ageing is normally carried out using the mandibular teeth, however assuming that these all came from a single individual, an age estimate of between 6 months and 3 years can be made. The pit also included a fragment of the proximal end of a 2nd phalanx (toe bone) from an ungulate such as cattle, sheep, deer or pig. The fragment was small and calcinated, so limiting identification. The pit also contained fragments of mandibular or maxillary jaw, presumably associated with the cattle teeth, as well as fragments of cortical and trabecular bone. Again, head and foot elements are commonly disposed of in the early stages of butchery, suggesting that this pit may contain butchery waste.

*Discussion and conclusions*

Due to the calcinated and fragmentary nature of these bones the identifications were limited, nevertheless, the remains of cattle and pig were positively identified, with the probable remains of a sheep/goat or deer also found. In addition, the nature of a number of archaeological deposits can be suggested.

Cattle can be reared for meat or dairy production. In the case of meat production, this is optimised if the majority of individuals are slaughtered as they approach full size, whereas in the case of dairy production females are retained into adulthood, with almost all males being slaughtered for prime meat. In this case an individual was slaughtered between 6 months and three years, suggesting that this was for the production of prime meat. Pigs do not provide secondary products so that those not being retained for breeding are usually slaughtered at 18 to 30 months. Unfortunately in this case it was not possible to identify the age of the pig.

While results are limited, they do correspond with the excavator's interpretation of this being a domestic site.

**Table 22: Summary of animal bone identifications**

| Group | Cut | Deposit | Find No | Area | Feature type | Sample No | No pieces | Weight (g) | Size (mm) | Burning | Identifications |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 104 | 107 | 158 | E3327:158:1 | B | Stakehole fill | - | ca 12 | 1 | <1-10 | Calcinated | MM/LM cortical bone fragments |
| - | 116 | 164 | E3327:164:2 | B | Pit fill | 152 | 7 | <1 | 2-8 | Calcinated | SM/Bird cortical bone fragments inc. long bone |
| - | 100 | 170 | E3327:170:1 | B | Pit fill | 118 | 10 | 2 | 2-20 | Calcinated | Calf/sheep/deer mandible processus coronoideus, MM skull fragments, MM orbit fragment from skull, Cattle/sheep/deer molar/premolar tooth fragment, unidentified cortical and trabecular bone fragments |
| 104 | 235 | 175 | E3327:175:1 | B | Hearth fill | 160 | ca 10 | <1 | 2-8 | Calcinated | Unidentified tiny cortical fragments |
| - | 144 | 184 | E3327:184:1 | B | Pit fill | - | ca 45 | 6 | <1-15 | Calcinated | MM/LM cortical and trabecular bone, Tooth fragments from cattle/sheep/deer |
| - | 144 | 184 | E3327:184:2 | B | Pit fill | 131 | ca 70 | 28 | <1-40 | Calcinated | Cattle: 2 maxillary molar teeth, almost complete, fragmentary remains of at least one further molar tooth and one maxillary deciduous premolar tooth. Ungulate: Proximal end of 2nd Phalanx. Unidentified species: Mandible/maxilla fragments, cortical and trabecular bone fragments |
| - | 116 | 196 | E3327:196:1 | B | Pit fill | 121 | ca 70 | 7 | 3-20 | Calcinated | MM complete sesamoid bone, MM/LM cortical long bone fragments, Bird or SM long bone fragments, MM flat bone fragments, MM/LM mandible/maxilla fragment |
| - | 116 | 197 | 197:1 | B | Pit fill | 154 | 5 | <1 | 2-8 | Calcinated | SM/MM/bird cortical bone fragments |
| - | 116 | 198 | 198:1 | B | Pit fill | 155 | 2 | <1 | ~5 | Calcinated | SM/MM/bird cortical bone fragments |
| - | 116 | 199 | 199:1 | B | Pit fill | 156 | 1 | <1 | 3 | Calcinated | Unidentified tiny cortical fragment |
| - | 116 | 250 | 250:1 | B | Pit fill | 157 | 30 | 2 | <1-10 | Calcinated | Cortical and trabecular bone fragments including a fragment of possible skull |

| Group | Cut | Deposit | Find No | Area | Feature type | Sample No | No pieces | Weight (g) | Size (mm) | Burning | Identifications |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 140, Roundhouse 104 | 145 | 257 | E3327:257:3 | B | Slot trench fill | 132 | 1 | <1 | 4 | Calcinated | Unidentified tiny trabecular fragment |
| 140, Roundhouse 104 | 136 | 268 | E3327:268:1 | B | Slot trench fill | - | 8 | 4 | 5-30 | Calcinated | Fragmented pig calcaneus, right side |
| 110 | 139 | 351 | E3327:351:1 | B | Posthole fill | 166 | 2 | <1 | 5-15 | Calcinated | LM cortical long bone fragments |
| 104 | 243 | 352 | E3327:352:1 | B | Stakehole fill | 167 | 1 | <1 | 8 | Calcinated | Unidentified tiny cortical fragment |
| 104 | 220 | 369 | E3327:369:2 | B | Posthole fill | 190 | 8 | <1 | ~5 | Calcinated | Unidentified tiny cortical fragments |
| 110 | 401 | 475 | E3327:475:1 | B | Hollow fill | - | 19 | 5 | 15-20 | Calcinated | MM/LM cortical long bone fragments |
| 110 | 401 | 475 | E3327:475:2 | B | Hollow fill | 236 | 1 | <1 | 5 | Calcinated | Unidentified tiny cortical fragment |
| 110 | 402 | 560 | E3327:560:1 | B | Pit fill | - | ca 20 | 1 | 5-15 | Calcinated | SM/MM or bird cortical long bone fragments - thin walled |
| 110 | 509 | 654 | E3327:654:1 | B | Stakehole fill | 273 | 1 | <1 | 5 | Calcinated | Unidentified tiny trabecular fragment |

***Lithics*** by Farina Sternke (Fig. 24)

Three lithics were recovered from the fill of a hearth (316), the fill of a posthole (346) and the fill of a pit (402). The artefacts survive in reasonably fresh (E3327:560:2), slightly patinated (E3327:487:1) and burnt (E3327:483:1) condition. Artefact (E3327:483:1) is incomplete. The lithics are a fragment of a retouched artefact (E3327:483:1), a flake (E3327:487:1) and a core (E3327:560:2) (Table 23).

**Table 23: Composition of the lithic assemblage**

| Find No. | Cut | Deposit | Material | Type | Condition | Cortex | Dimensions (mm) | Complete | Retouch |
|---|---|---|---|---|---|---|---|---|---|
| E3327: 483:1 | 316 | 483 | Flint | Retouched artefact | Burnt | Yes | L 9 x W 14 x Th 2 | No | Left edge direct semiabrupt |
| E3327: 487:1 | 346 | 487 | Flint | Flake | Slightly patinated | Yes | L 37 x W 30 x Th 5 | Yes | No |
| E3327: 560:2 | 402 | 560 | Flint | Core | Reasonably fresh | Yes | L 14 x W 16 x Th 6 | Yes | No |

*Methodology*

All lithic artefacts were examined visually and catalogued using Microsoft Excel. The following details were recorded for each artefact which measures at least 2 cm in length or width: context information, raw material type, artefact type, cortex, artefact condition, length, width and thickness measurements, fragmentation and retouch. The technological criteria recorded are based on the terminology and technology presented in Inizan *et al.* (1999). The general typological and morphological classifications are based on Woodman *et al.* (2006). Natural chunks were not analysed further.

*Quantification*

The lithics are three modified pieces of flint one of which measures larger than 2 cm in length and width and was therefore recorded in detail. The remaining two lithics were also recorded despite their small size due to the fact that they are typologically and technologically significant for the interpretation of this small assemblage.

*Description*

Core

The core (E3327:560:2) is a very small bipolar-on-an-anvil example with one dominant platform. It measures 14 mm long, 16 mm wide and 6 mm thick. Such small cores are generally associated with the Final Neolithic or Early Bronze Age (Fig. 24).

Flakes

The flake (E3327:487:1) which was recovered from the fill of a posthole is a failed hollow scraper blank which was used as natural concave scraper. The flake has extensive use-wear traces and polish on its left and right edges. It measures 37 mm in length, 30 mm in width and 5 mm in thickness. Hollow scrapers and concave scraper generally date to the second half of the Neolithic (Fig. 24).

Retouched Artefacts

The retouched artefact (E3327:483:1) is most likely a small fragment of a well made convex end scraper. It measures only 9 mm long, 14 mm wide and 2 mm thick (Fig. 24).

*Dating*

The assemblage from Carrigatogher (Ryan) Site 3 is typologically and technologically diagnostic and dates to the second half of the Neolithic, i.e. the natural concave scraper and perhaps also the scraper fragment, and to the Final Neolithic/Early Bronze Age (the small core). Thus, the assemblage would seem to pre-date the houses.

*Conservation*

Lithics do not require specific conservation, but should be stored in a dry, stable environment. Preferably, each lithic should be bagged separately and contact with other lithics should be avoided, so as to prevent damage and breakage, in particular edge damage which could later be misinterpreted as retouch. Larger and heavier items are best kept in individual boxes to avoid crushing of smaller assemblage pieces.

*Discussion*

In Co. Tipperary, flint is only found in the glacial tills. Green and Zvelebil (1990, 65) noted that 'flint takes on a less distinct or definable function' in the Bronze Age which is not born out in the Carrigatogher assemblage. This is all the more reason to suggest a dating to the Late Neolithic or Early Bronze Age. O'Hare (2005) suggested that during the Bronze Age there is a significant drop in the range of stone tool types that occur. If retouched artefacts do occur, they tend to be scrapers or arrowheads. However, the occurrence of small convex scrapers is not necessarily a reliable indication of a Bronze Age date (Woodman 2006). This is very apparent from their presence in Neolithic contexts. Thus, a dating of Middle Bronze Age assemblages often relies on other aspects such as the occurrence of diagnostic tools (e.g. tanged arrowheads, saddle querns, large manos, some types of hone stones and spindle whorls etc) and their association with other artefact types and/or evidence of metalworking. In addition, it is difficult to separate Early Bronze Age from Middle Bronze material based solely on technological characteristics, as the smash-it-and-see bipolar technology tends to dominate both periods (O'Hare 2005). Given that the small core was reduced while resting on an anvil, it is perhaps best placed in the Final Neolithic or earliest Bronze Age.

*Summary*

The lithics from the archaeological excavation at E3327 Carrigatogher (Ryan) Site 3, Co. Tipperary are a very small bipolar flint core, a flint flake that was used as a natural concave scraper and a small fragment of a well-made scraper. The assemblage is typologically and technologically diagnostic and dates to the second half of the Neolithic (the natural concave scraper and perhaps the scraper fragment) and to the Final Neolithic/Early Bronze Age (the core). The artefacts represent waste from lithic production and domestic activities such as hide scraping. They are unlikely to be associated with the two Middle Bronze Age roundhouses. This site makes a minor contribution to the evidence for prehistoric settlement and land use in Co. Tipperary.

***Copper alloy razor*** by Alison Sheridan

*Description*

E3327:158:2

Thin piece of cast copper alloy, slightly curving and roughly oval in plan but with most of the original edge missing, and with a low longitudinal ridge along the mid-point, stopping short of the intact end; length 36.3 mm, maximum width 16.4 mm, max thickness 3.2 mm (Fig. 25, Plate 13). Undecorated. Loose fragments also present. The surviving end is gently rounded and is slightly thicker (at 2.9 mm) than the other, damaged end (1.5 mm). Much of the surface has been lost but where it survives, it is smooth and shiny (with the sheen enhanced by consolidant, applied as a necessary conservation

measure) and is a dark, slightly reddish-brown colour; there are extensive patches of light green corrosion. Found in a posthole from a house, along with sherds of two pots of Cordoned Urn type and fragments of calcined long bone. Qualitative surface compositional analysis by XRF has confirmed the material as a copper alloy, with an exceptionally high surface tin content (23.05%; copper 36.37%; normalised results suggest a 2:1 ratio of copper to tin). This will be discussed below.

*Discussion*

The object can be identified as a razor – a type of object particularly popular in Ireland and Britain during the second quarter of the second millennium BC, and usually associated with graves containing cremated remains, buried in Cordoned Urns (Brindley 2007, 291, 334, 371–2; Kavanagh 1991). In her review, Rhoda Kavanagh listed 44 examples of razors and razor-knives in Ireland, including two from Co. Tipperary (Longstone Cullen and Reardnogy More: Kavanagh 1991, 97, Nos. 26 and 27). Where the findspot context was known (i.e. where the object had not been a stray find), the context was invariably funerary. The dating of Irish razors has been greatly improved by radiocarbon dating programmes undertaken by Anna Brindley and Jan Lanting (Brindley 2007; cf. Brindley 2001); this has confirmed the second quarter of the second millennium BC as the *floruit* of their use, and this tallies with the evidence obtained from Scotland (Sheridan 2007, 178, 179). Even though the posthole in which the Carrigatogher example was found was not radiocarbon-dated, the fact that a nearby posthole in house 104 produced (from burnt hazelnut shell) a date calibrating to 1870–1620 cal BC at 95% probability (1750–1680 cal BC at 1σ) is consistent with this date range – notwithstanding the fact that the chronological relationship between the dated hazelnut shell and the razor-bone-pot deposition is not known for certain.

The surviving, gently curving end of the razor will have been its distal end, making it a relatively broad-ended example; the other, lost end may or may not have been tanged, and would have contained at least one rivet hole. The facts that: i) the object is slightly curving, rather than flat (as most razors are); ii) it has a reddish-brown colour; and iii) the surface tin content is exceptionally high for Irish Early to Middle Bronze Age copper alloy objects all suggest that the razor may have been burnt. Tin tends to migrate to the surface of an object during burning and during post-depositional corrosion, so this would account for its apparent high concentration. Burning (in the reducing atmosphere of a funerary pyre) could account for the colour change of the copper to a reddish colour; burning can also account for the physical deformation of the metal.

The association of the razor with sherds of Cordoned Urn-type pottery and with calcined bone (the latter only identifiable as 'medium or large-sized mammal'), together with the likelihood that the razor had been burnt, all point towards this having been a funerary deposit within the house: in other words, an individual had been cremated, accompanied by the razor, and the calcined bones (or a token sample thereof) had been buried in a Cordoned Urn in the posthole. The position of the finds within the posthole – which is the deepest posthole in structure 104 – suggests that this in-urned interment could have been a foundation deposit. As indicated above, the burnt condition of the razor suggests that it had probably passed through the pyre. It is regrettable that the calcined bone fragments are not definitely identifiable as being human, but they may well be. Bronze razors – a prestigious Early Bronze Age depilatory tool – are associated with both males and females, with the more robust examples (comparable with the Carrigatogher example) being associated with adult males. (See Sheridan et al. in press for discussion of the 'female'-style example found with a male youth at the Mound of the Hostages, Tara.).

In short, this razor may relate to the deposition, as a foundation deposit, of an individual accorded special status. The association of funerary deposits and Bronze Age houses is well documented from the famous site of Cladh Hallan on South Uist (Parker Pearson *et al.* 2004), where human remains both served as foundation and as sealing deposits.

***XRF analysis of bronze razor fragment*** by Angela Wallace

*Methodology*

The object was analysed using an Oxford ED 2000 XRF in conjunction with XpertEase analytical software. XRF of the surface of an artefact can facilitate qualitative results, i.e. proportions of different elements are calculated relative to each other, as opposed to an absolute quantitative result. As the surface of an artefact is often characterised by corrosion products or surface coatings from the burial environment the results do not necessarily reflect the true chemical composition of an artefact. The results are useful in giving an indication of main elements present; it is a non-destructive technique for characterising chemical aspects of an artefact. Providing the artefact is small enough to fit into the chamber of instrument, several spot analyses can be carried out on the surface. No sampling or sample preparation is required for this technique. Quantitative results can be obtained using XRF if a sample is removed, mounted in resin and polished.

X-ray fluorescence (XRF) analysis, is based on the ionization of the atoms of the material being investigated by an energetic beam of primary X-rays. The characteristic radiation that is emitted by the ionized atoms upon relaxation contains information on the nature and the abundance of the elemental constituents present (Janssens 2004, 129). Once the beam of X-rays is directed onto an archaeological artefact it then emits an X-ray spectrum which contains peaks for each of the elements present in the object or sample. 'EDXRF is relatively cheap and quick and can determine the presence of most elements within a few seconds' (Bayley *et al.* 2001, 25).

*Results*

<u>25160-158 Bronze Razor</u>

A total of five analyses were carried out on the surface of the small bronze razor. These results cannot be seen as quantitative, they are qualitative measurements only. In order to establish the exact composition of the metal in this artefact a small sample away from the surface would have to be taken, i.e. a small core (*c.*1 mm diameter) drilled from artefact. The XRF results for the surface are indicative only as the chemical composition at the surface is likely to be contaminated from corrosion products and the surrounding burial environment. Surface XRF results are useful in that they give an indication of the metals present and the relative proportions.

There is some iron, alumina and silica shown in the analyses these may be coming from clay particles or corrosion products adhering to the surface but may also form part of the metal composition. The results of analysis show that copper and tin are the main metals. There is no evidence for lead or arsenic which has been used to identify possible ore sources in previous studies (Flanagan 1991). Given that XRF results are only from a surface analysis, results are not comprehensive enough to be used in identification of possible ore sources. The combined average of five surface spot analyses are copper 36.37% and tin 23.05%. When these results are normalised the ratio of copper: tin is 61% to 39% or roughly 3:2, the quantity of tin seems exceptionally high.

There has been very little analytical work carried out on the composition of Irish bronzes so it is difficult to place results from this razor within a wider context. Much of the analysis that has been carried out has been focused on trace elements and provenancing of possible ore sources (Northover *et al.* 2001). It is possible to say that the razor is a copper/tin alloy, with an exceptionally high quantity if tin. Previous analyses carried out on three bronze flat axes (ibid. 35) showed the following results for copper and tin: Toormore, Co. Cork: 88.46 Cu%, 10.32 Sn%; Ballyfinnane, Co. Kerry: 86.36 Cu%, 12.69 Sn%; Knockasarnet, Co.Kerry: 88.78 Cu%, 5.79 Sn%.

There are many different bronze alloys but bronze is typically 88% copper and 12% tin (Knapp 1996). Binary alloys of copper and tin are far stronger than the constituent metals, are less brittle, more flexible and easier to cast. Furthermore, a relatively high-tin bronze (*c.* 10% tin) retains its lustre

longer than copper and is a brighter 'golden' colour in comparison. These qualities no doubt contributed to make it more attractive than copper at this time (Young 2009). It is difficult to find parallels for and explain the high tin content in this razor, the high tin content may have been deliberate to create a 'gold coloured' appearance.

***Pottery*** by Helen Roche and Eoin Grogan (Fig. 26, Plate 14)

*Summary*
*The site produced a small assemblage of 28 sherds (three rims, one base, six body sherds, eleven fragments and seven crumbs; weight: 238 g) representing seven Middle Bronze Age urn-related domestic vessels.*

*Context*

Middle Bronze Age sherds were found in a number of features in Area B, including the topsoil, two spreads, roundhouse 104, structure 135 and isolated postholes 242 and 411 (see Table 24 for details). Although the vessels are similar in form and ornamentation to funerary urns, the lack of any definite Middle Bronze Age funerary evidence on the site implies that most of the pottery represents domestic activity. Detailed descriptions of the sherds and contexts are presented in the Catalogue (below), after a general discussion of the assemblage.

*The pottery*

This is a small assemblage of seven vessels belonging to the Middle Bronze Age domestic variant within the Cordoned Urn Tradition (Waddell 1995, 113, 118; Kavanagh 1976, 330; Brindley 2007, 143; Grogan and Roche 2009a). The fabric matrix, shape and the presence of twisted cord impressed ornament on vessels 3, 5 and 7, and the presence of low raised cordons on vessels 2 and 4 indicate a strong affinity with earlier cordoned urns. The vessels are flat-based and tub-shaped with varying rim forms, flat slightly inward sloping (vessel 3), rounded (vessel 5) and slightly out-turned inward sloping (vessel 7). The fabric matrix is consistent, with vessels 1, 2, 4 and 7 having good quality hard fabric and with a somewhat loose-textured matrix, a high content of inclusions and measuring between 7.70 mm and 12.60 mm in wall thickness. Vessels 5 and 6 are somewhat different in having hard brittle fabric with vessel 5 being slightly chalky in surface texture and measuring between 7.80 mm to 10.30 mm in wall thickness. Although areas of the surfaces show evidence for weathering and inclusions protrude, the exterior surfaces of the vessels had originally been well finished and smoothed. Limited evidence for decoration is visible on six vessels. Low raised horizontal cordons are present on vessels 2 and 4. Vessel 5 is decorated, immediately below the rim, with a horizontal groove formed with broad twisted cord impressions. Below this is a triangle formed with broad twisted cord, and an oblique line of two twisted cord impressions is present within the triangle. Two carelessly formed incised lines are present on vessel 6. Vessel 7 has three broadly spaced horizontal lines of broad twisted cord impressions below which is an oblique line of twisted cord which probably formed a triangle. Traces of carbonised residue on the interior surface of vessels 2 and 7 and on both surfaces of vessel 4, indicate domestic use.

Vessel 3 is of a distinctive type of good, compact fabric and decorated with fine twisted cord. This type is represented at Knowth, Co. Meath (Eogan and Roche 1997, 204, fig. 44) which has decoration of horizontal comb impressed lines immediately beneath the rim with filled triangles, and basket patterns, of oblique grooves; a comb impressed line occurs on the flat rim top. There are a small number of close parallels for this unusual vessel including examples from Rathgall, Co. Wicklow (Roche 2007), Lough Gur Site C (Ó Ríordáin 1954, 3-6, 8, fig. 17), Lough Gur Circle L (Grogan and Eogan 1987, 407, fig. 44: 879), and Ballinaspig More 5 (Danaher 2004; Grogan and Roche 2004).

**Table 24: Prehistoric pottery details**

| Vessel | Deposit | Cut | Date | Rim | Base | Body | Fragment | Crumbs | Weight |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 150 | - | Middle Bronze Age | - | - | - | 2 | - | 19g |
| 2 | 158 | 107 | Middle Bronze Age | - | 1 | 2 | - | 4 | 89g |
| 3 | 158 | 107 | Middle Bronze Age | 1 | - | - | - | - | 3g |
| 4 | 167, 188 | - | Middle Bronze Age | - | - | 2 | 6 | - | 61g |
| 5 | 257 | 145 | Middle Bronze Age | 1 | - | - | - | 1 | 20g |
| 6 | 357 | 142 | Middle Bronze Age | - | - | 1 | - | - | 9g |
| 7 | 389, 550 | 310, 411 | Middle Bronze Age | 1 | - | - | 1 | - | 20g |
| Bodysherd | 165 | 117 | Middle Bronze Age | - | - | 1 | - | - | 9g |
| Fragment | 150 | - | Middle Bronze Age | - | - | - | 1 | - | 4g |
| Fragment | 268 | 136 | Middle Bronze Age | - | - | - | 1 | - | 3g |
| Crumbs | 296 | 242 | Middle Bronze Age | - | - | - | - | 2 | 1g |
| ***Total*** | **-** | **-** | **-** | ***3*** | ***1*** | ***6*** | ***11*** | ***7*** | ***238g*** |

*Discussion*

Domestic pottery belonging to the broad Cordoned Urn Tradition has been identified from an increasing number of settlement sites including Killalane 1 and Carrigatogher (Abbott) 1, Co. Tipperary (Roche and Grogan 2009a; Grogan and Roche 2009b); Lough Gur, Co. Limerick, Sites C and D (Ó Ríordáin 1954, 333-40, 392-94, figs 18: 7-9, 19: 1-6, 34: 26, pl. 34), Circle L and Site 10 (Grogan and Eogan 1987, 405, 449-51, figs 45: 891, 68: 893-920). Other sites to the south in Co, Cork include Ballinaspig More 5 (Danaher 2004; Grogan and Roche 2004) and Ballybrowney Lower (Cotter 2005; Roche and Grogan 2006). A general use range of *c*. 1600-1300 BC is indicated for these assemblages as is suggested by the date of 1700-1430 BC from Ballinaspig More 5, and by several dates from Ballybrowney (O'Sullivan and Stanley 2005, 149). Cordoned urns are widely represented in burial contexts and constitute one of the latest special funerary wares in the Bronze Age (Brindley 2007; Kavanagh 1976; Grogan 2004); these continue into the Middle Bronze Age. The domestic variety is generally similar in form and fabric to funerary vessels but, as has been observed on other sites, decoration, where present, is generally more haphazardly applied.

Carrigatogher (Ryan) Site 3 is in an area of intense Bronze Age activity on the western flank of the Kilmastulla Valley, a major routeway extending from the Killaloe/Ballina crossing on the Shannon into the south midlands (Grogan 2006, 74-77, figs 71-72). Similar evidence for domestic cordoned urns came from the nearby sites at Carrigatogher (Harding) Site 5 (Ruttle and Taylor 2011; Roche and Grogan 2009b) and Carrigatogher (Abbott) Site 1 (McNamara *et al.* 2012; Grogan and Roche 2009b).

*Catalogue*

The excavation number E3327 is omitted throughout; only the deposit number followed by the find number is included. Where the pottery is listed in the catalogue the deposit numbers are in bold: *e.g.* bodysherd: **296**:25. Sherd numbers incorporating a forward slash indicates joining sherds, *e.g.* 888/444. The colour reference refers to the outer surface/core/inner surface, *e.g.* orange/grey/black. The thickness refers to an average dimension; where relevant a thickness range is indicated. Vessel numbers have been allocated to pottery where some estimation of the form of the pot is possible, or where the detailed evidence of featured sherds (*e.g*. rims, shoulders) or the fabric indicates separate vessels.

Middle Bronze Age domestic urn-related vessels

Vessel 1: Represented by two fragments **150**:2a-b & 3.
Hard fabric with a slightly loose textured matrix and a high content of crushed inclusions (≤ 1.20 mm). The exterior surface is weathered and inclusions protrude. Colour: orange/grey/black. T: 7.70-12.40 mm. Weight: 19 g.

Vessel 2: Represented by a thick base sherd **158**:3, two bodysherds with cordons **158**:4 & 7, and four fragments **158**:5-6 & 8-9.
Thick-walled hard fabric with a slightly loose textured matrix and a high content of crushed inclusions (≤ 4.60 mm). The exterior surface had been smoothed but is now weathered and rough to touch. Low raised cordons are present on the exterior surfaces of **158**:4 and 7. Slight traces of carbonized residue are present on the interior surface. Colour: orange/orange-grey-black/orange-black. T: 10.30-12.60 mm. Base T: 24.40 mm. Weight: 89 g.

Vessel 3: Represented by a rim fragment **158**:10.
Flat slightly inward sloping rim. Thin-walled good quality compact fabric with a moderate content of crushed inclusions (≤ 3.80 mm). The surviving exterior surface is smooth. Decoration is present in the form of two irregularly spaced lines of fine twisted cord impressions around the circumference of the flat surface of the rim. Two horizontal rows of fine twisted cord impressions are present on the exterior surface below the rim. Colour: brown-black throughout. T: 8.30 mm. Weight: 3g.

Vessel 4: Represented by a bodysherd and two fragments with cordons **167**:1, 2 & 7a-c, a bodysherd **188**:1 and four fragments **167**:3-6.
Hard good quality fabric with a slightly loose textured matrix and a high content of crushed inclusions (≤ 5.10 mm). The exterior surface is smoothed but still a little uneven - but somewhat weathered with the surface missing from no. 5. A low raised cordon is present on sherds nos **167**:1 and 2. Slight traces of carbonized residue are present on both surfaces. Colour: brown-black throughout. T: 10.10-11.10 mm. Weight: 61 g.

Vessel 5: Represented by a rimsherd **257**:1a-b and a crumb **257**:2.
Rounded irregularly formed rim. Thin-walled brittle fabric, slightly chalky in texture and with a moderate to high content of crushed inclusions (≤ 7.40 mm). The exterior surface is somewhat weathered and uneven and inclusions protrude. Decoration is present on the exterior surface in the form of a horizontal groove formed with broad twisted cord impressions, immediately below the rim. Below this is a triangle formed with broad twisted cord impressions, an oblique line of two twisted cord impressions is present within the triangle. Colour: orange throughout. T: 7.86-9.20 mm. Weight: 20 g.

Vessel 6: Represented by a bodysherd **357**:1.
Hard brittle fabric with a moderate to high content of crushed inclusions (≤ 3.70 mm). The exterior surface is somewhat weathered and inclusions protrude. Decoration is present on the exterior surface in the form of two carelessly formed incised lines. Colour: orange/orange-grey/buff. T: 10.30 mm. Weight: 9g.

Vessel 7: Represented by a rimsherd **389**:1a-c and a fragment **550**:1.
Slightly out-turned inward sloping rim. Hard compact fabric with a moderate to high content of crushed inclusions (≤ 5.50 mm). The exterior surface had been smoothed but is now somewhat weathered and a little uneven. Slight traces of carbonized residue are present on the interior surface. Decoration is present on the exterior surface in the form of three broadly spaced horizontal lines of broad twisted cord impressions below which is an oblique line of twisted cord impressions which probably formed a triangle. Colour: orange/grey-black/orange-black. T: 8.30-9.20 mm. Weight: 20g.

Fragments: Represented by fragments similar to the above but are too small or indistinct to be assigned to particular vessels. They probably belong to the above but may also belong to different vessels.
Fragment **150**:1a-d. Crumbly red fabric. W. 4 g.
Bodysherd **165**:1. Good quality hard smooth. T: 1.20 mm. W. 9 g.
Crumb **188**:2. W. <1 g.
Fragment **268**:2. Good quality smooth thin walled. T: 9.10 mm. W. 3 g.
Two crumbs **296**:1a-b. W. 1 g.

***Slag and high temperature debris*** by Lynne Keys

A fragment of iron-rich slag from early medieval pit 116 was probably produced by smithing activity but because it is incomplete no more can be said. A very tiny quantity (under 3 g) of high temperature waste was recovered from the Bronze Age structures during excavations (Table 25). In the absence of industrial activity on the site it is probably domestic fuel which was later discarded.

**Table 25: Slag and high temperature debris**

| Find no. | Cut | Deposit | Group | Area | Sample | Category | Pcs | Weight (g) |
|---|---|---|---|---|---|---|---|---|
| E3327:164:1 | 116 | 164 | | B | | Iron-rich undiagnostic | 1 | 88 |
| E3327:261:1 | 149 | 261 | 135 | B | 142 | Waste | 1 | <1 |
| E3327:360:1 | 247 | 360 | 140 | B | | Waste | 1 | <1 |
| E3327:369:1 | 220 | 369 | 104 | B | | Waste | 1 | 2 |

## Samples

A total of 230 samples were taken from the site. Of these, 159 samples were floated and wet sieved through a 2 mm mesh and then through a 300 micron mesh in order to recover charred plant material, cremated bone and small artefacts. A catalogue of samples and results is given as Appendix 3.

***Charred plant*** by Rosalind McKenna

*Summary*

*Plant remains have been examined from a series of sub-samples of occupation deposits from excavations at Carrigatogher (Ryan) 3. There was a single, rich assemblage of plants with evidence for a modest range of taxa likely to have been useful to the inhabitants of the site, including barley, wheat, oat, and hazelnut. Charcoal was present in the majority of the samples, together with concentrations of hazelnut shell. The charcoal remains showed the exploitation of mainly oak and hazel woodland, with a little use of scrub. Overall, the samples represent the waste of domestic build-up and the resultant fires in order to dispose of the debris.*

*Introduction*

A programme of soil sampling implemented during the excavation that included the collection of soil samples from sealed contexts, ranging from 0.25L to 10L in size. The aim of the sampling was:

- To assess the type of preservation and the potential of the biological remains
- To record any human activities undertaken on the site – both domestic and industrial
- To provide information on the past environment of the area.

*Methods*

Following selection, subsamples of raw sediment from the selected samples were processed. The samples were examined in the laboratory, where they were described using a pro forma. The subsamples were processed by staff at TVAS Ireland using their standard water flotation methods.

The flot (the sum of the material from each sample that floats) was sieved to 0.30 mm and air dried. As very little material floated, the heavy residue (the material which does not float) was washed through the same mesh, dried and additional charcoal or charred material was retrieved. The material was examined under a low-power binocular microscope at magnifications between x12 and x40. A four point semi quantitative scale was used, from '1' – one or a few specimens (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many specimens per kg or a major component of the matrix). Data were recorded on paper and subsequently on a personal computer using a Microsoft Access database.

The flot was then sieved into convenient fractions (4, 2, 1 and 0.30 mm) for sorting and identification of charcoal fragments. Identifiable material was only present within the 4 and 2 mm fractions. A random selection of ideally 100 fragments of charcoal of varying sizes was made, which these were then identified. Where samples did not contain 100 identifiable fragments, all fragments were studied and recorded. This information is recorded with the results of the assessment in Tables 26-41 below. Identification was made using the wood identification guides of Schweingruber (1978) and Hather (2000). Taxa identified only to genus cannot be identified more closely due to a lack of defining characteristics in charcoal material.

*Results*

Charred plant macrofossils

Charred plant macrofossils were present in 38 of the samples but were generally very poorly preserved, and were lacking in most identifying morphological characteristics. The results of this analysis can be seen in Tables 26-28 below; taxonomy and nomenclature follow Stace 1997. None of the samples from Area A produced plant macrofossils. Of those samples containing plant macrofossils from Area B, thirteen came from Roundhouse 104 (Table 26), fifteen from Roundhouse 110 (Table 27) and ten from ungrouped features (Table 28). The samples mainly produced small assemblages of plant remains both in volume and diversity. The most commonly recorded macrofossil was 'indeterminate cereal' grains, which were present in seventeen of the samples, in varying amounts, from single grains to more than 600. The samples contained varying numbers of charred cereal grains, many of which lacked identifying morphological characteristics. Where it was possible to ascertain identifications, oats, wheat and barley were all represented, although frequently as singular or small occurrences. This shows that the whole suite of cereal grains that could have been utilised by the inhabitants of the area was indeed being used. One of the samples (sample 178, hearth 211) contained a larger assemblage of plant macrofossils that was extremely abundant. This again shows the utilisation of all the available cereal grains, with wheat and barley being equally recorded as the identifiable remains.

Hazelnut shell was also present in a high proportion of the samples - 21 samples contained the taxa, mainly as a single occurrence. The exception to this was sample 160 (hearth 235 from Roundhouse 104) which contained abundant remains. Weeds typically associated with cultivation were also present within several of the samples – goosefoot/orache, black bindweed and taxa from the cabbage family.

Root / rootlet fragments were also present within eighteen of the samples. This indicates disturbance of the archaeological features, and this may be due to the nature of some features being relatively close to the surface, as well as deep root action from vegetation that covered the site. This may be further confirmed by the presence of earthworm egg capsules in three samples and the remains of insect fragments in a further two samples.

Charcoal fragments were present in 136 of the samples, and mainly scored a '1' on the semi quantitative scale. The preservation of the charcoal fragments was relatively variable even within the samples. Some of the charcoal was firm and crisp and allowed for clean breaks to the material permitting clean surfaces where identifiable characteristics were visible. However, most of the fragments were very brittle, and the material tended to crumble or break in uneven patterns making the identifying characteristics harder to distinguish and interpret. Identifiable remains were present within 119 of the samples.

Charcoal assessment

Tables 29-41 below show the results of the charcoal assessment. The total range of taxa comprises oak (*Quercus*), alder (*Alnus*), hazel (*Corylus*), ash (*Fraxinus*), willow/poplar (*Salix/Populus*), elm (*Ulmus*) and hawthorn/apple/Sorbus-group (Pomoideae). These taxa belong to the groups of species represented in the native Irish flora. A local environment with a relatively wide range of trees and shrubs is indicated from the charcoal of the site. As seen in Tables 29-41, oak, alder and hazel are by far the most numerous of the identified charcoal fragments, and it is possible that these were the preferred fuel woods obtained from a local environment containing a broader choice of species. With ash present in the environment, it is perhaps worth noting that oak is considerably more represented in the samples. Oak is probably the first choice structural timber, and with a local abundance it may have been used instead of ash, thereby providing more by-product fire fuel.

Of the seven samples from Area A, six produced identifiable remains (Table 29). Three of these samples were dominated by hazel, one of which contained only hazel. Two were dominated by ash, and a further sample contained hazel and alder in near equal amounts. Oak was also present.

Area B produced 129 samples, 113 of which contained identifiable remains (Tables 30-41). Of the 22 samples from the ungrouped pits and hearths, nineteen contained identifiable remains (Table 30). Ten were dominated by oak – five of which contained only oak taxa. Two samples were dominated by ash, with one of the samples containing only ash, and five samples were dominated by hazel. Alder was also present within some of the samples.

Samples from ungrouped posthole features, also varied in individual composition, but were mainly dominated by oak and ash, with hazel also being recorded (Table 31). The group produced six samples, two of which contained only indeterminate remains. Five samples were produced from ungrouped spreads, three of which were dominated by hazel (Table 31). One sample contained an even mixture of hazel and oak, and one was mainly indeterminate material with a little alder.

Roundhouse 104

Sub-group 140, the foundation trench, produced eight samples, six of which were dominated by oak and two of which were dominated by hazel (Table 32). Alder was also present in two of the samples. Sub-group 313, the porch features, produced six samples, four of which were dominated by oak and two by hazel (Table 33). Alder, elm and Pomoideae were also present within this group. Two samples from hearth 235 produced identifiable remains – one of which was purely hazel charcoal, and the other which was dominated by alder and also contained Pomoideae (Table 34). Postholes from this group produced fourteen samples, all of which contained identifiable remains (Table 35). Four were dominated by hazel (one of which was purely hazel), nine by oak (three of which were purely oak) and one by alder. Ash and elm were also present within some of the samples.

The samples which originated from the stakeholes produced nineteen samples with identifiable remains (Table 36). Nine of these samples were dominated by oak (three of which contained purely oak where identifiable remains were present), five were dominated by hazel (four of which were purely hazel where identifiable remains were present), two were dominated by alder (one of which

was purely alder) and one by Pomoideae. Two samples contained similar amounts of hazel and oak. Elm and ash were also present within some of the samples.

Roundhouse 110

Sub-group 330, the foundation trench, produced seven samples, all dominated by oak (five containing purely oak charcoal) (Table 37). Hazel and ash were also present within some of the samples.

Postholes produced six samples, five of which contained identifiable remains, all of which were dominated by oak (two containing purely oak charcoal) (Table 38). Hazel and elm were also present within some of the samples. Twelve of the fourteen samples from stakeholes contained identifiable remains (Table 39). Ten of the samples were dominated by oak (and seven contained purely oak), one by hazel and a further sample contained similar proportions of hazel and oak. Salix/Poplar was also present within the samples.

Thirteen of the sixteen samples from pits and a hollow contained identifiable remains (Table 40). Twelve were dominated by oak (ten had only oak) and one by ash. Hazel and elm were also recorded.

Structure 135

Seven samples were taken from this structure (Table 41). Three of the four samples from gullies were dominated by oak (with one containing only oak) and one by hazel. Salix/Poplar was also present. Postholes produced two samples, one which was indeterminate and one which was dominated by oak with hazel also being present. A single sample from a stakehole contained only indeterminate remains.

Summary

Generally, there are various, largely unquantifiable, factors that effect the representation of species in charcoal samples including bias in contemporary collection, inclusive of social and economic factors, and various factors of taphonomy and conservation (Théry-Parisot 2002). On account of these considerations, the identified taxa are not considered to be proportionately representative of the availability of wood resources in the environment in a definitive sense, and are possibly reflective of particular choice of fire making fuel from these resources. Bark was also present on some of the charcoal fragments, and this indicates that the material is more likely to have been firewood, or the result of a natural fire.

*Conclusion*

The samples from excavations at Carrigatogher (Ryan) 3 produced some environmental material of interpretable value, with charcoal remains from 119 samples and the charred plant macrofossils from 38 samples. The deposits from which the samples derive probably represent domestic waste associated with fires.

These charcoal remains showed the exploitation of several species native to Ireland, with the prevalence of oak and hazel being selected and used as fire wood. There appears to have been a little use of scrub. Oak has good burning properties and would have made a fire suitable for most purposes (Edlin 1949). Oak is a particularly useful fire fuel as well as being a commonly used structural/artefactual wood that may have had subsequent use as a fire fuel (Rossen and Olsen 1985). Alder was also represented in the samples. This wood burns quickly when used for firewood, but has been found suitable for charcoal production. This may indicate some small scale charcoal production, but given that it is not the most abundant taxa, may merely represent a selection of available firewood.

The archaeobotanical evidence found in the samples shows the consistent predominance of wheat, with barley often a close second in the records. This may be due to the poor preservation issue, whereby more robust wheat seeds retain more identifiable morphological characteristics. Oats were

also present in some of the samples in varying numbers, possibly indicating a more diverse exploitation of cereals, although perhaps more significant in later phases. Only one of the samples produced a high concentration of remains.

The lack of weed seeds and chaff within the samples may suggest that the cereal grain represented crops that had been threshed, cleaned and accidentally burnt. One possible explanation for the majority of the samples is that cereal processing waste containing some grain was used as kindling in fires. The oxidising conditions of these fires would then have resulted in the flimsy items of chaff and small weed seeds being entirely burnt away leaving the grain to become carbonised.

The hazelnut shell fragments present in 21 of the samples were possibly the result of nuts being harvested and their husks being added to fires as a method of waste deposition and added fuel.

Overall, the samples represent the waste of domestic build-up and the resultant fires in order to dispose of this. Numerous sites from this road scheme have produced similar material. It is thought to be problematic using charcoal and plant macrofossil records from archaeological sites, as they do not accurately reflect the surrounding environment. Wood was gathered before burning or was used for building which introduces an element of bias. Plant remains were also gathered foods, and were generally only burnt by accident. Despite this, plant and charcoal remains can provide good information about the landscapes surrounding the sites presuming that people did not travel too far to gather food and fuel.

The even distribution of oak charcoal throughout the sites on the scheme indicates that oak woodlands, probably with a major hazel component grew along the route. The variety of other trees identified indicates that there were also mosaics of other woodlands habitats along the road scheme. There is a small amount of evidence for wetland taxa in the remains of alder, which was also found in the Gas Pipeline to the West (O'Donnell 2007) and along the N8 road scheme (McQuade *et al.* 2009).

Agricultural crops also provided a high portion of the charred material recovered from the sites, and were likely to have been the most important taxa utilised in these sites through time. The plant macrofossil results all show a utilisation of the major cereal crops available – wheat, barley, oats, spelt, and in samples of a later date also rye. The vast majority of cereal grains recovered were indeterminate specimens too damaged by carbonisation or taphonomic processes to identify further. Within the identified cereals, wheat (*Triticum* sp.) and barley (*Hordeum* spp.) were the prominent crops recovered. Most oat grains were not identifiable to species as they lacked the distinctive lemna bases necessary for positive species identification, and so could have been wild or cultivated. The remains found along the scheme are similar in composition to those found at sites from other road schemes in Ireland but there is one difference. Most other schemes record barley as being the dominant grain in assemblages however, the majority of the sites along this scheme record wheat as dominant. This may merely be down to depositional and taphonomic processes whereby barley grains were less well preserved and have been recorded as indeterminate cereals. Unfortunately the small amount of cereal chaff was badly preserved and was unidentifiable to species level.

The environmental work from this site, along with the others from the road scheme, provides an important insight into the wood and plants gathered for consumption along the route. It is likely that when the results from all sites that were excavated along the route by the various different contractors are combined, a more meaningful and complete overview of charcoal and plant remains in this part of Ireland can be gained.

*Recommendations*

The samples have been assessed, and any interpretable data has been retrieved. No further work is required on any of the samples. Any material recovered by further excavations should be processed to 0.30 mm in accordance with standardised processing methods such as Kenward *et al.* (1980), and the English Heritage guidelines for Environmental Archaeology (2002).

**Table 26: Complete list of charred taxa recovered from Roundhouse 104**

| **Cut** | | 107 | 114 | 117 | 117 | 120 | 136 | 137 | 220 | 235 | 235 | 247 | 311 | 513 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 158 | 162 | 165 | 276 | 169 | 268 | 299 | 369 | 166 | 175 | 361 | 391 | 663 |
| **Sample No.** | | 117 | 110 | 109 | 192 | 111 | 141 | 173 | 190 | 159 | 160 | 177 | 200 | 286 |
| **Group No.** | | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 |
| **Sample volume (ml)** | | 10 | 5 | 50 | | 25 | | 20 | | | | | | |
| *Corylus avellana* L. | Hazel | | | 1 | 1 | 7 | 3 | | 4 | 4 | 124 | 1 | 1 | |
| *Chenopodium* spp / *Atriplex* spp. | Goosefoot/Orache | | | 2 | | 2 | | | | | | | | |
| *Prunus domestica* L. | Wild plum | | | 1 | | | | | | | | | | |
| *Avena sativa* L. | Oat | | | | | 1 | | | | | | | | |
| *Hordeum* spp. | Barley | 2 | 1 | 1 | | | | | 2 | | | | | |
| *Triticum* spp. | Wheat | 2 | 1 | 1 | | | | 1 | 2 | | | | 1 | 1 |
| Indeterminate cereal | | 3 | 2 | 4 | 1 | 1 | | | 1 | | | | 1 | |

**Table 27: Complete list of charred taxa recovered from Roundhouse 110**

| **Cut** | | 324 | 324 | 326 | 326 | 327 | 328 | 349 | 402 | 420 | 421 | 427 | 432 | 515 | 533 | 614 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 454 | 454 | 459 | 460 | 461 | 462 | 557 | 560 | 566 | 567 | 576 | 583 | 666 | 686 | 767 |
| **Sample No.** | | 205 | 291 | 210 | 211 | 213 | 214 | 241 | 244 | 265 | 249 | 256 | 264 | 287 | 303 | 100 |
| **Group No.** | | 330 | 330 | 110 | 110 | 110 | 330 | 110 | 110 | 110 | 330 | 110 | 110 | 110 | 110 | 110 |
| **Sample volume (ml)** | | 10 | 30 | | | | 10 | | 5 | | | | | | | ›5 |
| *Corylus avellana* L. | Hazel | 1 | | | 2 | | | 3 | | 1 | 1 | | 1 | 1 | | |
| *Fallopia convovulus* | Black bindweed | | | | | | | | 1 | | | | | | | |
| *Chenopodium* spp / *Atriplex* spp. | Goosefoot/Orache | | 4 | | | | | | | | | | | | | |
| *Hordeum* spp. | Barley | 2 | 10 | 2 | | | 2 | | 2 | | | | 1 | 1 | | |
| *Triticum* spp. | Wheat | 2 | 1 | | | 1 | 1 | | | | | 1 | | | 1 | 1 |
| Indeterminate cereal | | 7 | 5 | | | 1 | 1 | | 2 | | | 1 | 1 | | | |

**Table 28: Complete list of charred taxa recovered from ungrouped features**

| **Cut** | | 100 | 115 | 116 | 116 | 116 | 116 | 210 | 211 | 524 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 170 | 163 | 164 | 197 | 198 | 199 | 188 | 284 | 675 | 151 |
| **Sample No.** | | 118 | 114 | 152 | 154 | 155 | 156 | 126 | 178 | 298 | 101 |
| **Sample volume (ml)** | | >5 | 5 | | | | | | 475 | 10 | 10 |
| *Corylus avellana* L. | Hazel | 12 | 6 | | | 1 | | 3 | | | 1 |
| *Chenopodium* spp / *Atriplex* spp. | Goosefoot/Orache | | 2 | | | | | | | | |
| *Brassica* spp. | Cabbage family | | | | | | | | 1 | | |
| *Avena sativa* L. | Oat | 1 | | 1 | | 2 | 1 | | | | |
| *Hordeum* spp. | Barley | | 3 | | 1 | | | | 43 | | |
| *Triticum* spp. | Wheat | | | | | 2 | | | 42 | 3 | |
| Indeterminate cereal | | | 2 | | | 1 | | | 613 | | |

**Table 29: Complete list of taxa recovered from Area A**

| **Cut** | | 1 | 3 | 4 | 4 | 4 | 4 | 6 |
|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 51 | 64 | 56 | 56 | 65 | 69 | 57 |
| **Sample No.** | | 1 | 4 | 2 | 7 | 8 | 6 | 3 |
| **No. of fragments** | | 26 | 100+ | 200+ | 100+ | 33 | 38 | 100+ |
| **Max size (mm)** | | 10 | 11 | 15 | 8 | 12 | 3 | 14 |
| *Alnus glutinosa* | Alder | 3 | | | | 13 | | |
| *Corylus avellana* | Hazel | 12 | 33 | | 100 | 11 | | 16 |
| *Fraxinus excelsior* | Ash | | | 47 | | 6 | | 31 |
| *Quercus* | Oak | | 19 | 31 | | 2 | | |
| Indeterminate | | 11 | 48 | 22 | | | 38 | 53 |

**Table 30: Complete list of taxa recovered from Area B - ungrouped pits and hearth**

| **Cut** | | 100 | 100 | 105 | 109 | 115 | 116 | 116 | 116 | 116 | 116 | 116 | 129 | 144 | 147 | 206 | 211 | 236 | 424 | 316 | 316 | 316 | 316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 170 | 189 | 153 | 160 | 163 | 164 | 196 | 197 | 198 | 199 | 250 | 191 | 184 | 259 | 278 | 284 | 289 | 570 | 479 | 481 | 482 | 483 |
| **Sample No.** | | 118 | 119 | 106 | 113 | 114 | 152 | 121 | 154 | 155 | 156 | 157 | 153 | 131 | 138 | 148 | 178 | 171 | 250 | 222 | 223 | 225 | 224 |
| **No. of fragments** | | 47 | 8 | 53 | 29 | 50+ | 39 | 23 | 51 | 55 | 8 | 55 | 1000 + | 100 + | 50 | 6 | 500 + | 1000 + | 5000 + | 100 + | 97 | 50+ | 100 + |
| **Max size (mm)** | | 9 | 4 | 14 | 18 | 10 | 19 | 5 | 12 | 26 | 4 | 10 | 23 | 21 | 12 | 4 | 67 | 42 | 29 | 22 | 7 | 11 | 19 |
| *Alnus glutinosa* | Alder | | | 3 | | | 5 | | | | | | | | | | | | | | | | |
| *Alnus / Corylus* | Alder Hazel | | | | | | | | | | | | | | | | | | | 3 | | | |
| *Corylus avellana* | Hazel | | | 8 | 25 | | | | 29 | 41 | | | | | 7 | | 64 | | | | | | |
| *Fraxinus excelsior* | Ash | | | 42 | | | | | | | | 55 | | | | | 25 | | | | | | |
| *Quercus* | Oak | 47 | 5 | | | 50 | 10 | | | 14 | | | 100 | | | | | 100 | 100 | 59 | 64 | | 21 |
| Pomoideae | | | | | | | 6 | | | | | | | 100 | | | | | | | | | |
| Indeterminate | | | 3 | | 4 | | 18 | 23 | 22 | | 8 | | | | 43 | 6 | | | | 38 | 33 | 50 | 79 |

**Table 31: Complete list of taxa recovered from Area B - ungrouped postholes and spreads**

| **Cut** | | 101 | 111 | 242 | 411 | 524 | | - | - | - | 209 | 210 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 152 | 253 | 296 | 550 | 675 | | 151 | 182 | 187 | 167 | 188 |
| **Sample No.** | | 104 | 129 | 163 | 246 | 298 | | 101 | 130 | 125 | 124 | 126 |
| **No. of fragments** | | 42 | 56 | 18 | 100+ | 100+ | | 100+ | 17 | 24 | 27 | 20 |
| **Max size (mm)** | | 6 | 11 | 6 | 4 | 12 | | 11 | 7 | 8 | 5 | 8 |
| *Alnus glutinosa* | Alder | | | | | | | | | | 3 | |
| *Corylus avellana* | Hazel | | 12 | | | | | 81 | 9 | 18 | | 4 |
| *Fraxinus excelsior* | Ash | | 21 | | | | | | | | | |
| *Quercus* | Oak | 20 | | | | 38 | | | | | | 5 |
| Indeterminate | | 22 | 23 | 18 | 100 | 41 | | 19 | 8 | 6 | 24 | 11 |

**Table 32: Complete list of taxa recovered from Area B - Roundhouse 104 - Sub-group 140 (slots through foundation trench)**

| **Cut** | | 117 | 117 | 125 | 136 | 145 | 205 | 214 | 247 |
|---|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 165 | 276 | 290 | 268 | 257 | 277 | 288 | 361 |
| **Sample No.** | | 109 | 192 | 172 | 141 | 132 | 145 | 180 | 177 |
| **No. of fragments** | | 200+ | 86 | 44 | 100+ | 500+ | 38 | 100+ | 61 |
| **Max size (mm)** | | 22 | 15 | 19 | 22 | 24 | 17 | 19 | 14 |
| *Alnus glutinosa* | Alder | | | | 16 | 23 | | | |
| *Corylus avellana* | Hazel | 37 | 17 | 17 | 54 | | 14 | 100 | |
| *Fraxinus excelsior* | Ash | | 6 | | 9 | | | | |
| *Quercus* | Oak | 63 | 63 | 27 | 21 | 77 | 24 | | 61 |

**Table 33: Complete list of taxa recovered from Area B - Roundhouse 104 - Sub-group 313 (roundhouse porch features)**

| **Cut** | | 224 | 224 | 314 | 314 | 344 | 430 |
|---|---|---|---|---|---|---|---|
| **Deposit** | | 374 | 498 | 395 | 395 | 485 | 580 |
| **Sample No.** | | 187 | 195 | 212 | 240 | 227 | 263 |
| **No. of fragments** | | 100+ | 19 | 100+ | 100+ | 57 | 28 |
| **Max size (mm)** | | 11 | 7 | 15 | 31 | 10 | 22 |
| *Alnus glutinosa* | Alder | | 1 | | | | 9 |
| *Corylus avellana* | Hazel | 26 | | 61 | 65 | 17 | |
| *Quercus* | Oak | 37 | 18 | 32 | | 36 | 19 |
| *Ulmus* | Elm | 8 | | 7 | 12 | 4 | |
| Pomoideae | | | | | 33 | | |
| Indeterminate | | 29 | | | | | |

**Table 34: Complete list of taxa recovered from Area B - Roundhouse 104 - hearth**

| **Cut** | | 235 | 235 |
|---|---|---|---|
| **Deposit** | | 166 | 175 |
| **Sample No.** | | 159 | 160 |
| **No. of fragments** | | 36 | 100 |
| **Max size (mm)** | | 9 | 18 |
| *Alnus glutinosa* | Alder | 22 | |
| *Corylus avellana* | Hazel | | 100 |
| Pomoideae | | 14 | |

**Table 35: Complete list of taxa recovered from Area B - Roundhouse 104 - postholes**

| **Cut** | | 107 | 113 | 114 | 120 | 133 | 207 | 219 | 220 | 249 | 311 | 315 | 511 | 513 | 529 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 158 | 161 | 162 | 169 | 251 | 282 | 365 | 369 | 370 | 391 | 396 | 656 | 663 | 682 |
| **Sample No.** | | 117 | 107 | 110 | 111 | 123 | 147 | 189 | 190 | 191 | 200 | 204 | 275 | 286 | 301 |
| **No. of fragments** | | 100+ | 30 | 64 | 100+ | 8 | 100+ | 100+ | 100+ | 100+ | 100+ | 61 | 11 | 30 | 100+ |
| **Max size (mm)** | | 10 | 8 | 9 | 8 | 16 | 26 | 14 | 32 | 9 | 19 | 12 | 10 | 7 | 16 |
| *Alnus glutinosa* | Alder | 23 | | | | | | 9 | 6 | 56 | | | | 7 | 12 |
| *Corylus avellana* | Hazel | 37 | 30 | 6 | 16 | 1 | | 28 | 60 | | | 12 | | 15 | 28 |
| *Fraxinus excelsior* | Ash | | | | | | | | | 11 | | | | | |
| *Quercus* | Oak | | | 37 | 62 | 7 | 100 | 63 | 34 | 33 | 100 | 39 | 11 | 8 | 46 |
| *Ulmus* | Elm | 14 | | | | | | | | | | | | | |
| Indeterminate | | 26 | | 21 | 22 | | | | | | | | | | 14 |

**Table 36: Complete list of taxa recovered from Area B - Roundhouse 104 - stakeholes**

| **Cut** | | 137 | 215 | 216 | 217 | 223 | 227 | 243 | 246 | 248 | 306 | 309 | 342 | 343 | 347 | 404 | 405 | 443 | 516 | 611 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 299 | 297 | 298 | 363 | 373 | 263 | 352 | 355 | 362 | 385 | 394 | 477 | 478 | 488 | 491 | 492 | 593 | 667 | 764 |
| **Sample No.** | | 173 | 164 | 165 | 175 | 186 | 137 | 167 | 170 | 174 | 197 | 203 | 220 | 221 | 230 | 232 | 233 | 283 | 288 | 317 |
| **No. of fragments** | | 100+ | 50+ | 38 | 78 | 18 | 50+ | 28 | 11 | 100+ | 29 | 18 | 56 | 100+ | 50 | 100+ | 66 | 61 | 50+ | 19 |
| **Max size (mm)** | | 15 | 11 | 15 | 9 | 7 | 13 | 14 | 6 | 10 | 4 | 10 | 9 | 7 | 8 | 14 | 10 | 14 | 7 | 5 |
| *Alnus glutinosa* | Alder | 6 | 50 | 14 | | | 8 | | | | | | | | | 6 | 9 | | | |
| *Corylus avellana* | Hazel | 28 | | | 67 | | | | | 100 | | 7 | | 35 | | 67 | 3 | 61 | | 2 |
| *Fraxinus excelsior* | Ash | | | 3 | | | | | | | | | | | | | | | | |
| *Quercus* | Oak | 68 | | | | 18 | 23 | 23 | | | | 11 | 56 | | 16 | 27 | | | 32 | 3 |
| *Ulmus* | Elm | | | | | | 11 | | | | | | | | 3 | | 12 | | | |
| Pomoideae | | | | 2 | 11 | | | | | | | | | | | | 42 | | | |
| Indeterminable | | | | 19 | | | 8 | 5 | 11 | | 29 | | | 65 | 31 | | | | 18 | 14 |

**Table 37: Complete list of taxa recovered from Area B - Roundhouse 110 - Sub-group 330 (slots through main foundation trench)**

| **Cut** | | 324 | 324 | 328 | 329 | 329 | 413 | 421 |
|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 454 | 454 | 462 | 463 | 463 | 553 | 567 |
| **Sample No.** | | 205 | 291 | 214 | 215 | 235 | 251 | 249 |
| **No. of fragments** | | 100+ | 50 | 64 | 50 | 24 | 23 | 44 |
| **Max size (mm)** | | 9 | 14 | 22 | 13 | 26 | 10 | 13 |
| *Corylus avellana* | Hazel | 44 | | | | | | |
| *Fraxinus excelsior* | Ash | | | | | | | 4 |
| *Quercus* | Oak | 66 | 50 | 64 | 50 | 24 | 23 | 40 |

**Table 38: Complete list of taxa recovered from Area B - Roundhouse 110 - postholes**

| **Cut** | | 139 | 346 | 408 | 427 | 437 | 501 | 515 |
|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 351 | 487 | 495 | 576 | 588 | 652 | 666 |
| **Sample No.** | | 166 | 229 | 234 | 256 | 262 | 271 | 287 |
| **No. of fragments** | | 50+ | 34 | 2 | 100+ | 14 | 88 | 67 |
| **Max size (mm)** | | 9 | 18 | 4 | 9 | 6 | 11 | 3 |
| *Corylus avellana* | Hazel | | | | | 5 | | 21 |
| *Quercus* | Oak | 5 | 21 | | 100 | 9 | 88 | 46 |
| *Ulmus* | Elm | | 13 | | | | | |
| Indeterminate | | 45 | | 2 | | | | |

**Table 39: Complete list of taxa recovered from Area B - Roundhouse 110 - stakeholes**

| **Cut** | | 237 | 333 | 417 | 432 | 434 | 448 | 507 | 509 | 533 | 535 | 537 | 544 | 600 | 614 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 291 | 466 | 564 | 583 | 585 | 599 | 677 | 654 | 686 | 687 | 689 | 697 | 753 | 767 |
| **Sample No.** | | 162 | 216 | 247 | 264 | 259 | 281 | 295 | 273 | 303 | 304 | 305 | 307 | 309 | 100 |
| **No. of fragments** | | 100+ | 79 | 50 | 60 | 8 | 22 | 6 | 58 | 24 | 23 | 1 | 17 | 18 | 40 |
| **Max size (mm)** | | 18 | 5 | 10 | 9 | 10 | 13 | 10 | 13 | 8 | 7 | 6 | 8 | 4 | 7 |
| *Corylus avellana* | Hazel | | | | | | | 4 | 22 | 12 | | | | | |
| *Fraxinus excelsior* | Ash | | | | | | | | | | | | | | 3 |
| *Quercus* | Oak | 100 | 23 | 50 | | | 22 | 2 | 36 | 12 | 23 | 1 | 17 | 18 | 14 |
| *Salix / Populus* | Salix / Poplar | | | | | | | | | | | | | | 5 |
| Indeterminate | | | 56 | | 60 | 8 | | | | | | | | | 12 |

**Table 40: Complete list of taxa recovered from Area B - Group 110 – pits and hollow**

| **Cut** | | 232 | 232 | 326 | 326 | 326 | 326 | 327 | 335 | 349 | 349 | 401 | 402 | 402 | 402 | 420 | 420 | 428 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 270 | 280 | 457 | 458 | 459 | 460 | 461 | 484 | 557 | 558 | 475 | 560 | 561 | 573 | 566 | 658 | 578 |
| **Sample No.** | | 149 | 151 | 208 | 209 | 210 | 211 | 213 | 226 | 241 | 242 | 236 | 244 | 245 | 253 | 265 | 290 | 258 |
| **No. of fragments** | | 40 | 5 | 44 | 40 | 100+ | 40 | 63 | 100+ | 74 | 100+ | 5000+ | 100+ | 18 | 42 | 22 | 56 | 100+ |
| **Max size (mm)** | | 12 | 6 | 12 | 20 | 17 | 7 | 13 | 40 | 4 | 12 | 44 | 9 | 7 | 10 | 13 | 11 | 9 |
| *Corylus avellana* | Hazel | | | | 6 | | | | | | | | | | | | | |
| *Fraxinus excelsior* | Ash | | | 36 | | | | | | | | | | | | | | |
| *Quercus* | Oak | 40 | | 8 | 31 | 100 | 40 | 63 | | 74 | 100 | 100 | 100 | 18 | 42 | | 39 | 100 |
| *Ulmus* | Elm | | | | 3 | | | | | | | | | | | | | |
| Indeterminate | | | 5 | | | | | | 100 | | | | | | | 22 | 17 | |

**Table 41: Complete list of taxa recovered from Area B - Group 135**

| **Cut** | | 142 | 142 | 142 | 149 | 310 | 617 | 340 |
|---|---|---|---|---|---|---|---|---|
| **Deposit** | | 357 | 358 | 359 | 261 | 389 | 770 | 472 |
| **Sample No.** | | 182 | 183 | 184 | 142 | 199 | 319 | 218 |
| **No. of fragments** | | 100+ | 45 | 5 | 77 | 21 | 39 | 4 |
| **Max size (mm)** | | 9 | 7 | 5 | 17 | 20 | 11 | 4 |
| *Corylus avellana* | Hazel | | 29 | | 35 | | 4 | |
| *Quercus* | Oak | 46 | | 5 | 42 | | 35 | |
| *Salix / Populus* | Salix / Poplar | 20 | | | | | | |
| Indeterminate | | 34 | 16 | | | 21 | | 4 |

## Radiocarbon determinations

Two radiocarbon determinations were made from samples 190 and 208 from Beta Analytic Inc. and eight determinations were obtained from samples 2, 132, 142, 155, 160, 178, 222 and 291 from Queens University Belfast (Table 42, Fig. 27). The calibration curve used was IntCal09 (Reimer et al. 2009) and the plot was created with OxCal v4.1.4 (Bronk Ramsey 2009).

**Table 42: Radiocarbon dates**

| Lab Code | Cut | Deposit | Sample No | Sample material | Radiometric age | Calendrical calibrations |
|---|---|---|---|---|---|---|
| Beta-244834 | 220 | 369 | 190 | *Corylus avellana* (hazel) – charred nut shell | 3420 ± 40 BP | 2 sigma (95.4%)<br>Cal BC 1878-1841 (9.9%)<br>Cal BC 1827-1795 (5.8%)<br>Cal BC 1783-1623 (79.8%)<br>1 sigma (68.2%)<br>Cal BC 1858-1855 (0.9%)<br>Cal BC 1771-1666 (67.3%) |
| Beta-244835 | 326 | 457 | 208 | *Corylus avellana* (hazel) - charred nut shell | 3330 ± 40 BP | 2 sigma (95.4%)<br>Cal BC 1734-1715 (3.2%)<br>Cal BC 1694-1515 (92.2%)<br>1 sigma (68.2%)<br>Cal BC 1666-1604 (37.8%)<br>Cal BC 1588-1534 (30.4%) |
| UBA-13851 | 145 | 257 | 132 | *Alnus* (alder) – charcoal | 3302±33 BP | 2 sigma (95.4%)<br>Cal BC 1668-1501 (100%)<br>1 sigma (68.2%)<br>Cal BC 1614-1530 (100%) |
| UBA-13855 | 211 | 284 | 178 | *Triticum* (wheat) – charred seeds | 3303±26 BP | 2 sigma (95.4%)<br>Cal BC 1661-1653 (1.4%)<br>Cal BC 1639-1506 (98.6%)<br>1 sigma (68.2%)<br>Cal BC 1613-1601 (16.2%)<br>Cal BC 1593-1532 (83.8%) |
| UBA-13857 | 324 | 454 | 291 | *Hordeum* (barley) - charred seeds | 3292±26 BP | 2 sigma (95.4%)<br>Cal BC 1628-1502 (100%)<br>1 sigma (68.2%)<br>Cal BC 1608-1569 (54.9%)<br>Cal BC 1562-1529 (45.1%) |
| UBA-13854 | 235 | 175 | 160 | *Corylus* (hazel) – charred nut shell | 3261±27 BP | 2 sigma (95.4%)<br>Cal BC 1614-1491 (93.1%)<br>Cal BC 1480-1457 (6.9%)<br>1 sigma (68.2%)<br>Cal BC 1606-1575 (33.8%)<br>Cal BC 1557-1553 (4.2%)<br>Cal BC 1537-1497 (62%) |
| UBA-13852 | 149 | 261 | 142 | *Corylus* (hazel) - charcoal | 3257±24 BP | 2 sigma (95.4%)<br>Cal BC 1610-1491 (92.4%)<br>Cal BC 1479-1457 (7.6%)<br>1 sigma (68.2%)<br>Cal BC 1605-1577 (27.6%)<br>Cal BC 1536-1495 (72.4%) |
| UBA-13850 | 4 | 56 | 2 | *Fraxinus* (ash) – charcoal | 3220±28 BP | 2 sigma (95.4%)<br>Cal BC 1602-1591 (1.5%)<br>Cal BC 1532-1427 (98.5%)<br>1 sigma (68.2%)<br>Cal BC 1509-1451 (100%) |

| Lab Code | Cut | Deposit | Sample No | Sample material | Radiometric age | Calendrical calibrations |
|---|---|---|---|---|---|---|
| UBA-13856 | 316 | 479 | 222 | *Corylus/alnus* (hazel/alder) - charcoal | 2972±27 BP | 2 sigma (95.4%)<br>Cal BC 1311-1114 (100%)<br>1 sigma (68.2%)<br>Cal BC 1261-1191 (70.5%)<br>Cal BC 1178-1159 (15.9%)<br>Cal BC 1144-1131 (1%) |
| UBA-13853 | 116 | 198 | 155 | *Corylus* (hazel) – charred nut shell | 841±34 BP | 2 sigma (95.4%)<br>Cal AD 1053-1079 (4.7%)<br>Cal AD 1129-1131 (0.1%)<br>Cal AD 1153-1266 (95.1%)<br>1 sigma (68.2%)<br>Cal AD 1164-1226 (92.9%)<br>Cal AD 1233-1238 (5.1%)<br>Cal AD 1248-1251 (2%) |

Dates obtained from charred hazelnut shells, which are less than 1 year old at death, avoid the risk of the 'old wood effect'. These samples should give an accurate reflection of the age of the deposit from which they were obtained; as would charred seed. The determinations provide Early to Middle Bronze Age dates for both Roundhouses 104 and 110, Structure 135 and the trough excavated in Area A. There is significant overlap in the dating ranges for these features suggesting that much of the activity was contemporaneous and/or that it represents successive generations occupying the site. Pit 116 returned an early medieval date and there may be other early medieval features on-site that cannot be distinguished without additional dating.

## Discussion

### *Phases 1-2 – Neolithic to Early Bronze Age*

Lithic artefacts dating to the second half of the Neolithic and the Final Neolithic to Early Bronze Age are indicative of activity of these periods taking place in the area around the site, if not within the site itself. Several excavations nearby have provided evidence of occupation during these periods (e.g. Hackett 2009b; MacLeod and Clark 2009; Ruttle and Taylor 2011) and this hillside was clearly an attractive location for settlement throughout prehistory.

### *Phase 3 – Middle Bronze Age*

Excavations in Area B have revealed evidence for a mid-second millennium BC settlement. The settlement appears to have been unenclosed and to have comprised at least two roundhouses and an ancillary structure as well as an array of hearths, pits and other cut features. The available dating evidence suggests that the houses and related features were contemporaneous. The houses may have stood side-by-side on the site at the same time or they may represent successive builds. The occurrence of multiple houses at a single location is by no means exceptional. The number of houses rarely exceeds five but recent excavations at Corrstown, Co. Derry have shown that nucleated and highly organised settlement did take place within the Middle Bronze Age in Ireland (Ginn and Rathbone 2012). A posthole from within House 104 yielded an earlier date for this house than that suggested by dates from elsewhere in the house and from the neighbouring house 110. House 104 may therefore be the earlier of the two houses. The houses may however have been home to more than one generation or at the very least have undergone repair and refurbishment during their lifetime. This is reflected in the double line of stakeholes ringing the house 110 and the seemingly random distribution of stakeholes and postholes within each house. The latter is presumably representative of repeated re-organisation of the house interiors.

The ground plans of the roundhouses are similar with each representing a sub-circular building with a porch and a pair of flanking protective screens. House 104 was the more complete of the two houses. The outer walls of each building are defined by narrow foundation trenches in which walls, probably post and wattle, were erected. The trenches were backfilled with soil and packing stones to secure the walls. Within each house was an inner ring of posts that served to support the roof. The posts, based on the size of the postholes (typically c. 0.30 m in diameter/width), were reasonably substantial. The houses were similarly sized, enclosing spaces of approximately 35.5 $m^2$ (house 104) and 30.6 $m^2$ (house 110). The smallest structure, 135 enclosed an area 4.5 $m^2$ and may have functioned as an outbuilding or hut as opposed to a dwelling. Doody (2007, 91) states that the average diameter of round to sub-circular houses in the Middle Bronze Age was 5.9 m which gives an average area of 27 $m^2$. While the Carrigatogher (Ryan) houses are somewhat larger than average they still fall within the size range of houses from the period (ibid.; Ginn and Rathbone 2012, 16-9).

Each house had a porch defined by narrow foundation trenches and postholes. The porch of House 104 enclosed an area 9.5 $m^2$ which represents over a quarter (27 %) of the area occupied by the house. This porch also appears to have been subdivided internally, possibly with small rooms or chambers located at either end. The porch of house 110 was smaller and enclosed an area of 4.3 $m^2$ which equates to 14 % of the area occupied by the house. Houses with porches are becoming increasingly visible in the Irish archaeological record. Of 22 Bronze Age houses excavated on the N8 Cashel to Mitchelstown scheme, eleven had porches. These were typically simple almost square extensions of the entrance represented by pairs or postholes and or short trenches (McQuade *et al.* 2009, 23-81). Houses excavated on the N25 Waterford City Bypass also displayed simple porches extending from the house entrance (Eogan and Shee Twohig 2011, 30-1). These contrast with the porches at Carrigatogher (Ryan) which are more complex. Here, the porches do not simply extend the entrance but serve to enclose space to either side and in front of the entrance. These porches also appear to have entailed a greater variety of structural elements (walls set in trenches with post, stakes and possibly screens utilised). It is not known if the porches were later additions to the houses or if they were built at the same time as each house. Either way, they represent significant developments in terms of house design and organisation. The elaboration of porches is not confined to dryland contexts. Later Bronze Age houses at Clonfinlough, Co. Offaly were fronted by steeped porches with planks, split timbers and wattle used in porch construction (Moloney *et al.* 1993).

In addition to the porches, the houses were further elaborated by the erection of probable wattle screens either side of the entrance. In each house, such screens are represented by double lines of paired screens. Presumably the double lines reflect the erection of replacement screens. Parallels for such screens are known from house sites on the road schemes mentioned above. Such screens would have afforded additional protection from the elements but would also have added considerably to the visual impact of the house serving to highlight the façade and to guide people towards the house entrance. In each house the entrance was positioned in the south-east; a location common to Bronze Age houses that has been linked to sunlight and wind but may also have other symbolic associations (Bruck 2008). At Carrigatogher (Ryan) the house entrances also faced out across the valley, giving impressive views towards the mountains beyond.

The houses were built using wood with outer walls most probably of post and wattle. There was no evidence for daub found during the excavation so it is not known if the houses were originally rendered. Charcoal from within the house trenches implies that oak and hazel were favoured over other taxa for wall and post construction although ash, alder, elm and Pomoideae were also selected for use. A greater variety of taxa were seemingly used in the construction of the porch in House 104 than used in the construction of the house itself. Here, Pomoideae and elm occur as charcoal within features representative of the porch but these taxa are absent from the rest of the house. Roof supports were made from oak as were the posts defining the inner doorway of each house.

There are some indications of everyday domestic activities having occurred on site and within the houses. Probable hearths were identified within each house and a number of pits that may have had a refuse function were also identified. The consumption of beef, pork and perhaps lamb/mutton/venison

is implied in the recovery of burnt food waste from a range of cut features. Cattle, pigs and possibly sheep/goat were presumably kept by the inhabitants. Cereals also played a role in the provision of foodstuffs with barley, wheat and oats occurring, albeit in limited amounts. The occurrence of small quantities of charred cereals from Bronze Age house sites is unexceptional. At Curraghatoor, Co. Tipperary, McClatchie (2007, 64-5) identified a similarly limited suite of taxa and noted that it was not known if the cereals represent crops grown by the site's occupants or represented traded produce. This may also be said to be the case at Carrigatogher (Ryan).

Finds from the excavation although limited in variety are significant in terms of the type of items represented. Fragments of several pottery vessels of the Cordoned Urn variety were recovered. Grogan and Roche (above) noted the increased frequency with which pottery of the Cordoned Urn tradition is occurring on settlement sites. It appears that pottery, or at least a variation thereof, typically associated with burial and ritual practices also played a role in everyday vernacular life. In general, vessels, broken accidentally or as a result of wear and tear, appear to have been casually discarded. One exception to this may be the inclusion of pottery sherds within a deep posthole (107) inside Roundhouse 104. The pottery was found with a copper alloy razor and a small assemblage of unidentifiable burnt (calcined) mammal bone. This combination mirrors assemblages known from burial contexts suggesting that the finds represent a ritual foundation deposit. Sheridan (above) noted parallels for such deposits from a settlement site in Scotland. The Middle Bronze Age coastal village in Corrstown, Co Derry (Ginn and Rathbone 2012, 247-50) also features probable foundation deposits within some of the excavated houses. This ritual expression may be seen by the inclusion of a stone mace head within a posthole of a doorway from House S1 and from the array of pottery retrieved from multiple house sites. Small deposits of charred cereal grains may also have been imbued with a ritual connotation.

The houses at Carrigatogher (Ryan) appear to have been destroyed by fire but it is not known if this occurred when the houses were inhabited or sometime later. It is also not known if the houses were deliberately destroyed or if they simply fell out of use and were abandoned. The possibility that large pits were excavated inside structure 104, but not while it was occupied, might indicate that the site continued to be used after that house fell into disrepair. The settlement formed part of a wider network of Middle Bronze Age occupation of the Kilmastulla river landscape. Broadly contemporary settlements with roundhouses are known from Carrigatogher (Harding), Carrigatogher (Abbott) and Ballywilliam (Hackett 2009b and c; McNamara et al. 2012 and forthcoming; Ruttle and Taylor 2011).

***Phase 4 – Middle Bronze Age***

Archaeological activity within Area A was represented by a clay-lined trough, a pit filled with burnt stone and a small burnt stone spread. The trough and associated features resulted from the heating of water using hot stones. Their proximity to a nearby settlement may be viewed as convenient; however, this activity has been dated to 1602-1427 cal. BC (UBA-13850) which overlaps in part with the end range of dates for the settlement in Phase 3. The trough and associated features may therefore represent a later and unrelated phase of activity.

***Phase 5 – Middle-Late Bronze Age***

The probable hearth 316 returned a date significantly later than those from the houses and ancillary structure 135 and the Phase 4 trough. Although located within the confines of Roundhouse 110 it seems unlikely the hearth is contemporary with the house occupation. The hearth has been dated to 1311-1114 cal. BC (UBA-13856) and the latest date from Roundhouse 110 is 1628-1502 cal. BC (UBA-13857). It is unlikely the house remained standing over a period of centuries and hence it is probable the hearth represents later unrelated activity.

***Phase 6 – Early medieval***

Pit 116 returned an early medieval date indicating historic occupation of the site. There may well be other as yet unidentified early medieval activity represented on site. Seemingly isolated and unenclosed pits and/or hearths are increasingly common features of the early medieval settlement record (Comber 2012). Such activity has been recorded within the vicinity of early medieval monuments such as ringforts and cashels across Ireland. Several sites of this date were excavated nearby as part of the scheme, including in Carrigatogher (Harding) and (Abbott) (Taylor 2012; McNamara *et al.* 2012).

## Further work

The results of this excavation are to be published within a forthcoming NRA Scheme monograph. A summary of the findings of the excavation has been submitted to *Excavations 2007.*

An accessible archive of primary records (Appendix 4) has been prepared for long term storage and will be kept at the offices of TVAS (Ireland) Ltd until such time as a State archive repository becomes available. The finds have been cleaned, numbered and labelled, and will be properly packed and deposited with the National Museum of Ireland in accordance with *Advice Notes for Excavators* (NMI 2010).

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Kate Taylor
TVAS Ireland Ltd
6th March 2012

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## Appendix 1: Catalogue of features and deposits

| Cut | Deposit | Group No | Area | Feature Type | Sample | Finds | Phase |
|---|---|---|---|---|---|---|---|
| 1 | 51 | - | A | Pit | 1 | - | - |
| - | 52 | - | A | Deposit (natural) | - | - | - |
| - | 54 | - | A | Spread | - | - | 4 |
| 2 | 55 | - | A | Non-archaeological | - | - | - |
| 3 | 58, 59, 60, 61, 62, 63, 64 | - | A | Pit/Trough | 4, 5 | - | 4 |
| 4 | 56, 65, 69 | - | A | Pit/Trough | 2, 6, 7, 8 | - | 4 |
| 6 | 57 | - | A | Pit | 3 | - | - |
| 7 | 68 | - | A | Drain | - | - | - |
| 100 | 170, 189 | - | B | Pit | 118, 119 | Bone | 3? |
| 101 | 152, 154 | - | B | Posthole | 104 | - | - |
| 102 | 155 | - | B | Stakehole | 102 | - | - |
| 103 | 156 | - | B | Stakehole | - | - | - |
| 105 | 153, 177, 178, 179, 180 | - | B | Pit | 106, 161 | - | - |
| 106 | 157 | 104? | B | Depression/Pit | 108 | - | - |
| 107 | 158 | 104 | B | Posthole | 117 | Bone, pottery, metal | 3 |
| 108 | 159 | - | B | Pit | 127 | - | 3 |
| 109 | 160 | - | B | Pit | 113 | - | 3 |
| 111 | 253 | - | B | Posthole | 129 | - | - |
| 112 | - | - | B | Cancelled | - | - | - |
| 113 | 161 | 104 | B | Posthole | 107 | - | 3 |
| 114 | 162 | 104 | B | Posthole | 110 | - | 3 |
| 115 | 163 | - | B | Pit | 114 | - | 3? |
| 116 | 164, 196, 197, 198, 199, 250 | - | B | Pit | 121, 152, 154, 155, 156, 157 | Bone, slag | 6 |
| 117 | 165, 276 | 140 | B | Gully slot | 109, 192 | Pottery | 3 |
| 118 | | - | B | Cancelled | - | - | - |
| 119 | 168 | 110 | B | Stakehole | - | - | 3 |
| 120 | 169 | 104 | B | Posthole | 111 | - | 3 |
| 121 | 171, 172 | - | B | Pit | - | - | - |
| 122 | 173 | - | B | Part of Pit 105 | - | - | - |
| 123 | 771 | 104 | B | Posthole | - | - | 3 |
| 124 | 772 | 104 | B | Posthole | - | - | 3 |
| 125 | 181, 290 | 140 | B | Foundation trench slot | 172 | - | 3 |
| 126 | 183, 195 | - | B | Pit | 115, 120 | - | - |

| Cut | Deposit | Group No | Area | Feature Type | Sample | Finds | Phase |
|---|---|---|---|---|---|---|---|
| 127 | 185, 186, 256 | - | B | Hearth | - | - | 3? |
| 128 | 190 | - | B | Pit | 139 | - | - |
| 129 | 191 | - | B | Pit | 153 | - | 3? |
| 130 | 192 | 104 | B | Stakehole | - | - | 3 |
| 131 | 193 | 104 | B | Stakehole | - | - | 3 |
| 132 | 194 | 104 | B | Stakehole | - | - | 3 |
| 133 | 251 | 104 | B | Posthole | 123 | - | 3 |
| 134 | 255 | - | B | Pit | 128 | - | - |
| 136 | 268, 281 | 140 | B | Foundation trench slot | 141 | Bone, pottery | 3 |
| 137 | 299 | 104 | B | Stakehole | 173 | - | 3 |
| 138 | 350 | 104 | B | Stakehole | - | - | 3 |
| 139 | 351 | 110 | B | Posthole | 166 | Bone | 3 |
| 141 | 252 | - | B | Stakehole | 135 | - | 3 |
| 142 | 357, 358, 359, 378, 379, 380 | 135 | B | Trench | 182, 183, 184 | Pottery | 3 |
| 143 | 254 | - | B | Pit | 134 | - | - |
| 144 | 184 | - | B | Pit | 131 | Bone | 3? |
| 145 | 257, 269 | 140 | B | Foundation trench slot | 132 | Pottery, bone | 3 |
| 146 | 258 | - | B | Stakehole | - | - | - |
| 147 | 259 | - | B | Pit | 138 | - | - |
| 148 | 260 | - | B | Stakehole | - | - | - |
| 149 | 261 | 135 | B | Trench | 142 | Slag | 3 |
| 200 | 773 | 104 | B | Posthole | - | - | 3 |
| 201 | 774 | 104 | B | Posthole | - | - | 3 |
| 202 | 273 | - | B | Stakehole | - | - | - |
| 203 | 274 | - | B | Stakehole | - | - | - |
| 204 | 275 | - | B | Stakehole | 144 | - | - |
| 205 | 277 | 140 | B | Foundation trench slot | 145 | - | 3 |
| 206 | 278 | - | B | Pit | 148 | - | - |
| 207 | 282 | 104 | B | Posthole | 147 | - | 3 |
| 208 | 283 | - | B | Posthole | - | - | - |
| 209 | 167 | - | B | Spread and pit | 124 | Pottery | 3 |
| 210 | 188 | - | B | Spread and pit | 126 | Pottery | 3 |
| 211 | 284, 366, 367, 368, 382 | - | B | Hearth | 178, 193 | Pottery | 3 |
| 212 | 286 | - | B | Stakehole | - | - | - |
| 213 | 287 | - | B | Stakehole | 158 | - | - |

| Cut | Deposit | Group No | Area | Feature Type | Sample | Finds | Phase |
|---|---|---|---|---|---|---|---|
| 214 | 288 | 140 | B | Foundation trench slot | 180 | - | 3 |
| 215 | 297 | 104 | B | Stakehole | 164 | - | 3 |
| 216 | 298 | 104 | B | Stakehole | 165 | - | 3 |
| 217 | 363 | 104 | B | Stakehole | 175 | - | 3 |
| 218 | 364 | 104 | B | Stakehole | 176 | - | 3 |
| 219 | 365 | 104 | B | Posthole | 189 | - | 3 |
| 220 | 369 | 104 | B | Posthole | 190 | Bone, slag | 3 |
| 221 | 371 | 104 | B | Stakehole | - | - | 3 |
| 222 | 372 | 104 | B | Stakehole | 185 | - | 3 |
| 223 | 373 | 104 | B | Stakehole | 186 | - | 3 |
| 224 | 374, 498, 499 | 313 | B | Gully | 187, 195 | - | 3 |
| 225 | 780 | 104 | B | Gully | - | - | 3 |
| 226 | 262 | 104 | B | Stakehole | - | - | 3 |
| 227 | 263 | 104 | B | Stakehole | 137 | - | 3 |
| 228 | 264 | 104 | B | Stakehole | - | - | 3 |
| 229 | 265 | 104 | B | Stakehole/ roothole | 143 | - | 3 |
| 230 | 266 | 104 | B | Stakehole | - | - | 3 |
| 231 | 267 | 104 | B | Stakehole | - | - | 3 |
| 232 | 270, 279, 280 | 110 | B | Pit | 149, 150, 151 | - | 3 |
| 233 | 271 | 104 | B | Stakehole | - | - | 3 |
| 234 | 272 | - | B | Stakehole (double) | 140 | - | - |
| 235 | 166, 174, 175, 176, 465 | 104 | B | Hearth | 159, 160 | Bone | 3 |
| 236 | 289 | - | B | Pit | 171 | - | - |
| 237 | 291 | 110 | B | Stakehole | 162 | - | 3 |
| 238 | 292 | 110 | B | Stakehole | - | - | 3 |
| 239 | 293 | 110 | B | Stakehole | - | - | 3 |
| 240 | 294 | 110 | B | Stakehole | - | - | 3 |
| 241 | 295 | - | B | Stakehole | - | - | - |
| 242 | 296 | - | B | Posthole | 163 | Pottery | 3 |
| 243 | 352 | 104 | B | Stakehole | 167 | Bone | 3 |
| 244 | 353 | 104 | B | Stakehole | 168 | - | 3 |
| 245 | 354 | 104 | B | Stakehole | 169 | - | 3 |
| 246 | 355 | 104 | B | Stakehole | 170 | - | 3 |
| 247 | 360, 361 | 140 | B | Foundation trench slot | 177 | Slag | 3 |
| 248 | 362 | 104 | B | Stakehole | 174 | - | 3 |

| Cut | Deposit | Group No | Area | Feature Type | Sample | Finds | Phase |
|---|---|---|---|---|---|---|---|
| 249 | 370 | 104 | B | Posthole | 191 | - | 3 |
| 300 | 375 | 104 | B | Stakehole | 188 | - | 3 |
| 301 | 376 | 140 | B | Foundation trench slot | - | - | 3 |
| 302 | 381 | 110 | B | Pit | 194 | - | 3 |
| 303 | 388 | ?110 | B | Pit | - | - | 3 |
| 304 | 383 | 104 | B | Stakehole | - | - | 3 |
| 305 | 384 | 104 | B | Stakehole | - | - | 3 |
| 306 | 385 | 104 | B | Stakehole | 197 | - | 3 |
| 307 | 386, 387 | 104 | B | Posthole | - | - | 3 |
| 308 | 393 | 104 | B | Stakehole | 202 | - | 3 |
| 309 | 394 | 104 | B | Stakehole | 203 | - | 3 |
| 310 | 389 | 135 | B | Posthole | 199 | Pottery | 3 |
| 311 | 390, 391 | 104 | B | Posthole | 198, 200 | - | 3 |
| 312 | 392 | 104 | B | Stakehole | - | - | 3 |
| 314 | 395 | 313 | B | Gully slot | 212, 240 | - | 3 |
| 315 | 396 | 104 | B | Posthole | 204 | - | 3 |
| 316 | 479, 480, 481, 482, 483 | 110 | B | Hearth | 222, 223, 224, 225 | Lithic | 5 |
| 317 | 397 | 110 | B | Stakehole | - | - | 3 |
| 318 | 398 | 110 | B | Stakehole | - | - | 3 |
| 319 | 399 | 110 | B | Stakehole | - | - | 3 |
| 320 | 450 | 110 | B | Stakehole | - | - | 3 |
| 321 | 451 | 110 | B | Stakehole | - | - | 3 |
| 322 | 452 | 110 | B | Stakehole | - | - | 3 |
| 323 | 453 | 110 | B | Stakehole | - | - | 3 |
| 324 | 454 | 330 | B | Foundation trench slot | 205, 291 | - | 3 |
| 325 | 455, 456 | 110 | B | Posthole | - | - | 3 |
| 326 | 457, 458, 459, 460 | 110? | B | Pit | 208, 209, 210, 211 | - | 3 |
| 327 | 461, 594 | 110 | B | Posthole | 213, 297 | - | 3 |
| 328 | 462 | 330 | B | Foundation trench slot | 214 | - | 3 |
| 329 | 463 | 330 | B | Foundation trench slot | 215, 235 | - | 3 |
| 331 | 464 | 104 | B | Stakehole | - | - | 3 |
| 332 | 285 | - | B | Linear feature/ furrow | 179 | - | - |
| 333 | 466 | 110 | B | Stakehole | 216 | - | 3 |
| 334 | 467 | 110 | B | Stakehole | 217 | - | 3 |
| 335 | 484 | 110 | B | Pit | 226 | - | 3 |

| Cut | Deposit | Group No | Area | Feature Type | Sample | Finds | Phase |
|---|---|---|---|---|---|---|---|
| 336 | 468 | 110 | B | Stakehole | - | - | 3 |
| 337 | 469 | 135 | B | Stakehole | - | - | 3 |
| 338 | 470 | 135 | B | Posthole | - | - | 3 |
| 339 | 471 | 135 | B | Posthole | - | - | 3 |
| 340 | 472 | 135 | B | Stakehole | 218 | - | 3 |
| 341 | 473 | 135 | B | Stakehole | - | - | 3 |
| 342 | 477 | 104 | B | Stakehole | 220 | - | 3 |
| 343 | 478 | 104 | B | Stakehole | 221 | - | 3 |
| 344 | 485, 486 | 313 | B | Gully | 227 | - | 3 |
| 345 | - | - | B | Cancelled | - | - | - |
| 346 | 487 | 110 | B | Posthole | 229 | Lithic | 3 |
| 347 | 488 | 104 | B | Stakehole | 230 | - | 3 |
| 348 | 489 | 104 | B | Stakehole | 231 | - | 3 |
| 349 | 557, 558, 559 | 110? | B | Pit | 241, 242, 243 | - | 3 |
| 400 | - | - | B | Part of 421 | - | - | 3 |
| 401 | 475, 476, 552, 555, 665 | 110 | B | Hollow | 236, 237, 238, 239, 285 | Bone | 3 |
| 402 | 560, 561, 573 | 110? | B | Pit | 244, 245, 253 | Bone, lithic | 3 |
| 403 | 490 | 104 | B | Stakehole | - | - | 3 |
| 404 | 491 | 104 | B | Stakehole | 232 | - | 3 |
| 405 | 492 | 104 | B | Stakehole | 233 | - | 3 |
| 406 | 493 | 135 | B | Posthole | - | - | 3 |
| 407 | 494 | 135 | B | Posthole | - | - | 3 |
| 408 | 495 | 110 | B | Posthole | 234 | - | 3 |
| 409 | 496 | 110 | B | Stakehole | - | - | 3 |
| 410 | 497 | 330 | B | Foundation trench slot | - | - | 3 |
| 411 | 550 | - | B | Posthole | 246 | Pottery | 3 |
| 412 | 551 | 110 | B | Stakehole | - | - | 3 |
| 413 | 553, 554, 782 | 330 | B | Foundation trench slot | 251 | - | 3 |
| 414 | 556 | 313 | B | Gully slot | - | - | 3 |
| 415 | 562 | 110 | B | Stakehole | - | - | 3 |
| 416 | 563 | - | B | Pit | - | - | - |
| 417 | 564 | 110 | B | Stakehole | 247 | - | 3 |
| 418 | 581 | 104 | B | Posthole | - | - | 3 |
| 419 | 565 | 110 | B | Stakehole | 248 | - | 3 |
| 420 | 566, 658 | 110 | B | Pit | 265, 290 | - | 3 |

| Cut | Deposit | Group No | Area | Feature Type | Sample | Finds | Phase |
|---|---|---|---|---|---|---|---|
| 421 | 567 | 330 | B | Foundation trench slot | 249 | - | 3 |
| 422 | 568 | 135 | B | Stakehole | - | - | 3 |
| 423 | 569 | 135 | B | Stakehole | - | - | 3 |
| 424 | 570 | - | B | Pit | 250 | - | 3 |
| 425 | 572 | 104 | B | Posthole | - | - | 3 |
| 426 | 577 | 110 | B | Stakehole | - | - | 3 |
| 427 | 576 | 110 | B | Posthole | 256 | - | 3 |
| 428 | 578 | 110 | B | Posthole | 258 | - | 3 |
| 429 | 579 | 110 | B | Posthole | - | - | 3 |
| 430 | 580 | 313 | B | Gully slot | 263 | - | 3 |
| 431 | 582 | 104 | B | Stakehole | - | - | 3 |
| 432 | 583 | 110 | B | Stakehole | 264 | - | 3 |
| 433 | 584 | 104 | B | Stakehole | 282 | - | 3 |
| 434 | 585 | 110 | B | Stakehole | 259 | - | 3 |
| 435 | 586 | 110 | B | Stakehole | 260 | - | 3 |
| 436 | 587 | 110 | B | Stakehole | 261 | - | 3 |
| 437 | 588 | 110 | B | Posthole | 262 | - | 3 |
| 438 | 589 | 110 | B | Stakehole | - | - | 3 |
| 439 | 590 | 110 | B | Stakehole | - | - | 3 |
| 440 | 591 | - | B | Posthole | 266 | - | - |
| 441 | 592 | - | B | Stakehole | 267 | - | - |
| 442 | 574 | - | B | Pit | 254 | - | - |
| 443 | 593 | 104 | B | Stakehole | 283 | - | 3 |
| 444 | 595 | 110 | B | Stakehole | 268 | - | 3 |
| 445 | 596 | 110 | B | Stakehole | 269 | - | 3 |
| 446 | 597 | 110 | B | Stakehole | 270 | - | 3 |
| 447 | 598 | 110 | B | Stakehole | 280 | - | 3 |
| 448 | 599 | 110 | B | Stakehole | 281 | - | 3 |
| 449 | 650 | 104 | B | Stakehole | - | - | 3 |
| 500 | 651 | - | B | Pit | - | - | - |
| 501 | 652 | 110 | B | Posthole | 271 | - | 3 |
| 502 | 659 | 110 | B | Stakehole | 276 | - | 3 |
| 503 | 660 | 110 | B | Stakehole | 277 | - | 3 |
| 504 | 661 | 110 | B | Stakehole | 278 | - | 3 |
| 505 | 662 | 110 | B | Stakehole | 279 | - | 3 |

| Cut | Deposit | Group No | Area | Feature Type | Sample | Finds | Phase |
|---|---|---|---|---|---|---|---|
| 506 | 676 | 110 | B | Stakehole | 294 | - | 3 |
| 507 | 677 | 110 | B | Stakehole | 295 | - | 3 |
| 508 | 653 | 110 | B | Stakehole | 272 | - | 3 |
| 509 | 654 | 110 | B | Stakehole | 273 | Bone | 3 |
| 510 | 655 | 110 | B | Stakehole | 274 | - | 3 |
| 511 | 656 | 104 | B | Posthole | 275 | - | 3 |
| 512 | 657 | 110 | B | Stakehole | - | - | 3 |
| 513 | 663 | 104 | B | Posthole | 286 | - | 3 |
| 514 | 664 | 104 | B | Posthole | 284 | - | 3 |
| 515 | 666 | 110 | B | Posthole | 287 | - | 3 |
| 516 | 667 | 104 | B | Stakehole | 288 | - | 3 |
| 517 | 668 | 330 | B | Foundation trench slot | - | - | 3 |
| 518 | 669 | 104 | B | Stakehole | - | - | 3 |
| 519 | 670 | 104 | B | Stakehole | - | - | 3 |
| 520 | 671 | 104 | B | Stakehole | - | - | 3 |
| 521 | 672 | - | B | Stakehole | 292 | - | 3 |
| 522 | 673 | 110 | B | Stakehole | 293 | - | 3 |
| 523 | - | - | B | Cancelled | - | - | - |
| 524 | 675 | - | B | Posthole | 298 | - | 3 |
| 525 | 678 | 110 | B | Posthole | 296 | - | 3 |
| 526 | 679 | 104 | B | Stakehole | 300 | - | 3 |
| 527 | 680 | 104 | B | Stakehole | 299 | - | 3 |
| 528 | 681 | 104 | B | Stakehole | - | - | 3 |
| 529 | 682 | 104 | B | Posthole | 301 | - | 3 |
| 530 | 683 | 104 | B | Stakehole | - | - | 3 |
| 531 | 684 | 110 | B | Stakehole | - | - | 3 |
| 532 | 685 | - | B | Rock socket | - | - | - |
| 533 | 686 | 110 | B | Stakehole | 303 | - | 3 |
| 534 | 692 | 110 | B | Stakehole | - | - | 3 |
| 535 | 687 | 110 | B | Stakehole | 304 | - | 3 |
| 536 | 688 | 110 | B | Stakehole | - | - | 3 |
| 537 | 689 | 110 | B | Stakehole | 305 | - | 3 |
| 538 | 690 | 110 | B | Stakehole | - | - | 3 |
| 539 | 691 | 110 | B | Stakehole | - | - | 3 |
| 540 | 693 | 104 | B | Posthole | - | - | 3 |

| Cut | Deposit | Group No | Area | Feature Type | Sample | Finds | Phase |
|---|---|---|---|---|---|---|---|
| 541 | 694 | - | B | Root hole | - | - | - |
| 542 | 695 | 110 | B | Stakehole | - | - | 3 |
| 543 | 696 | 110 | B | Stakehole | - | - | 3 |
| 544 | 697 | 110 | B | Stakehole | 307 | - | 3 |
| 545 | 698 | 110 | B | Stakehole | - | - | 3 |
| 546 | 699 | 110 | B | Stakehole | - | - | 3 |
| 547 | 750 | 104 | B | Stakehole | - | - | 3 |
| 548 | 751 | 110 | B | Stakehole | 308 | - | 3 |
| 549 | 752 | 110 | B | Stakehole | - | - | 3 |
| 600 | 753 | 110 | B | Stakehole | 309 | - | 3 |
| 601 | 754 | 110 | B | Stakehole | 310 | - | 3 |
| 602 | 755 | 104 | B | Stakehole | - | - | 3 |
| 603 | 756 | ?110 | B | Stakehole | - | - | 3 |
| 604 | 757 | 110 | B | Stakehole | - | - | 3 |
| 605 | 758 | - | B | Stakehole | 311 | - | - |
| 606 | 759 | - | B | Stakehole | 312 | - | - |
| 607 | 760 | 110 | B | Stakehole | 313 | - | 3 |
| 608 | 761 | 110 | B | Stakehole | 314 | - | 3 |
| 609 | 762 | 110 | B | Stakehole | 315 | - | 3 |
| 610 | 763 | 104 | B | Stakehole | 316 | - | 3 |
| 611 | 764 | 104 | B | Stakehole | 317 | - | 3 |
| 612 | 765 | 104 | B | Stakehole | 318 | - | 3 |
| 613 | 766 | 110 | B | Stakehole | 320 | - | 3 |
| 614 | 767 | 110 | B | Stakehole | 100 | - | 3 |
| 615 | 768 | 110 | B | Stakehole | - | - | 3 |
| 616 | 769 | - | B | Stakehole | 321 | - | - |
| 617 | 770 | 135 | B | Posthole | 319 | - | 3 |
| 618 | 775 | 104 | B | Stakehole | - | - | 3 |
| 619 | 776 | 104 | B | Stakehole | - | - | 3 |
| 620 | 777 | 104 | B | Stakehole | - | - | 3 |
| 621 | 778 | - | B | Stakehole | - | - | - |
| 622 | 779 | - | B | Stakehole | - | - | - |
| 623 | 781 | 110 | B | Stakehole | - | - | 3 |
| 624 | 783 | 110 | B | Stakehole | - | - | 3 |
| 625 | 784 | 110 | B | Stakehole | - | - | 3 |

| Cut | Deposit | Group No | Area | Feature Type | Sample | Finds | Phase |
|---|---|---|---|---|---|---|---|
| - | 50 | - | A | Topsoil | - | - | - |
| - | 52 | - | A | Alluvium spread | - | - | - |
| - | 53 | - | | Cancelled | - | - | - |
| - | 54 | - | A | Burnt stone spread | - | - | 4 |
| - | 66 | - | A | Natural | - | - | - |
| - | 67 | - | A | Natural | - | - | - |
| - | 150 | - | B | Topsoil | - | Pottery | - |
| - | 151 | - | B | Deposit of charcoal in silty material | 101 | - | - |
| - | 182 | - | B | Spread | 130 | - | 3? |
| - | 187 | - | B | Spread | 125 | - | 3? |
| - | 356 | - | B | Natural depression | - | - | - |
| - | 377 | - | B | Natural depression | - | - | - |
| - | 474 | - | B | Part of 567- | - | - | |
| - | 571 | - | B | Non-archaeological patch of burning | - | - | - |
| - | 575 | - | B | Patch of *in situ* burning | - | - | 3 |
| - | 674 | - | | Cancelled | - | - | - |

## Appendix 2: Catalogue of finds

| Find No | Cut | Deposit | Group | Area | Co-ordinates | Sample No | Category | Description | No pieces | Weight (g) |
|---|---|---|---|---|---|---|---|---|---|---|
| E3327:150:1 | - | 150 | | B | 56.10E 69.70N | | Pottery | Middle Bronze Age domestic urn fragments | 4 | 4 |
| E3327:150:2 | - | 150 | | B | 67E 76N | | Pottery | Middle Bronze Age domestic urn fragments (Vessel 1) | 2 | 11 |
| E3327:150:3 | - | 150 | | B | 67E 76N | | Pottery | Middle Bronze Age domestic urn fragment (Vessel 1) | 1 | 8 |
| E3327:158:1 | 107 | 158 | 104 | B | - | | Bone | Calcinated MM/LM cortical bone fragments | ~12 | 1 |
| E3327:158:2 | 107 | 158 | 104 | B | 55.90E 69.20N | | Metal | Copper alloy razor | 1 | 4 |
| E3327:158:3 | 107 | 158 | 104 | B | 54.98E 70.25N | | Pottery | Middle Bronze Age domestic urn base sherd (Vessel 2) | 1 | 48 |
| E3327:158:4 | 107 | 158 | 104 | B | 55.03E 70.12N | | Pottery | Middle Bronze Age domestic urn body sherd (Vessel 2) | 1 | 17 |
| E3327:158:5 | 107 | 158 | 104 | B | 55.03E 70.12N | | Pottery | Middle Bronze Age domestic urn fragment (Vessel 2) | 1 | 7 |
| E3327:158:6 | 107 | 158 | 104 | B | 55.03E 70.12N | | Pottery | Middle Bronze Age domestic urn fragment (Vessel 2) | 1 | 2 |
| E3327:158:7 | 107 | 158 | 104 | B | 55.03E 70.12N | | Pottery | Middle Bronze Age domestic urn body sherd (Vessel 2) | 1 | 8 |
| E3327:158:8 | 107 | 158 | 104 | B | 55.03E 70.12N | | Pottery | Middle Bronze Age domestic urn fragment (Vessel 2) | 1 | 5 |
| E3327:158:9 | 107 | 158 | 104 | B | 55.03E 70.12N | | Pottery | Middle Bronze Age domestic urn fragment (Vessel 2) | 1 | 2 |
| E3327:158:10 | 107 | 158 | 104 | B | - | 117 | Pottery | Middle Bronze Age domestic urn rim fragment (Vessel 3) | 1 | 3 |
| E3327:164:1 | 116 | 164 | | B | 60.20E 70.60N | | Slag | Iron-rich slag | 1 | 88 |
| E3327:164:2 | 116 | 164 | | B | - | 152 | Bone | Calcinated SM/Bird cortical bone fragments inc. long bone | 7 | <1 |
| E3327:165:1 | 117 | 165 | 140 | B | 61E 69.80N | | Pottery | Middle Bronze Age domestic urn bodysherd | 1 | 9 |
| E3327:167:1 | 209 | 167 | | B | 52.52E 67.13N | | Pottery | Middle Bronze Age domestic urn bodysherd with cordons (Vessel 4) | 1 | 20 |
| E3327:167:2 | 209 | 167 | | B | 52.52E 67.13N | | Pottery | Middle Bronze Age domestic urn fragment with cordons (Vessel 4) | 1 | 4 |
| E3327:167:3 | 209 | 167 | | B | 52.52E 67.13N | | Pottery | Middle Bronze Age domestic urn fragment (Vessel 4) | 1 | 6 |
| E3327:167:4 | 209 | 167 | | B | 52.52E 67.13N | | Pottery | Middle Bronze Age domestic urn fragment (Vessel 4) | 1 | 3 |
| E3327:167:5 | 209 | 167 | | B | 52.52E 67.13N | | Pottery | Middle Bronze Age domestic urn fragment (Vessel 4) | 1 | 6 |
| E3327:167:6 | 209 | 167 | | B | 52.52E 67.13N | | Pottery | Middle Bronze Age domestic urn fragment (Vessel 4) | 1 | 1 |
| E3327:167:7 | 209 | 167 | | B | 52.52E 67.13N | | Pottery | Middle Bronze Age domestic urn fragment with cordons (Vessel 4) | 3 | 14 |
| E3327:170:1 | 100 | 170 | | B | - | 118 | Bone | Calcinated calf/sheep/deer mandible processus coronoideus, MM skull fragments, MM orbit fragments from skull, Cattle/sheep/deer molar/premolar fragment, unidentified cortical and trabecular fragments | 10 | 2 |
| E3327:175:1 | 235 | 175 | 104 | B | - | 160 | Bone | Calcinated unidentified tiny cortical fragments | ~10 | <1 |

| Find No | Cut | Deposit | Group | Area | Co-ordinates | Sample No | Category | Description | No pieces | Weight (g) |
|---|---|---|---|---|---|---|---|---|---|---|
| E3327:184:1 | 144 | 184 | | B | - | | Bone | Calcinated MM/LM cortical and trabecular bone, Tooth fragments from cattle/sheep/deer | ~45 | 6 |
| E3327:184:2 | 144 | 184 | | B | - | 131 | Bone | Calcinated 2 cattle maxillary molars, at least one fragmentary molar and one maxillary deciduous premolar, proximal end of 2nd phalanx of ungulate and unidentified mandible/maxilla fragments, cortical and trabecular bone fragments | ~70 | 28 |
| E3327:188:1 | 210 | 188 | | B | - | 126 | Pottery | Middle Bronze Age domestic urn bodysherd (Vessel 4) | 1 | 7 |
| E3327:188:2 | 210 | 188 | | B | - | 126 | Pottery | Middle Bronze Age domestic urn crumb | 1 | <1 |
| E3327:196:1 | 116 | 196 | | B | - | 121 | Bone | MM complete sesamoid bone, MM/LM coritcal long bone fragments, Bird or SM long bone fragments, MM flat bone fragments, MM/LM mandible/maxilla fragment | ~70 | 7 |
| E3327:197:1 | 116 | 197 | | B | - | 154 | Bone | Calcinated SM/MM/bird cortical bone fragments | 5 | <1 |
| E3327:198:1 | 116 | 198 | | B | - | 155 | Bone | SM/MM/bird cortical bone fragments | 2 | <1 |
| E3327:199:1 | 116 | 199 | | B | - | 156 | Bone | Calcinated unidentified tiny cortical fragment | 1 | <1 |
| E3327:250:1 | 116 | 250 | | B | - | 157 | Bone | Calcinated cortical and trabecular bone fragments including a fragment of possible skull | 30 | 2 |
| E3327:257:1 | 145 | 257 | 140 | B | - | 132 | Pottery | Middle Bronze Age domestic urn rimsherd (Vessel 5) | 1 | 20 |
| E3327:257:2 | 145 | 257 | 140 | B | - | 132 | Pottery | Middle Bronze Age domestic urn crumb (Vessel 5) | 1 | <1 |
| E3327:257:3 | 145 | 257 | 140 | B | - | 132 | Bone | Calcinated unidentified tiny trabecular fragment | 1 | <1 |
| E3327:261:1 | 149 | 261 | 135 | B | - | 142 | Slag | High temperature waste | 1 | <1 |
| E3327:268:1 | 136 | 268 | 140 | B | - | | Bone | Calcinated fragmented pig calcaneus, right side | 8 | 4 |
| E3327:268:2 | 136 | 268 | 140 | B | 57.50E 66.77N | | Pottery | Middle Bronze Age domestic urn fragment | 1 | 3 |
| E3327:296:1 | 242 | 296 | | B | - | 163 | Pottery | Middle Bronze Age domestic urn crumbs | 2 | 1 |
| E3327:351:1 | 139 | 351 | 110 | B | - | 166 | Bone | Calcinated LM cortical long bone fragments | 2 | <1 |
| E3327:352:1 | 243 | 352 | 104 | B | - | 167 | Bone | Calcinated unidentified tiny cortical fragment | 1 | <1 |
| E3327:357:1 | 142 | 357 | 135 | B | 62.75E 91.24N | | Pottery | Middle Bronze Age domestic urn bodysherd (Vessel 6) | 1 | 9 |
| E3327:360:1 | 247 | 360 | 140 | B | 54.95E 69.57N | | Slag | High temperature waste | 1 | <1 |
| E3327:369:1 | 220 | 369 | 104 | B | 55.58E 71.19N | | Slag | High temperature waste | 1 | 2 |
| E3327:369:2 | 220 | 369 | 104 | B | - | 190 | Bone | Calcinated unidentified tiny cortical fragments | 8 | <1 |
| E3327:389:1 | 310 | 389 | 135 | B | - | | Pottery | Middle Bronze Age domestic urn rimsherd (Vessel 7) | 3 | 16 |
| E3327:475:1 | 401 | 475 | 110 | B | - | | Bone | Calcinated MM/LM cortical long bone fragments | 19 | 5 |
| E3327:475:2 | 401 | 475 | 110 | B | - | 236 | Bone | Calcinated unidentified tiny cortical fragment | 1 | <1 |
| E3327:483:1 | 316 | 483 | 110 | B | 62.73E 83.57N | | Lithic | Small fragment of a well made convex end flint scraper | 1 | <1 |
| E3327:487:1 | 346 | 487 | 110 | B | - | 229 | Lithic | Neolithic flint flake, a failed hollow scraper blank | 1 | 4 |

| Find No | Cut | Deposit | Group | Area | Co-ordinates | Sample No | Category | Description | No pieces | Weight (g) |
|---|---|---|---|---|---|---|---|---|---|---|
| E3327:550:1 | 411 | 550 | | B | 65.70E 85.38N | | Pottery | Middle Bronze Age domestic urn fragment (Vessel 7) | 1 | 4 |
| E3327:560:1 | 402 | 560 | 110 | B | - | | Bone | Calcinated SM/MM or bird cortical long bone fragments | ~20 | 1 |
| E3327:560:2 | 402 | 560 | 110 | B | 57.6E 82.3N | | Lithic | Final Neolithic or Early Bronze Age flint core | 1 | 1 |
| E3327:654:1 | 509 | 654 | 110 | B | - | 273 | Bone | Calcinated unidentified tiny trabecular fragment | 1 | <1 |

## Appendix 3: Catalogue of samples

| Sample No | Cut | Deposit | Group No | Area | Volume sieved (L) | Volume floated (L) | Finds? | Charred plant remains? |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 51 | | A | 1.5 | 1.5 | - | Yes |
| 2 | 4 | 56 | | A | 10 | 10 | - | Yes |
| 3 | 6 | 57 | | A | 1 | 1 | - | Yes |
| 4 | 3 | 64 | | A | 1 | 1 | - | Yes |
| 5 | 3 | 61 | | A | 1 | 1 | - | No |
| 6 | 4 | 69 | | A | 2 | 2 | - | Yes |
| 7 | 4 | 56 | | A | 2.5 | 2.5 | - | Yes |
| 8 | 4 | 65 | | A | 2 | 2 | - | Yes |
| 100 | 614 | 767 | 110 | B | 0.25 | 0.25 | - | Yes |
| 101 | | 151 | | B | 2 | 2 | - | Yes |
| 102 | 102 | 155 | | B | - | - | - | - |
| 103 | - | - | - | - | - | - | - | - |
| 104 | 101 | 152 | | B | 0.25 | 0.25 | - | Yes |
| 105 | - | - | - | - | - | - | - | - |
| 106 | 105 | 153 | | B | 0.25 | 0.25 | - | Yes |
| 107 | 113 | 161 | 104 | B | 0.25 | 0.25 | - | Yes |
| 108 | 106 | 157 | 104 | B | 2 | 2 | - | No |
| 109 | 117 | 165 | 140 | B | 4 | 4 | - | Yes |
| 110 | 114 | 162 | 104 | B | 0.25 | 0.25 | - | Yes |
| 111 | 120 | 169 | 104 | B | 2.25 | 2.25 | - | Yes |
| 112 | - | - | - | - | - | - | - | - |
| 113 | 109 | 160 | | B | 2 | 2 | - | Yes |
| 114 | 115 | 163 | | B | 0.75 | 0.75 | - | Yes |
| 115 | 126 | 183 | | B | 0.5 | 0.5 | - | No |
| 116 | - | - | - | - | - | - | - | - |
| 117 | 107 | 158 | 104 | B | 2 | 2 | - | Yes |
| 118 | 100 | 170 | | B | 2 | 2 | Bone | Yes |
| 119 | 100 | 189 | | B | 0.75 | 0.75 | - | Yes |
| 120 | 126 | 195 | | B | - | - | - | - |
| 121 | 116 | 196 | | B | 2 | 2 | Bone | Yes |
| 122 | - | - | - | - | - | - | - | - |
| 123 | 133 | 251 | 104 | B | 2 | 2 | - | Yes |
| 124 | 209 | 167 | | B | 0.25 | 0.25 | - | Yes |

| Sample No | Cut | Deposit | Group No | Area | Volume sieved (L) | Volume floated (L) | Finds? | Charred plant remains? |
|---|---|---|---|---|---|---|---|---|
| 125 | | 187 | | B | 0.25 | 0.25 | - | Yes |
| 126 | 210 | 188 | | B | 0.5 | 0.5 | Pottery | Yes |
| 127 | 108 | 159 | | B | - | - | - | - |
| 128 | 134 | 255 | | B | 0.25 | 0.25 | - | No |
| 129 | 111 | 253 | | B | 0.25 | 0.25 | - | Yes |
| 130 | | 182 | | B | 2 | 2 | - | Yes |
| 131 | 144 | 184 | | B | 4 | 4 | Bone | Yes |
| 132 | 145 | 257 | 140 | B | 4 | 4 | Bone, pottery | Yes |
| 133 | - | - | - | - | - | - | - | - |
| 134 | 143 | 254 | | B | 0.25 | 0.25 | - | No |
| 135 | 141 | 252 | | B | - | - | - | - |
| 136 | - | - | - | - | - | - | - | - |
| 137 | 227 | 263 | 104 | B | 0.25 | 0.25 | - | Yes |
| 138 | 147 | 259 | | B | 0.25 | 0.25 | - | Yes |
| 139 | 128 | 190 | | B | - | - | - | - |
| 140 | 234 | 272 | | B | - | - | - | - |
| 141 | 136 | 268 | 140 | B | 2 | 2 | - | Yes |
| 142 | 149 | 261 | 135 | B | 2 | 2 | Slag | Yes |
| 143 | 229 | 265 | 104 | B | - | - | - | - |
| 144 | 204 | 275 | | B | - | - | - | - |
| 145 | 205 | 277 | 140 | B | 2 | 2 | - | Yes |
| 146 | - | - | - | - | - | - | - | - |
| 147 | 207 | 282 | 104 | B | 2 | 2 | - | Yes |
| 148 | 206 | 278 | | B | 2 | 2 | - | Yes |
| 149 | 232 | 270 | 110 | B | 2 | 2 | - | Yes |
| 150 | 232 | 279 | 110 | B | - | - | - | - |
| 151 | 232 | 280 | 110 | B | 2 | 2 | - | Yes |
| 152 | 116 | 164 | | B | 2 | 2 | Bone | Yes |
| 153 | 129 | 191 | | B | 4 | 4 | - | Yes |
| 154 | 116 | 197 | | B | 2 | 2 | Bone | Yes |
| 155 | 116 | 198 | | B | 2 | 2 | Bone | Yes |
| 156 | 116 | 199 | | B | 0.5 | 0.5 | Bone | Yes |
| 157 | 116 | 250 | | B | 2 | 2 | Bone | Yes |
| 158 | 213 | 287 | | B | - | - | - | - |
| 159 | 235 | 166 | 104 | B | 6 | 6 | - | Yes |

| Sample No | Cut | Deposit | Group No | Area | Volume sieved (L) | Volume floated (L) | Finds? | Charred plant remains? |
|---|---|---|---|---|---|---|---|---|
| 160 | 235 | 175 | 104 | B | 10 | 10 | Bone | Yes |
| 161 | 105 | 177/178 | | B | - | - | - | - |
| 162 | 237 | 291 | 110 | B | 0.05 | 0.05 | - | Yes |
| 163 | 242 | 296 | | B | 0.05 | 0.05 | Pottery | Yes |
| 164 | 215 | 297 | 104 | B | 0.25 | 0.25 | - | Yes |
| 165 | 216 | 298 | 104 | B | 0.05 | 0.05 | - | Yes |
| 166 | 139 | 351 | 110 | B | 0.25 | 0.25 | Bone | Yes |
| 167 | 243 | 352 | 104 | B | 0.25 | 0.25 | Bone | Yes |
| 168 | 244 | 353 | 104 | B | - | - | - | - |
| 169 | 245 | 354 | 104 | B | - | - | - | - |
| 170 | 246 | 355 | 104 | B | 0.25 | 0.25 | - | Yes |
| 171 | 236 | 289 | | B | 0.25 | 0.25 | - | Yes |
| 172 | 125 | 290 | 140 | B | 2 | 2 | - | Yes |
| 173 | 137 | 299 | 104 | B | 0.25 | 0.25 | - | Yes |
| 174 | 248 | 362 | 104 | B | 0.25 | 0.25 | - | Yes |
| 175 | 217 | 363 | 104 | B | 0.25 | 0.25 | - | Yes |
| 176 | 218 | 364 | 104 | B | 0.25 | 0.25 | - | No |
| 177 | 247 | 361 | 140 | B | 2 | 2 | - | Yes |
| 178 | 211 | 284 | | B | 6 | 6 | - | Yes |
| 179 | 332 | 285 | | B | - | - | - | - |
| 180 | 214 | 288 | 140 | B | 0.25 | 0.25 | - | Yes |
| 181 | - | - | - | - | - | - | - | - |
| 182 | 142 | 357 | 135 | B | 0.25 | 0.25 | - | Yes |
| 183 | 142 | 358 | 135 | B | 0.25 | 0.25 | - | Yes |
| 184 | 142 | 359 | 135 | B | 0.25 | 0.25 | - | Yes |
| 185 | 222 | 372 | 104 | B | - | - | - | - |
| 186 | 223 | 373 | 104 | B | 0.25 | 0.25 | - | Yes |
| 187 | 224 | 374 | 313 | B | 0.25 | 0.25 | - | Yes |
| 188 | 300 | 375 | 104 | B | 0.25 | 0.25 | - | No |
| 189 | 219 | 365 | 104 | B | 2 | 2 | - | Yes |
| 190 | 220 | 369 | 104 | B | 2 | 2 | Bone | Yes |
| 191 | 249 | 370 | 104 | B | 1.5 | 1.5 | - | Yes |
| 192 | 117 | 276 | 140 | B | 2 | 2 | - | Yes |
| 193 | 211 | 367 | | B | - | - | - | - |
| 194 | 302 | 381 | 110 | B | 0.25 | 0.25 | - | No |

| Sample No | Cut | Deposit | Group No | Area | Volume sieved (L) | Volume floated (L) | Finds? | Charred plant remains? |
|---|---|---|---|---|---|---|---|---|
| 195 | 224 | 498 | 313 | B | 2 | 2 | - | Yes |
| 196 | - | - | - | - | - | - | - | - |
| 197 | 306 | 385 | 104 | B | 0.25 | 0.25 | - | Yes |
| 198 | 311 | 390 | 104 | B | - | - | - | - |
| 199 | 310 | 389 | 135 | B | 1.5 | 1.5 | - | Yes |
| 200 | 311 | 391 | 104 | B | 1.5 | 1.5 | - | Yes |
| 201 | - | - | - | - | - | - | - | - |
| 202 | 308 | 393 | 104 | B | - | - | - | - |
| 203 | 309 | 394 | 104 | B | 0.25 | 0.25 | - | Yes |
| 204 | 315 | 396 | 104 | B | 2 | 2 | - | Yes |
| 205 | 324 | 454 | 330 | B | 3 | 3 | - | Yes |
| 206 | - | - | - | - | - | - | - | - |
| 207 | - | - | - | - | - | - | - | - |
| 208 | 326 | 457 | 110? | B | 1.5 | 1.5 | - | Yes |
| 209 | 326 | 458 | 110? | B | 0.25 | 0.25 | - | Yes |
| 210 | 326 | 459 | 110? | B | 2 | 2 | - | Yes |
| 211 | 326 | 460 | 110? | B | 0.5 | 0.5 | - | Yes |
| 212 | 314 | 395 | 313 | B | 2 | 2 | - | Yes |
| 213 | 327 | 461 | 110 | B | 3 | 3 | - | Yes |
| 214 | 328 | 462 | 330 | B | 3 | 3 | - | Yes |
| 215 | 329 | 463 | 330 | B | 1 | 1 | - | Yes |
| 216 | 333 | 466 | 110 | B | 0.25 | 0.25 | - | Yes |
| 217 | 334 | 467 | 110 | B | - | - | - | - |
| 218 | 340 | 472 | 135 | B | 0.25 | 0.25 | - | Yes |
| 219 | - | - | - | - | - | - | - | - |
| 220 | 342 | 477 | 104 | B | 0.5 | 0.5 | - | Yes |
| 221 | 343 | 478 | 104 | B | 0.05 | 0.05 | - | Yes |
| 222 | 316 | 479 | 110 | B | 1 | 1 | - | Yes |
| 223 | 316 | 481 | 110 | B | 1 | 1 | - | Yes |
| 224 | 316 | 483 | 110 | B | 0.25 | 0.25 | - | Yes |
| 225 | 316 | 482 | 110 | B | 0.25 | 0.25 | - | Yes |
| 226 | 335 | 484 | 110 | B | 2 | 2 | - | Yes |
| 227 | 344 | 485 | 313 | B | 0.25 | 0.25 | - | Yes |
| 228 | - | - | - | - | - | - | - | - |
| 229 | 346 | 487 | 110 | B | 1.5 | 1.5 | Lithic | Yes |

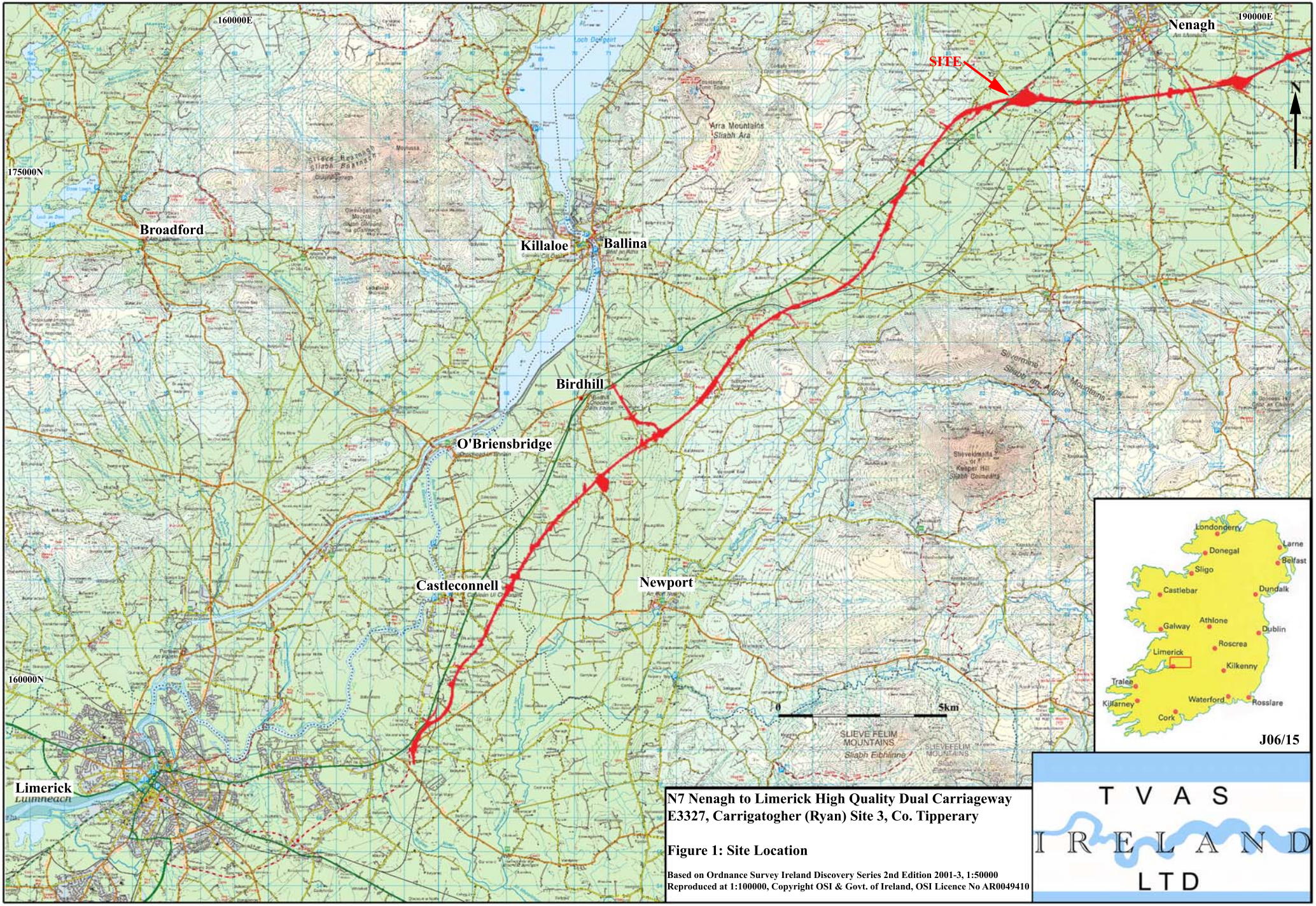
| Sample No | Cut | Deposit | Group No | Area | Volume sieved (L) | Volume floated (L) | Finds? | Charred plant remains? |
|---|---|---|---|---|---|---|---|---|
| 230 | 347 | 488 | 104 | B | 0.25 | 0.25 | - | Yes |
| 231 | 348 | 489 | 104 | B | - | - | - | - |
| 232 | 404 | 491 | 104 | B | 0.25 | 0.25 | - | Yes |
| 233 | 405 | 492 | 104 | B | 0.25 | 0.25 | - | Yes |
| 234 | 408 | 495 | 110 | B | 2 | 2 | - | Yes |
| 235 | 329 | 463 | 330 | B | 2 | 2 | - | Yes |
| 236 | 401 | 475 | 110 | B | 1 | 1 | Bone | Yes |
| 237 | 401 | 476 | 110 | B | - | - | - | - |
| 238 | 401 | 552 | 110 | B | - | - | - | - |
| 239 | 401 | 555 | 110 | B | - | - | - | - |
| 240 | 314 | 395 | 313 | B | 2 | 2 | - | Yes |
| 241 | 349 | 557 | 110? | B | 2 | 2 | - | Yes |
| 242 | 349 | 558 | 110? | B | 0.25 | 0.25 | - | Yes |
| 243 | 349 | 559 | 110? | B | - | - | - | - |
| 244 | 402 | 560 | 110? | B | 4 | 4 | - | Yes |
| 245 | 402 | 561 | 110? | B | 2 | 2 | - | Yes |
| 246 | 411 | 550 |  | B | 0.25 | 0.25 | - | Yes |
| 247 | 417 | 564 | 110 | B | 0.25 | 0.25 | - | Yes |
| 248 | 419 | 565 | 110 | B | 0.25 | 0.25 | - | No |
| 249 | 421 | 567 | 330 | B | 1 | 1 | - | Yes |
| 250 | 424 | 570 |  | B | 2 | 2 | - | Yes |
| 251 | 413 | 553 | 330 | B | 1 | 1 | - | Yes |
| 252 | - | - | - | - | - | - | - | - |
| 253 | 402 | 573 | 110? | B | 0.25 | 0.25 | - | Yes |
| 254 | 442 | 574 |  | B | 2 | 2 | - | No |
| 255 | - | - | - | - | - | - | - | - |
| 256 | 427 | 576 | 110 | B | 1 | 1 | - | Yes |
| 257 | - | - | - | - | - | - | - | - |
| 258 | 428 | 578 | 110 | B | 2 | 2 | - | Yes |
| 259 | 434 | 585 | 110 | B | 1 | 1 | - | Yes |
| 260 | 435 | 586 | 110 | B | 0.25 | 0.25 | - | No |
| 261 | 436 | 587 | 110 | B | 0.25 | 0.25 | - | No |
| 262 | 437 | 588 | 110 | B | 0.25 | 0.25 | - | Yes |
| 263 | 430 | 580 | 313 | B | 0.25 | 0.25 | - | Yes |
| 264 | 432 | 583 | 110 | B | 2 | 2 | - | Yes |

| Sample No | Cut | Deposit | Group No | Area | Volume sieved (L) | Volume floated (L) | Finds? | Charred plant remains? |
|---|---|---|---|---|---|---|---|---|
| 265 | 420 | 566 | 110 | B | 2 | 2 | - | Yes |
| 266 | 440 | 591 | | B | - | - | - | - |
| 267 | 441 | 592 | | B | - | - | - | - |
| 268 | 444 | 595 | 110 | B | 0.25 | 0.25 | - | No |
| 269 | 445 | 596 | 110 | B | - | - | - | - |
| 270 | 446 | 597 | 110 | B | 0.25 | 0.25 | - | No |
| 271 | 501 | 652 | 110 | B | 0.25 | 0.25 | - | Yes |
| 272 | 508 | 653 | 110 | B | 0.25 | 0.25 | - | No |
| 273 | 509 | 654 | 110 | B | 0.25 | 0.25 | Bone | Yes |
| 274 | 510 | 655 | 110 | B | - | - | - | - |
| 275 | 511 | 656 | 104 | B | 0.25 | 0.25 | - | Yes |
| 276 | 502 | 659 | 110 | B | - | - | - | - |
| 277 | 503 | 660 | 110 | B | 0.05 | 0.05 | - | No |
| 278 | 504 | 661 | 110 | B | - | - | - | - |
| 279 | 505 | 662 | 110 | B | - | - | - | - |
| 280 | 447 | 598 | 110 | B | - | - | - | - |
| 281 | 448 | 599 | 110 | B | 0.25 | 0.25 | - | Yes |
| 282 | 433 | 584 | 104 | B | - | - | - | - |
| 283 | 443 | 593 | 104 | B | 0.25 | 0.25 | - | Yes |
| 284 | 514 | 664 | 104 | B | - | - | - | - |
| 285 | 401 | 665 | 110 | B | - | - | - | - |
| 286 | 513 | 663 | 104 | B | 1 | 1 | - | Yes |
| 287 | 515 | 666 | 110 | B | 2 | 2 | - | Yes |
| 288 | 516 | 667 | 104 | B | 0.25 | 0.25 | - | Yes |
| 289 | - | - | - | - | - | - | - | - |
| 290 | 420 | 658 | 110 | B | 2 | 2 | - | Yes |
| 291 | 324 | 454 | 330 | B | 1 | 1 | - | Yes |
| 292 | 521 | 672 | | B | - | - | - | - |
| 293 | 522 | 673 | 110 | B | 0.25 | 0.25 | - | No |
| 294 | 506 | 676 | 110 | B | - | - | - | - |
| 295 | 507 | 677 | 110 | B | 0.25 | 0.25 | - | Yes |
| 296 | 525 | 678 | 110 | B | 0.25 | 0.25 | - | No |
| 297 | 327 | 594 | 110 | B | - | - | - | - |
| 298 | 524 | 675 | | B | 0.25 | 0.25 | - | Yes |
| 299 | 527 | 680 | 104 | B | - | - | - | - |

| Sample No | Cut | Deposit | Group No | Area | Volume sieved (L) | Volume floated (L) | Finds? | Charred plant remains? |
|---|---|---|---|---|---|---|---|---|
| 300 | 526 | 679 | 104 | B | - | - | - | - |
| 301 | 529 | 682 | 104 | B | 0.5 | 0.5 | - | Yes |
| 302 | - | - | - | - | - | - | - | - |
| 303 | 533 | 686 | 110 | B | 0.25 | 0.25 | - | Yes |
| 304 | 535 | 687 | 110 | B | 0.25 | 0.25 | - | Yes |
| 305 | 537 | 689 | 110 | B | 0.25 | 0.25 | - | Yes |
| 306 | - | - | - | - | - | - | - | - |
| 307 | 544 | 697 | 110 | B | 0.25 | 0.25 | - | Yes |
| 308 | 548 | 751 | 110 | B | 0.25 | 0.25 | - | No |
| 309 | 600 | 753 | 110 | B | 0.25 | 0.25 | - | Yes |
| 310 | 601 | 754 | 110 | B | - | - | - | - |
| 311 | 605 | 758 |  | B | - | - | - | - |
| 312 | 606 | 759 |  | B | - | - | - | - |
| 313 | 607 | 760 | 110 | B | 0.25 | 0.25 | - | No |
| 314 | 608 | 761 | 110 | B | - | - | - | - |
| 315 | 609 | 762 | 110 | B | - | - | - | - |
| 316 | 610 | 763 | 104 | B | - | - | - | - |
| 317 | 611 | 764 | 104 | B | 0.25 | 0.25 | - | Yes |
| 318 | 612 | 765 | 104 | B | - | - | - | - |
| 319 | 617 | 770 | 135 | B | 1 | 1 | - | Yes |
| 320 | 613 | 766 | 110 | B | - | - | - | - |
| 321 | 616 | 769 |  | B | - | - | - | - |

## Appendix 4: Archive contents

| Category | Item | Quantity | Condition |
|---|---|---|---|
| | | | |
| **Paper records** | Number allocation sheet | 2 | Good |
| | Context index sheets | 27 | Good |
| | Context sheets | 598 | Good |
| | Section index sheets | 8 | Good |
| | Plan keys | 2 | Good |
| | Sample index sheets | 7 | Good |
| | Level sheets | 22 | Good |
| | Finds register sheets | | Good |
| | | | |
| **Plans** | 1:20 pre-ex plans (A2) | 15 | Good |
| | 1:20 mid-ex plans (A2) | 1 | Good |
| | 1:20 post-ex plans (A2) | 23 | Good |
| | 1:100 pre-ex plans (A2) | 2 | Good |
| | | | |
| **Sections** | Section sheets (A2) | 11 | Good |
| | 1:10 section drawings (on those sheets) | 164 | Good |
| | | | |
| **Photographs** | Digital photographs | 511 | Digitally stored & backed-up |

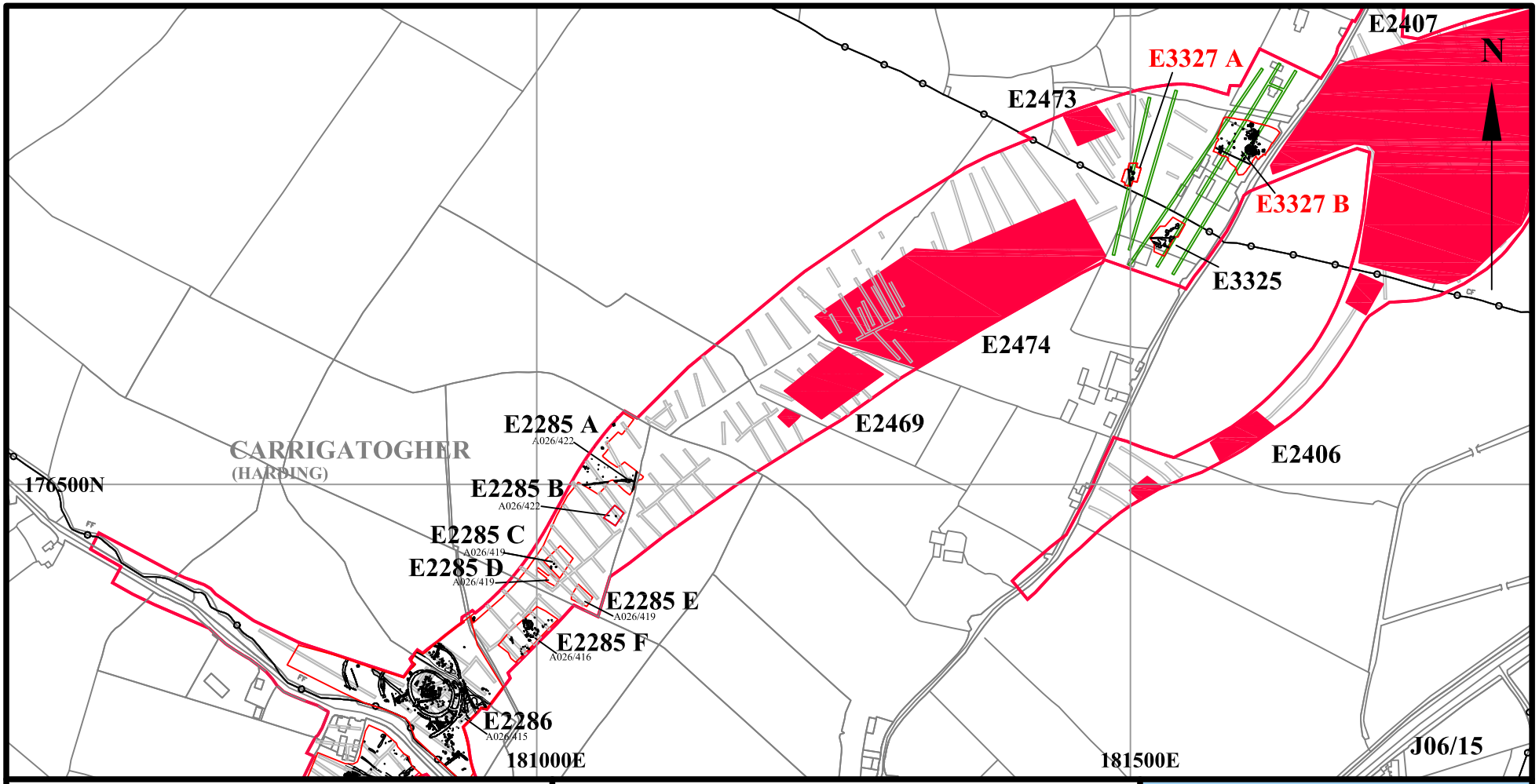



**N7 Nenagh to Limerick High Quality Dual Carriageway**
**E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary**

**Figure 1: Site Location**



TVAS IRELAND LTD



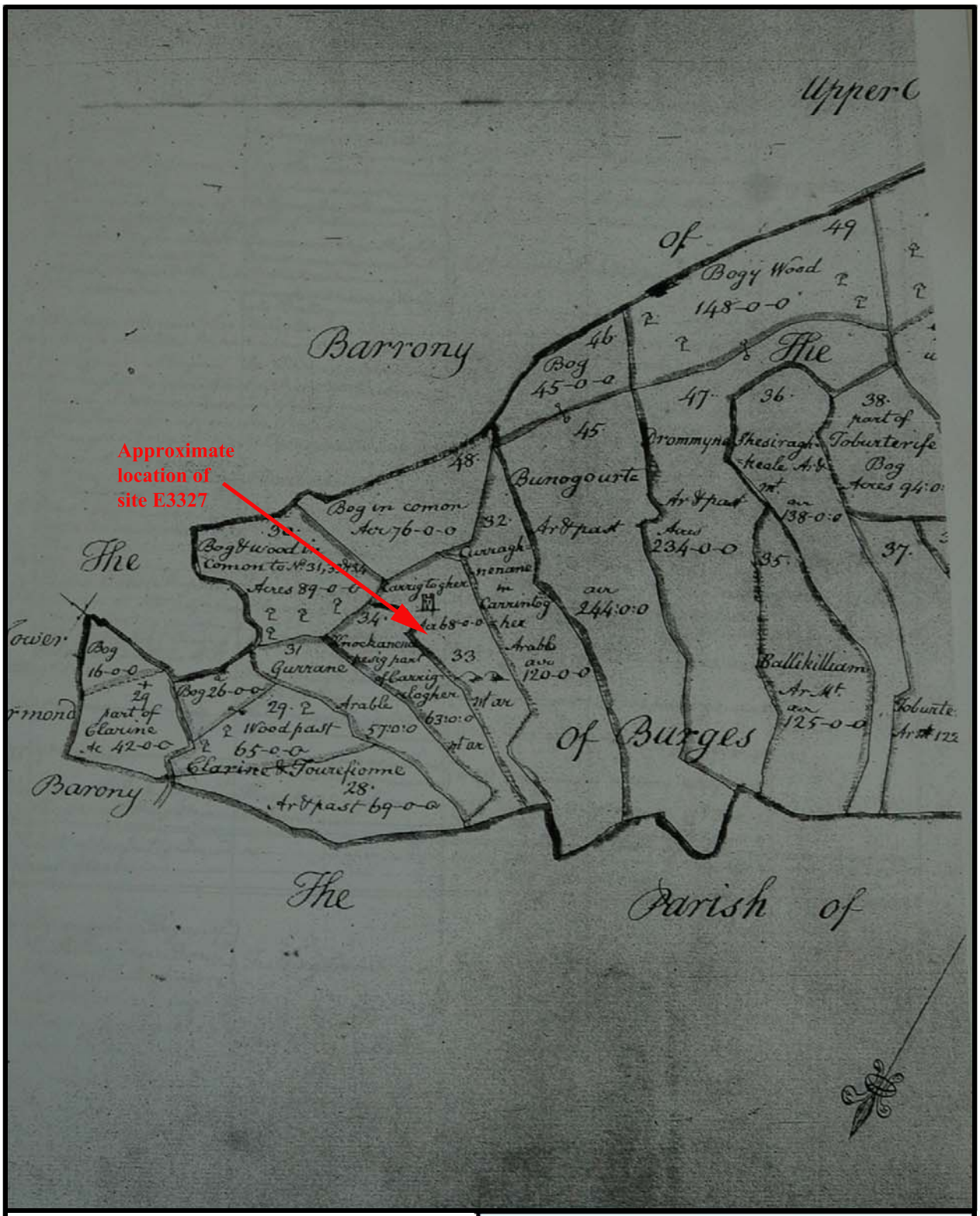

0 250m

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary**

**Figure 2: Site location and test trenches**

Scale 1:5000
Based on Ordnance Survey Ireland digital mapping

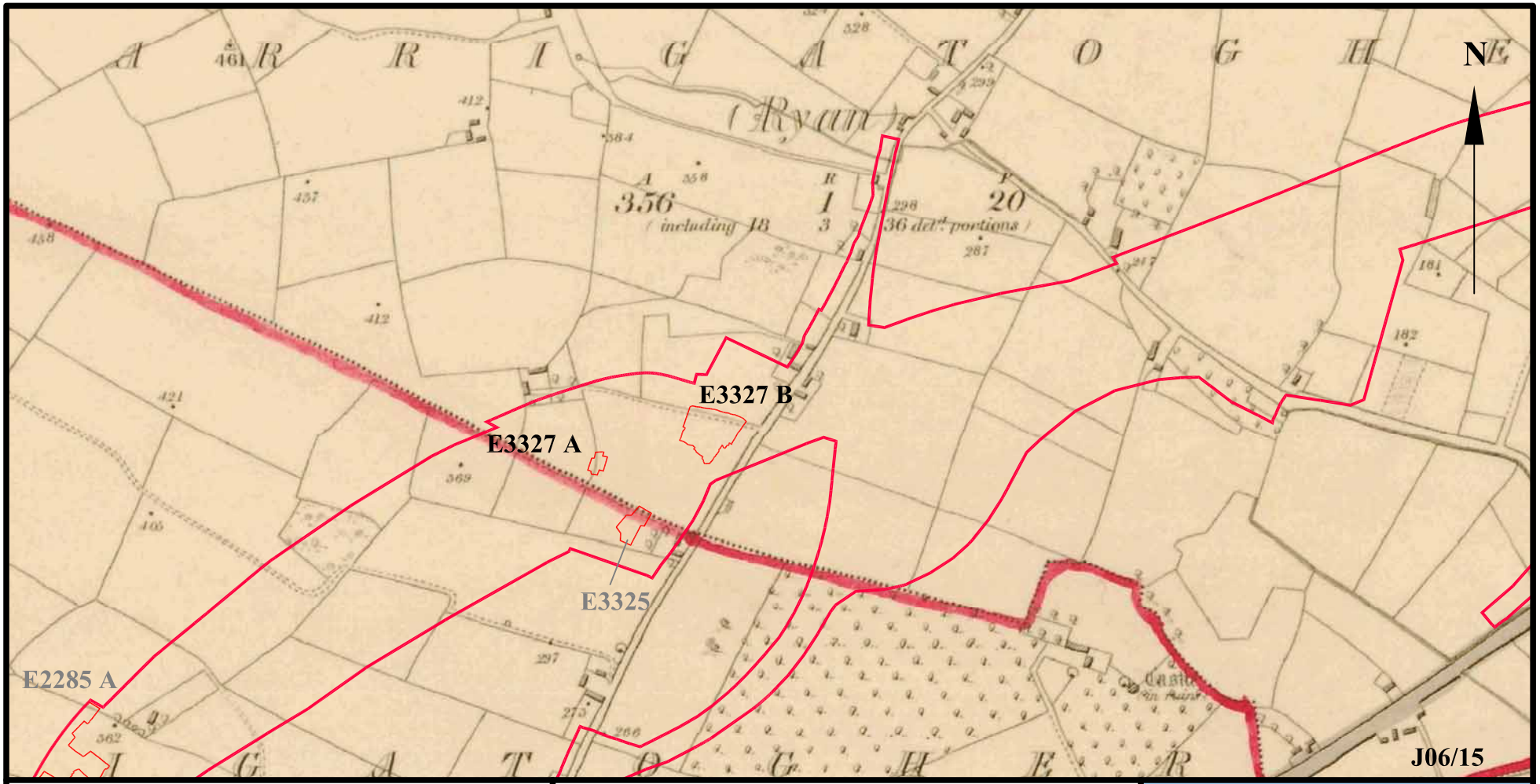

TVAS IRELAND LTD




**N7 Nenagh to Limerick HQDC**
**E3327, Carrigatogher (Ryan) Site 3,**
**Co. Tipperary**

**Figure 3:1655-56 Down Survey Map**
**Part of Burges (Burgesbeg) Parish**

TVAS IRELAND LTD



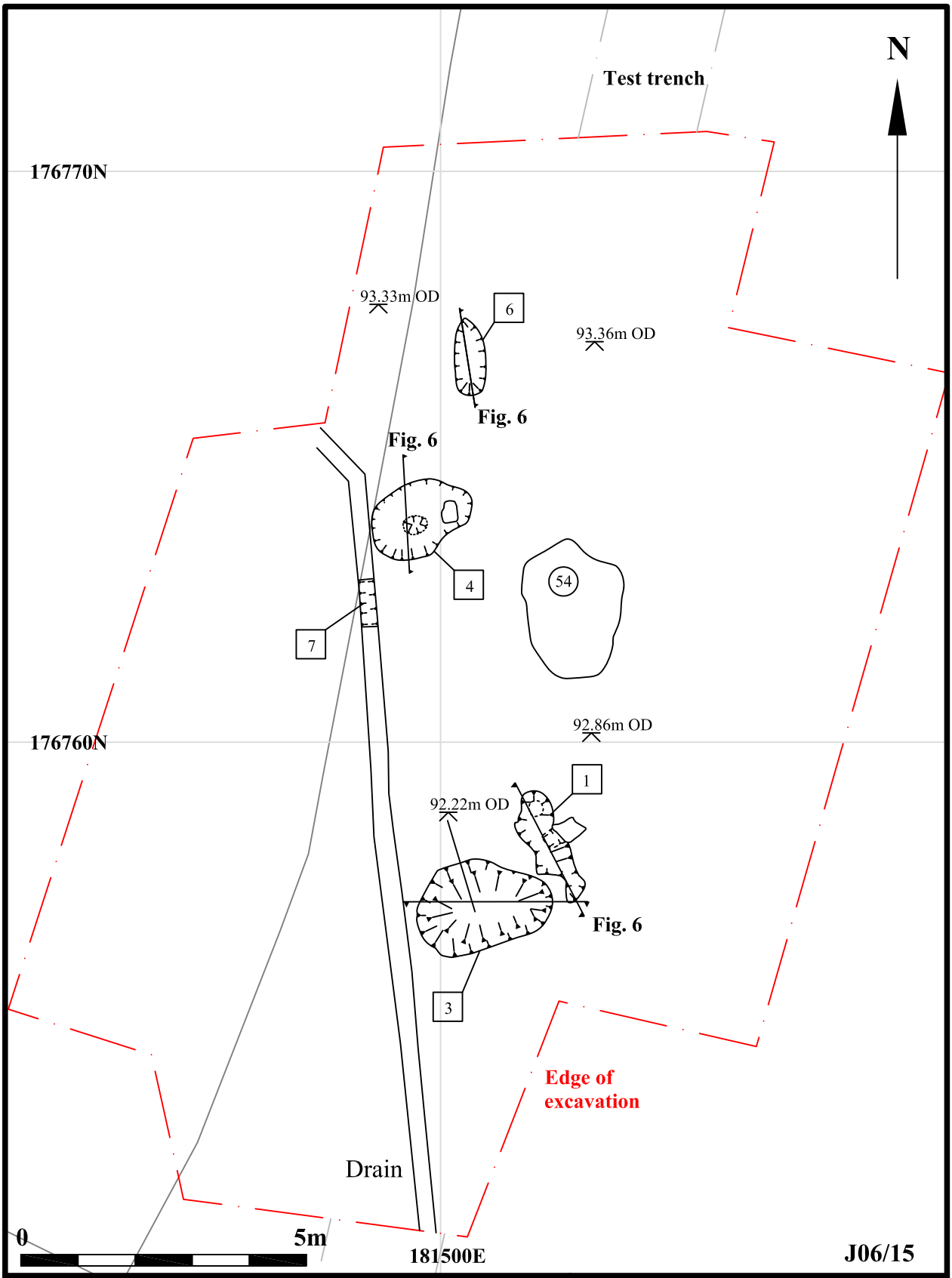

0 250m

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary**

**Figure 4: Ordnance Survey 1st Edition Map, 1843**

Scale 1:5000
Based on OS 1st Edition, Co. Tipperary Sheet 20, 6" to mile
LCCPermit: 2010/09/CCMA/Tipperary County Council


TVAS IRELAND LTD



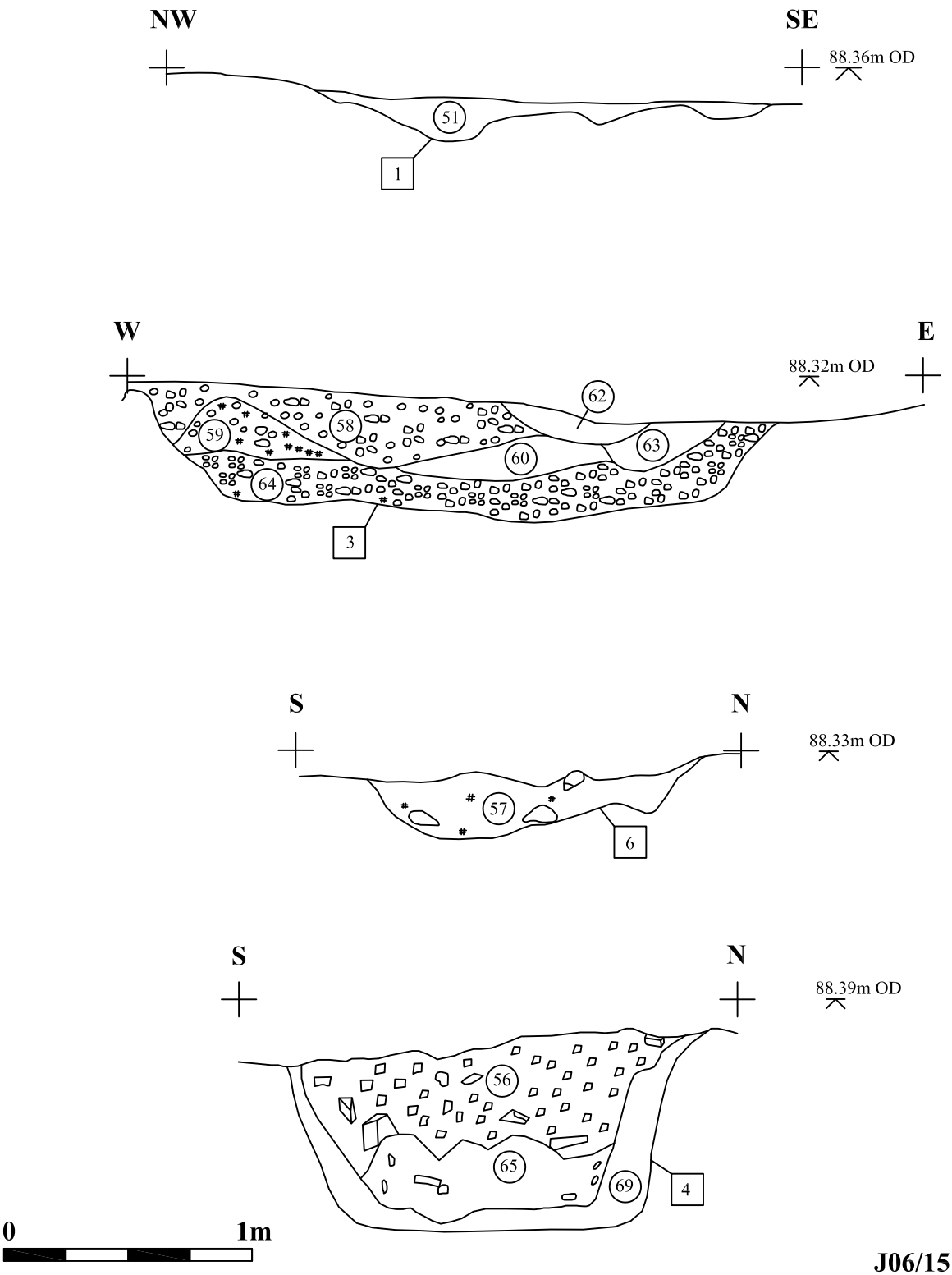

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary**

**Figure 5: Plan of Area A**

Scale 1:100



TVAS IRELAND LTD



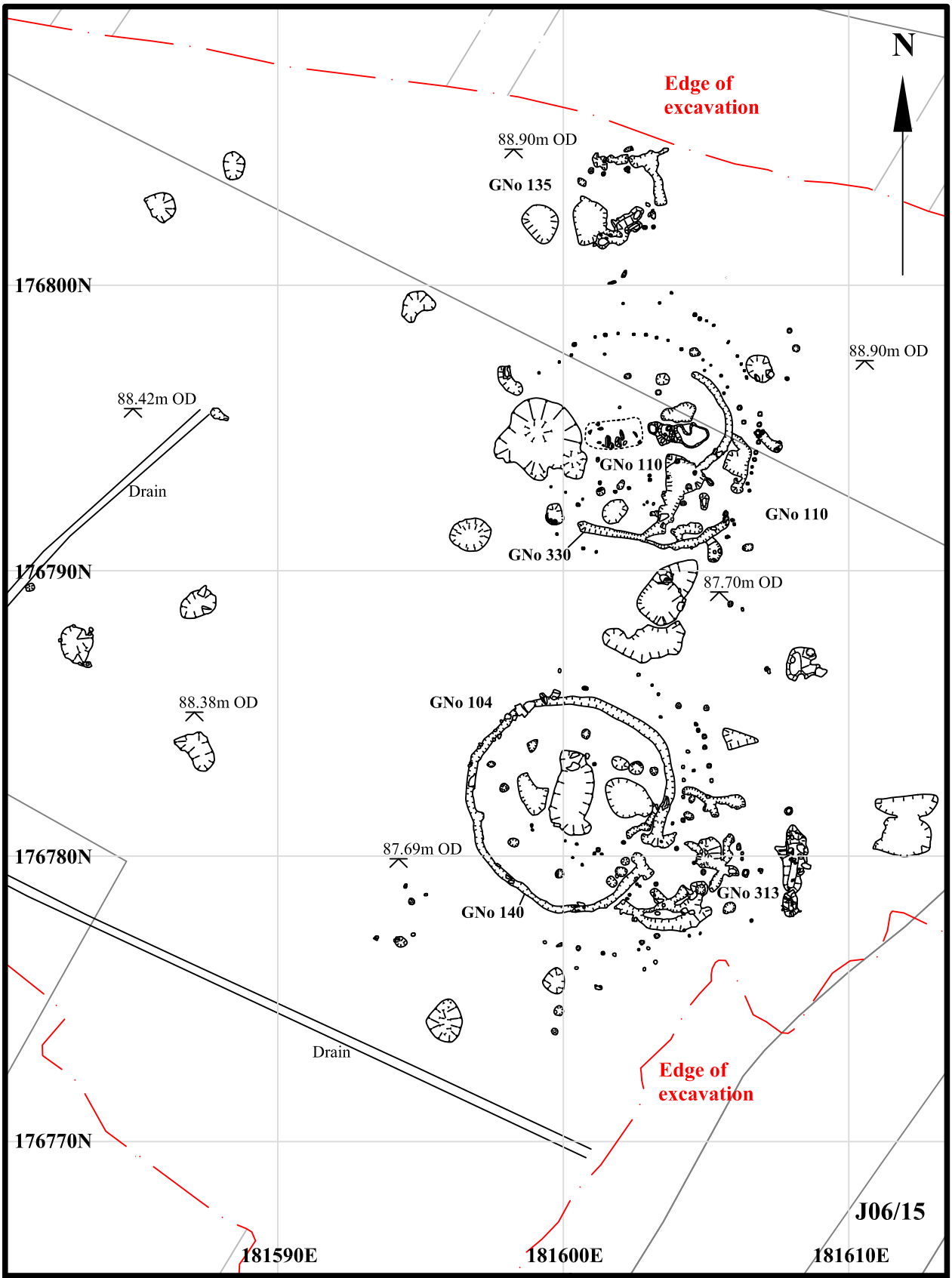

J06/15

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary**

**Figure 6: Sections of pits 1, 3 & 6 and trough 4, Area A**

Scale 1:25

TVAS IRELAND LTD



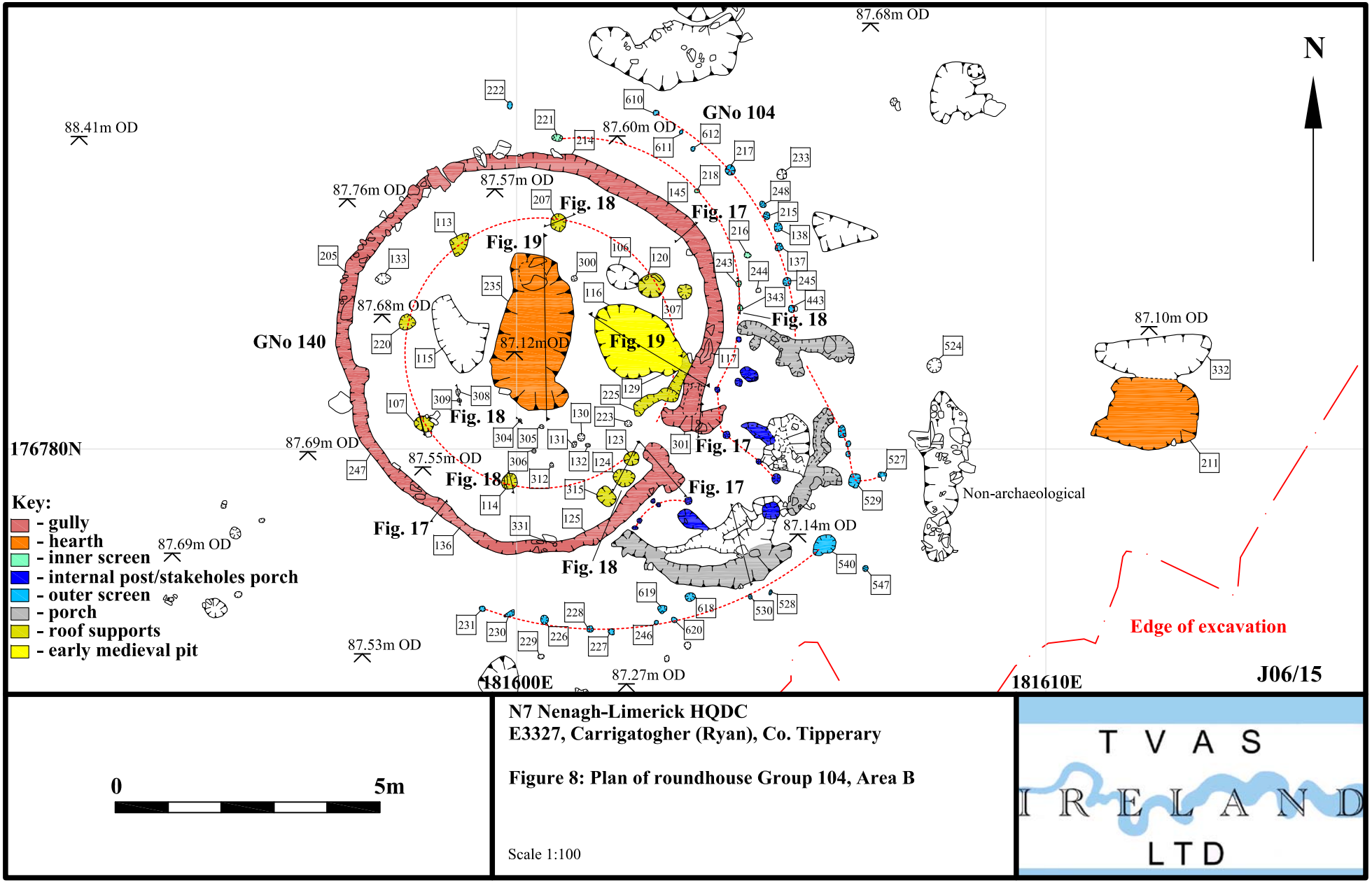

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary**

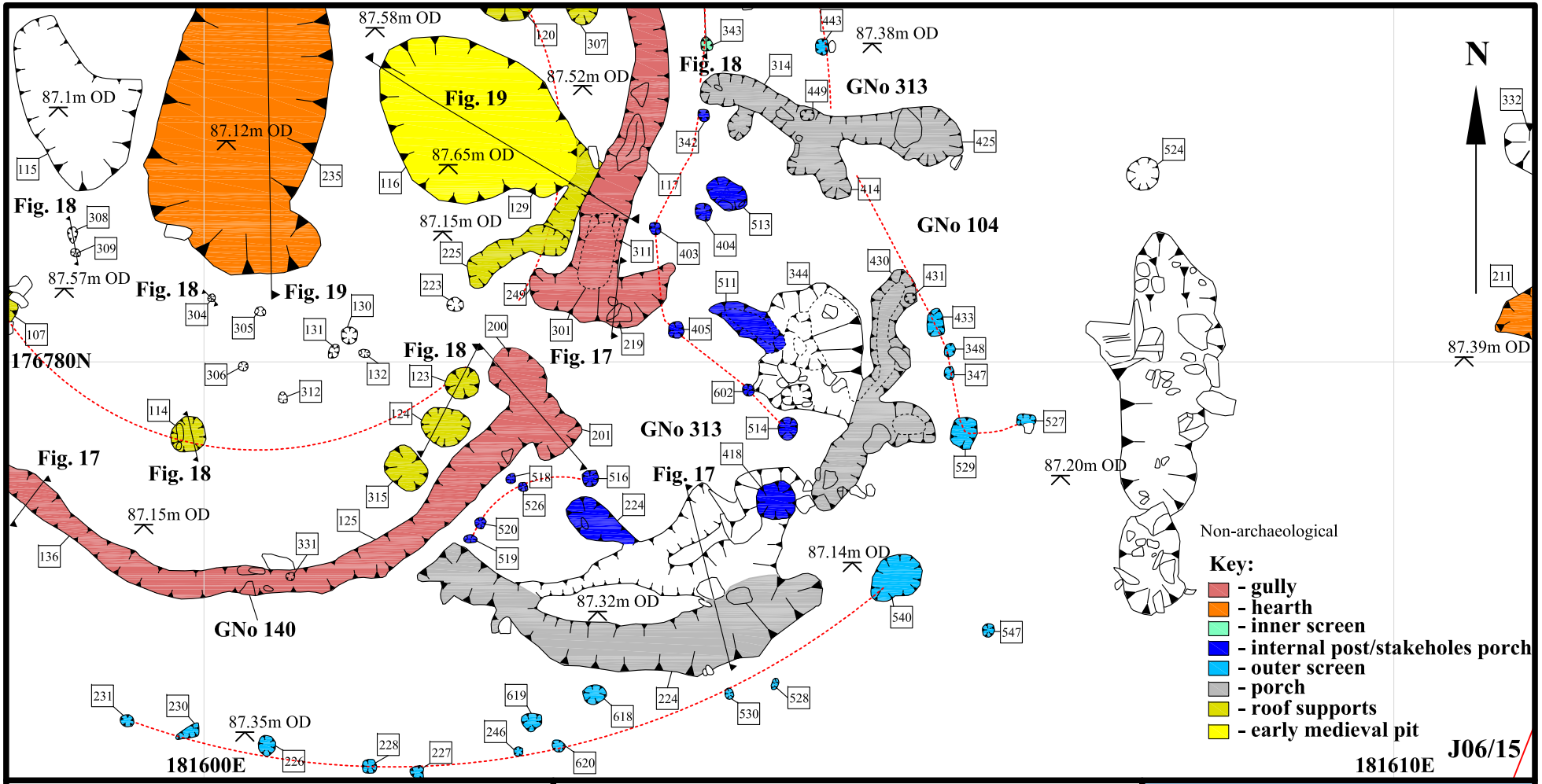
**Figure 7: Plan of Area B**

Scale 1:200



TVAS IRELAND LTD


N
GNo 104
GNo 140
88.41m OD
87.68m OD
87.60m OD
87.76m OD
87.57m OD
87.68m OD
87.12mOD
87.10m OD
87.69m OD
87.55m OD
87.69m OD
87.14m OD
87.53m OD
87.27m OD
Fig. 17
Fig. 18
Fig. 19
176780N
181600E
181610E
Non-archaeological
Edge of excavation
J06/15
Key:
- gully
- hearth
- inner screen
- internal post/stakeholes porch
- outer screen
- porch
- roof supports
- early medieval pit
0
5m
N7 Nenagh-Limerick HQDC
E3327, Carrigatogher (Ryan), Co. Tipperary
Figure 8: Plan of roundhouse Group 104, Area B
Scale 1:100
TVAS IRELAND LTD

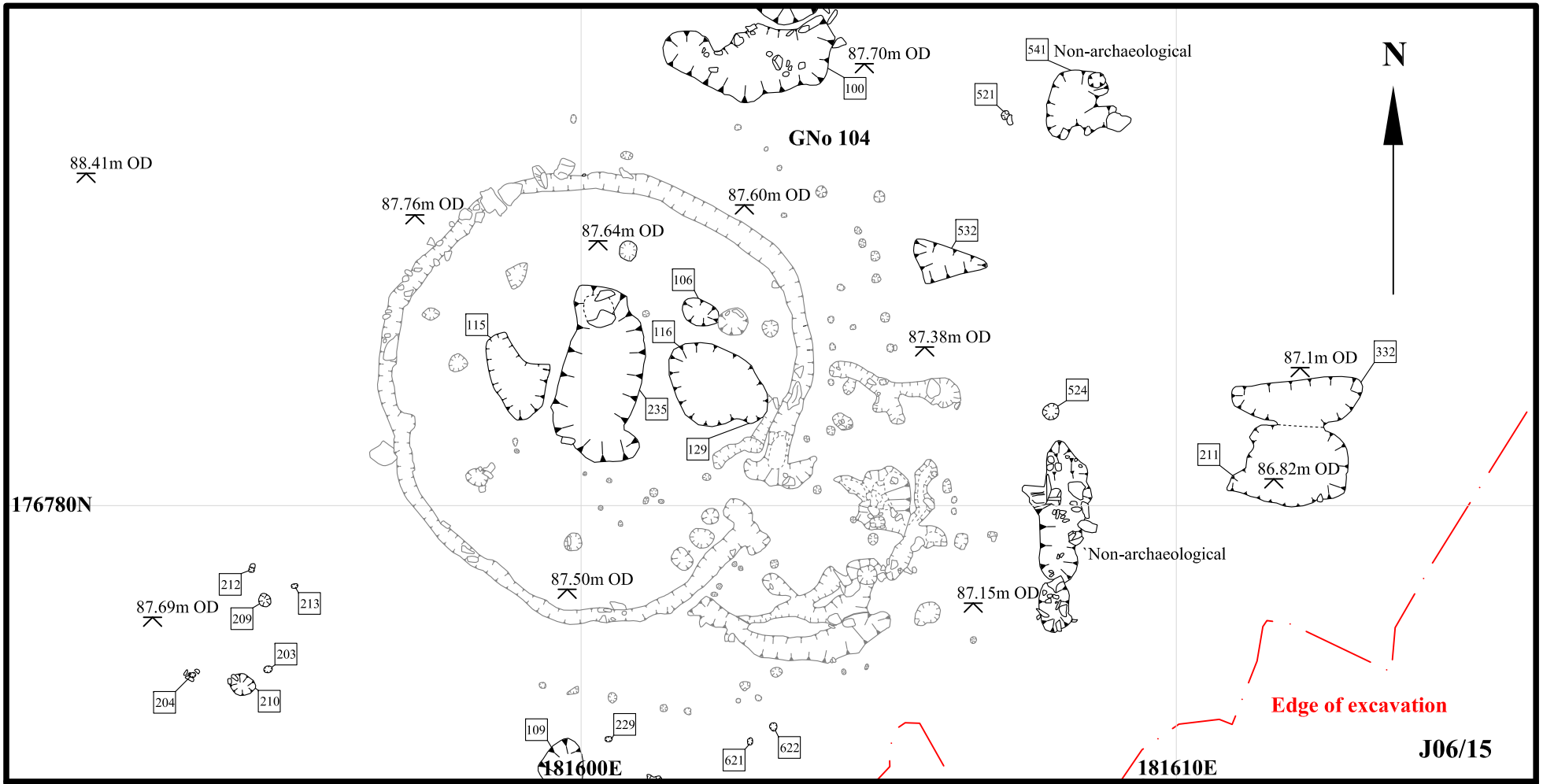



N7 Nenagh-Limerick HQDC
E3327, Carrigatogher (Ryan), Co. Tipperary

**Figure 9: Plan of entrance of roundhouse Group 104, Area B**

Scale 1:50

TVAS IRELAND LTD



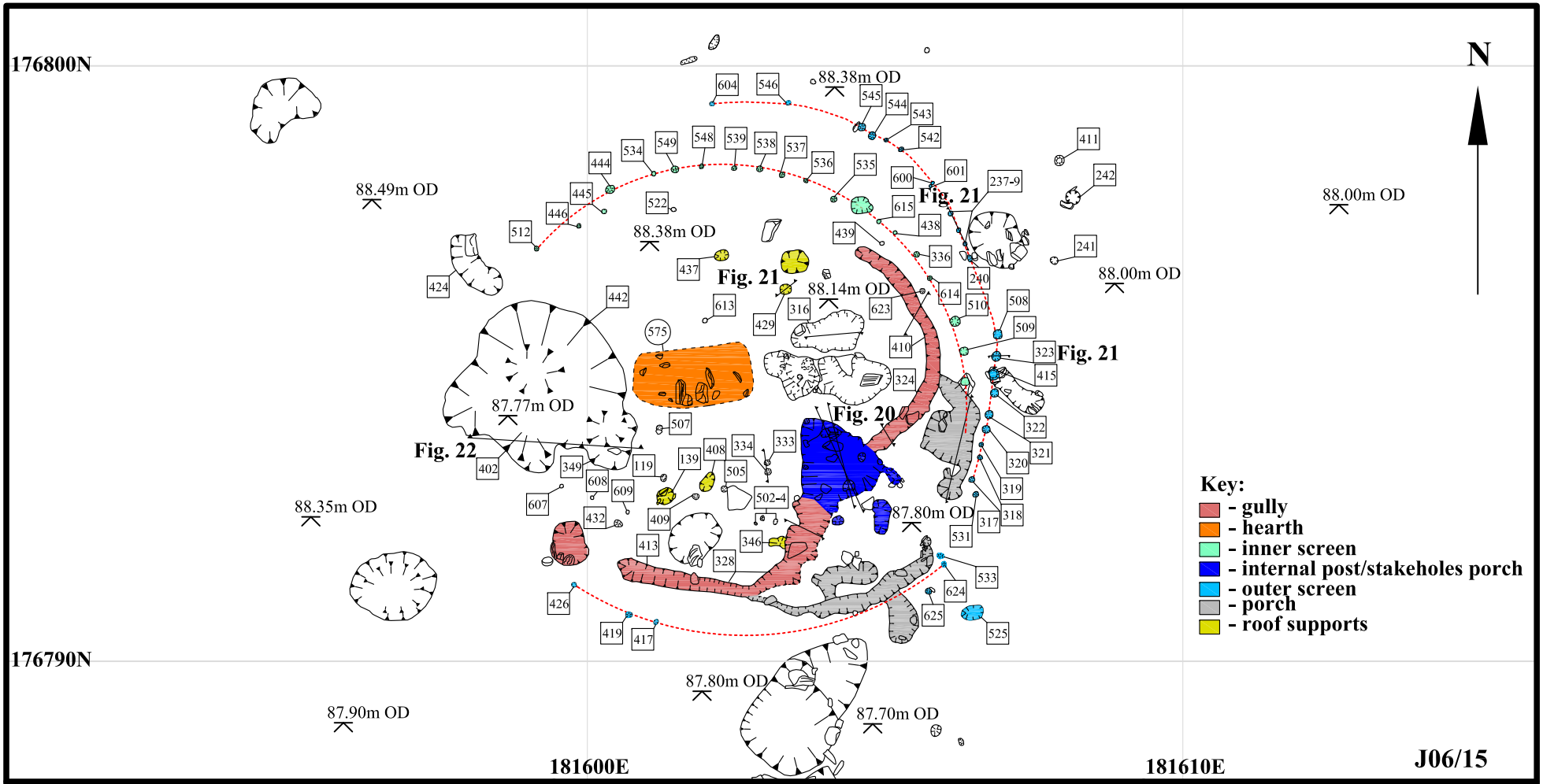

0 5m

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan), Co. Tipperary**

**Figure 10: Plan of non-structural features near roundhouse Group 104, Area B**

Scale 1:100

TVAS IRELAND LTD

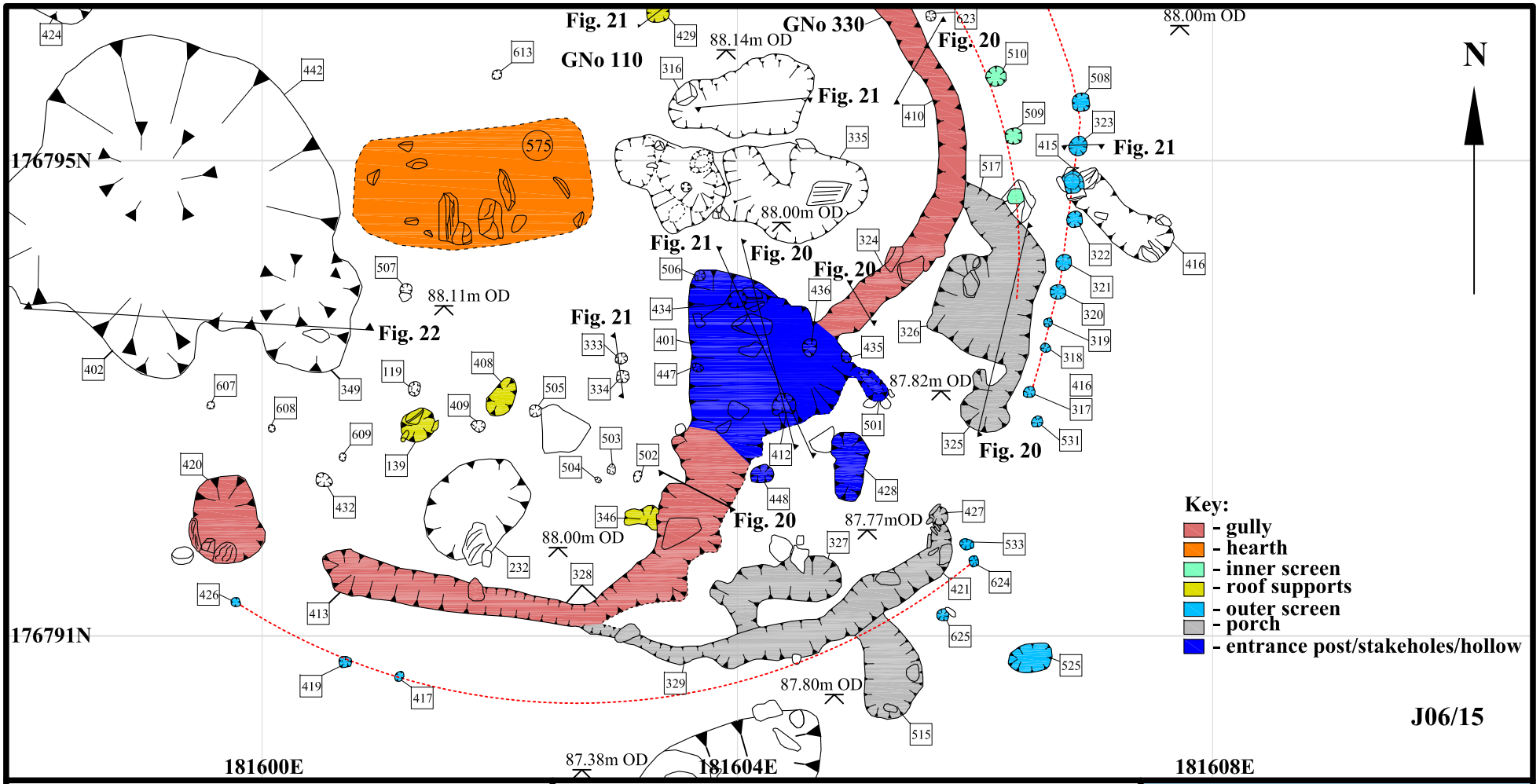



**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan), Co. Tipperary**

**Figure 11: Plan of roundhouse Group 110, Area B**

Scale 1:100

TVAS IRELAND LTD

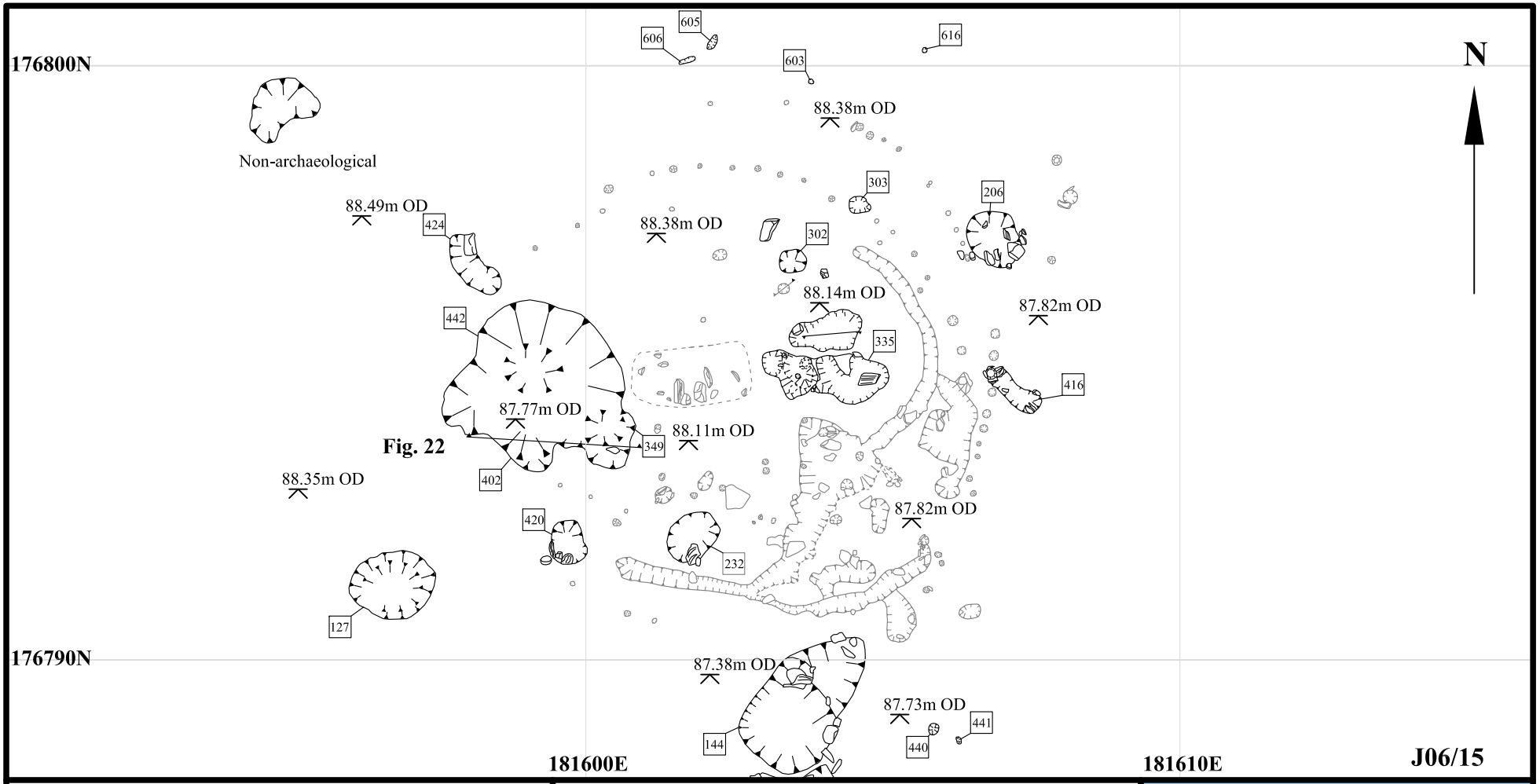



N7 Nenagh-Limerick HQDC
E3327, Carrigatogher (Ryan), Co. Tipperary

**Figure 12: Plan of entrance of roundhouse Group 110, Area B**

Scale 1:50

TVAS IRELAND LTD



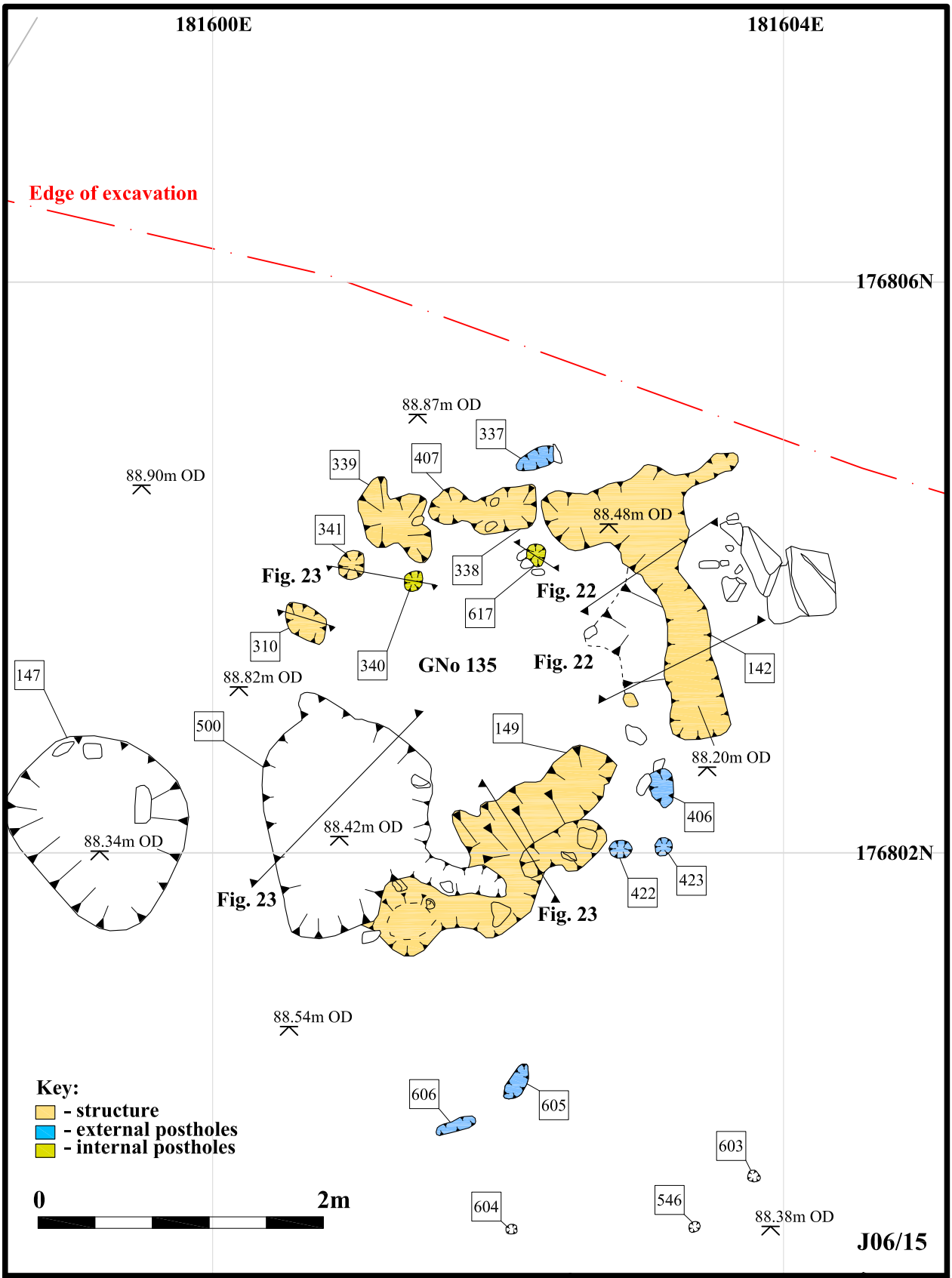

0 5m

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan), Co. Tipperary**

**Figure 13: Plan of non-structural features near roundhouse Group 110, Area B**

Scale 1:100

TVAS IRELAND LTD

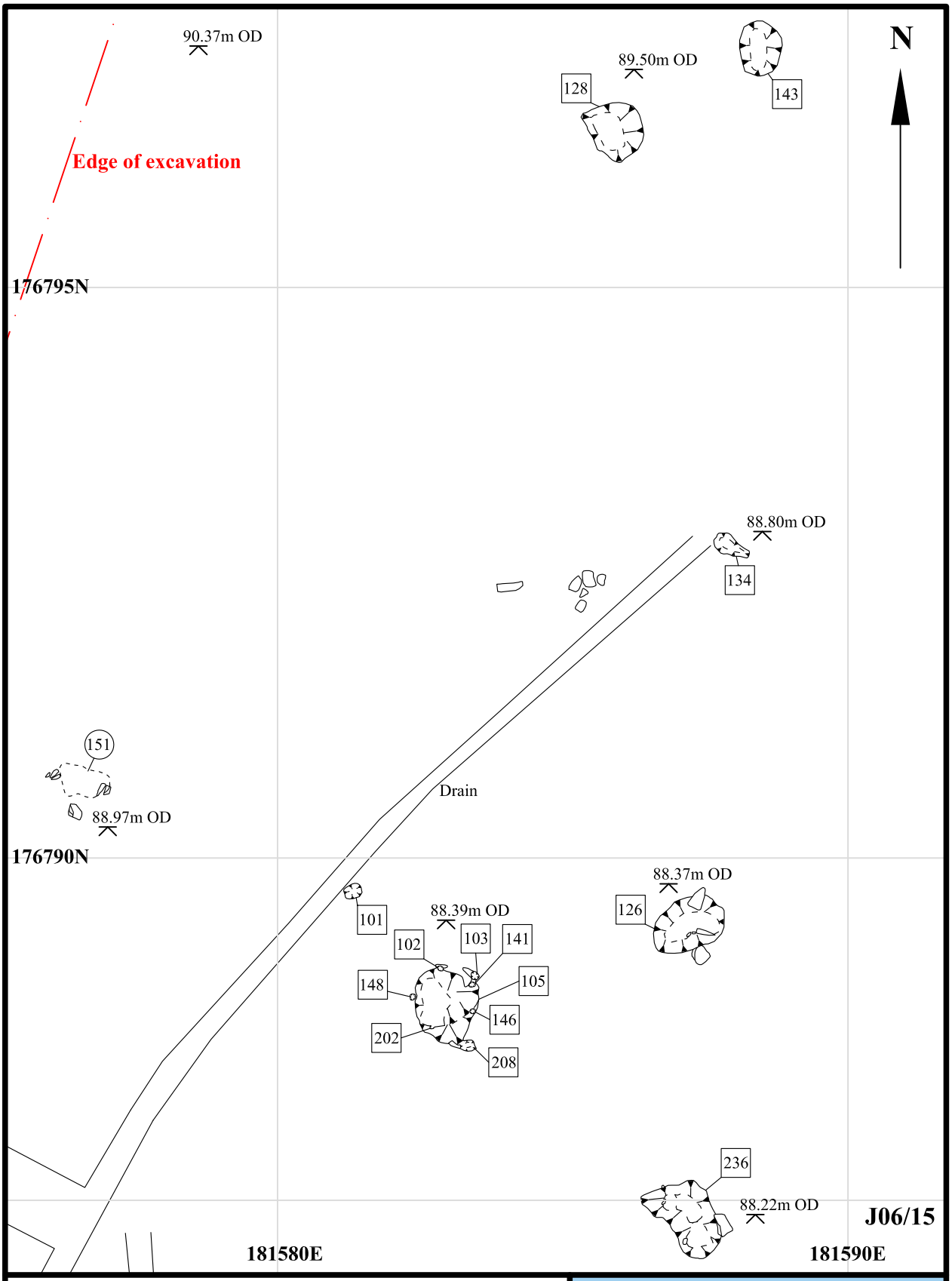



**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary**

**Figure 14: Plan of Structure 135, Area B**

Scale 1:40

TVAS IRELAND LTD

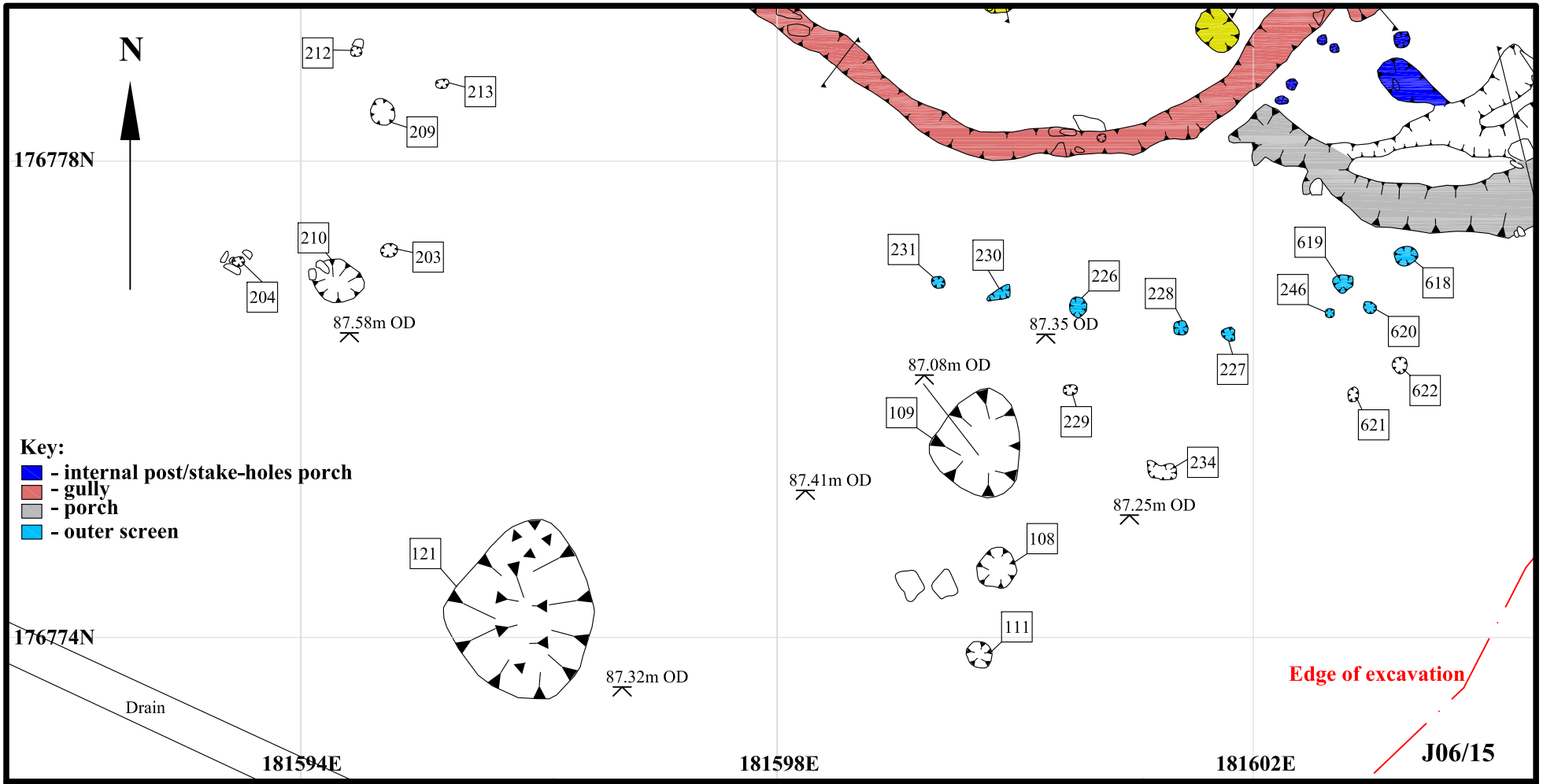



**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary**

**Figure 15: Plan of western part of Area B**

Scale 1:100

TVAS IRELAND LTD



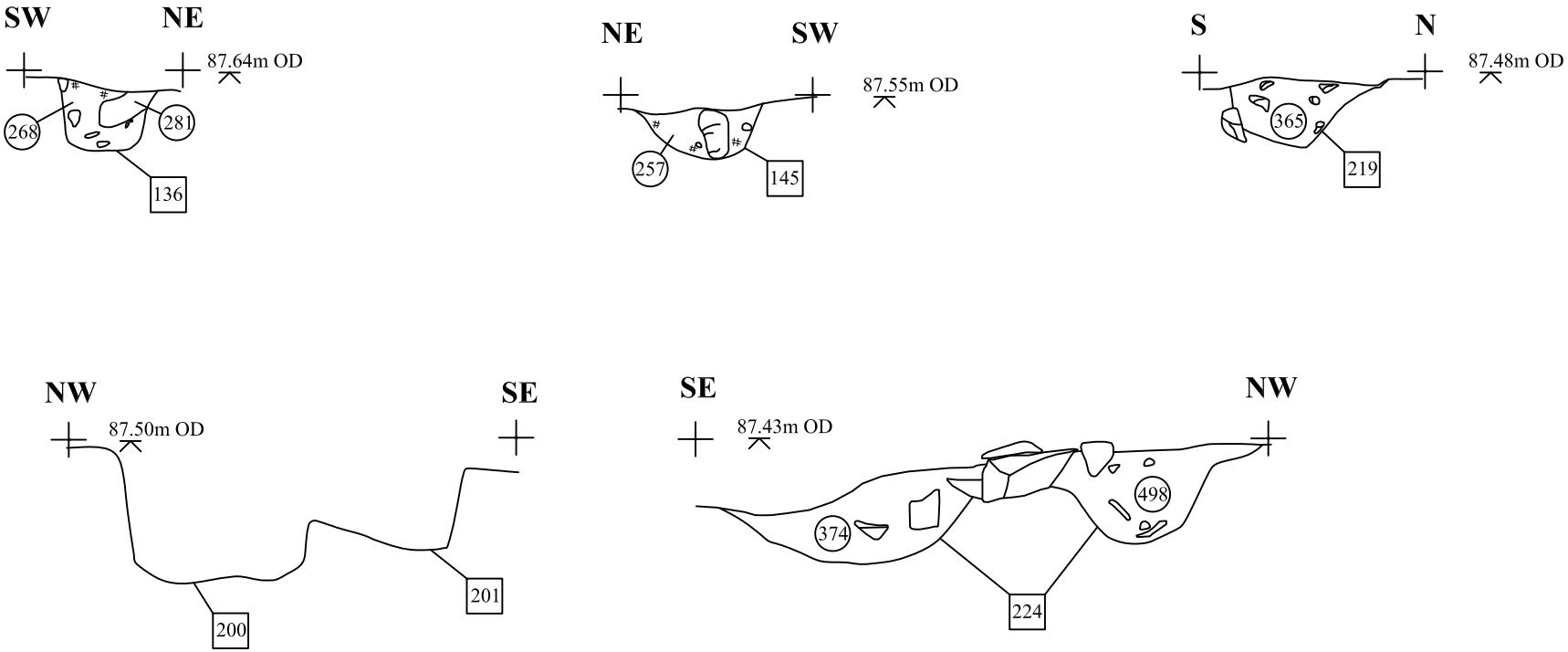

0 2m

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan), Co. Tipperary**

**Figure 16: Plan of southern part of Area B**

Scale 1:50

TVAS IRELAND LTD




J06/15

# - charcoal

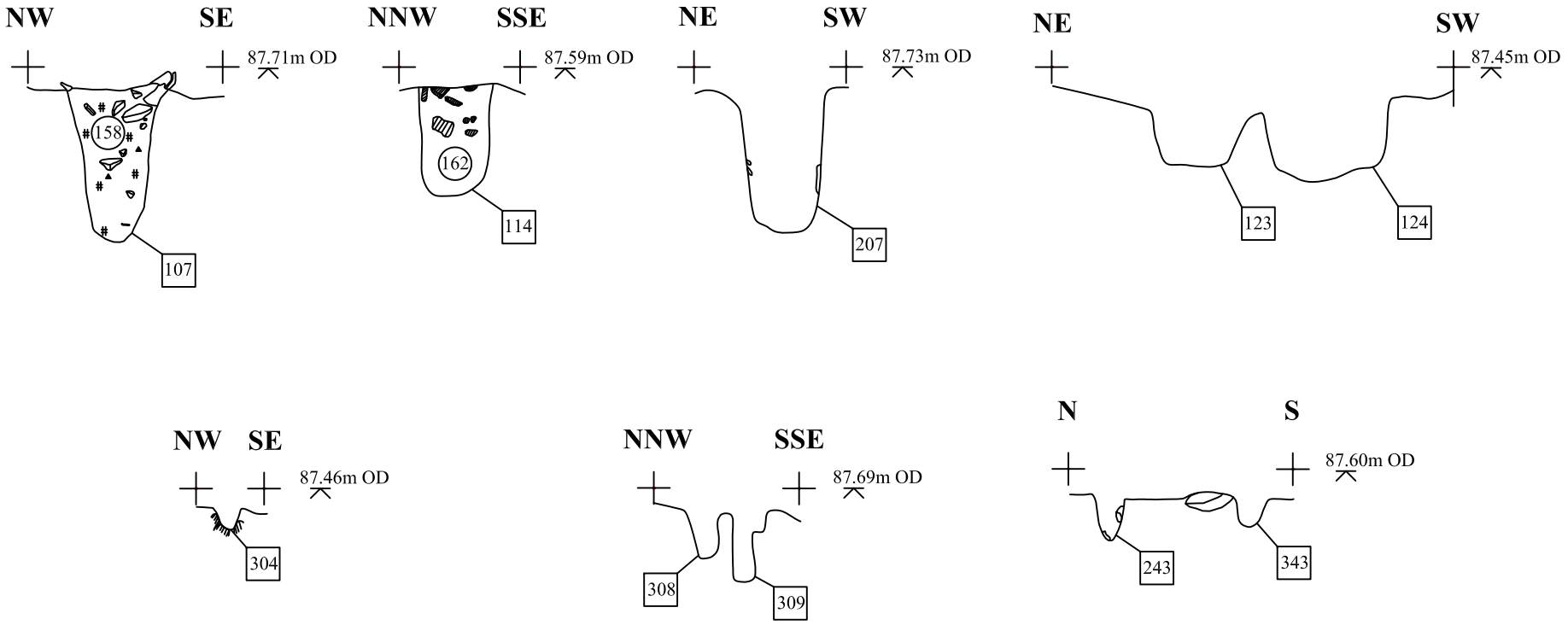
0 1m

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan), Co. Tipperary**

**Figure 17: Sections of foundation trench and entrance features in roundhouse GNo 104 , Area B**

Scale 1:20

TVAS IRELAND LTD




J06/15

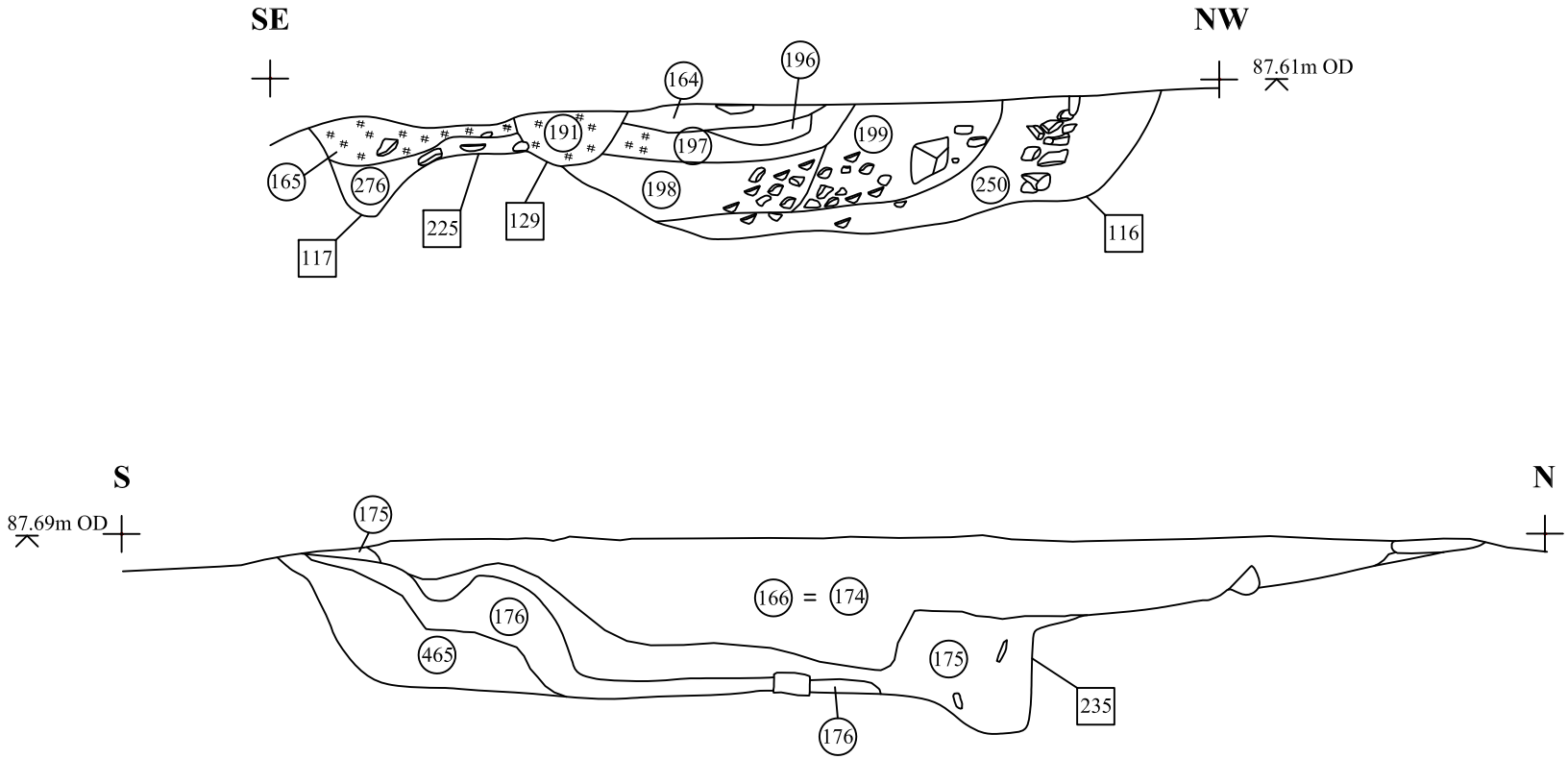
0 1m

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan), Co. Tipperary**

**Figure 18: Internal and external postholes & stakeholes in roundhouse GNo 104, Area B**

Scale 1:20

TVAS IRELAND LTD




J06/15

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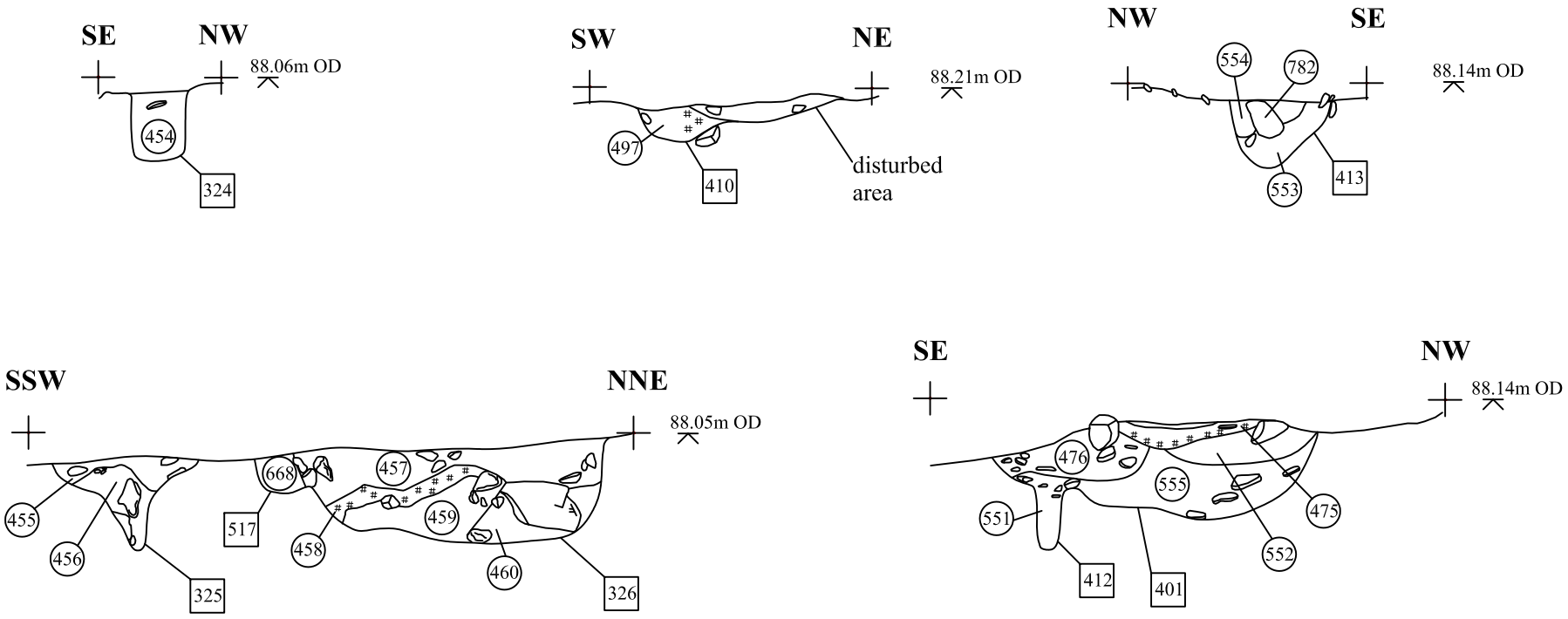
0 1m

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan), Co. Tipperary**

**Figure 19: Pits inside roundhouse GNo 104, Area B**

Scale 1:20

TVAS IRELAND LTD




J06/15

# - charcoal

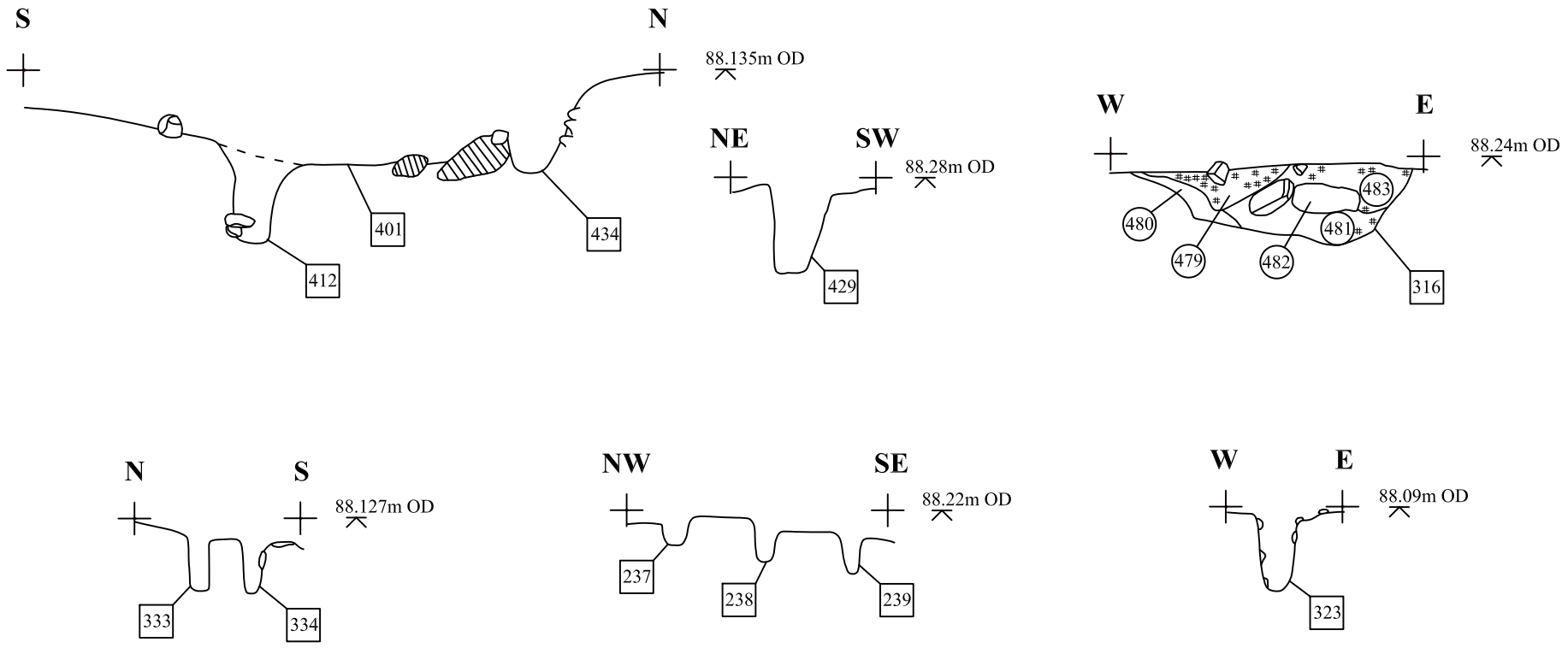
0 1m

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan), Co. Tipperary**

**Figure 20: Sections through features in roundhouse GNo 110, Area B**

Scale 1:20

TVAS IRELAND LTD

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# - charcoal

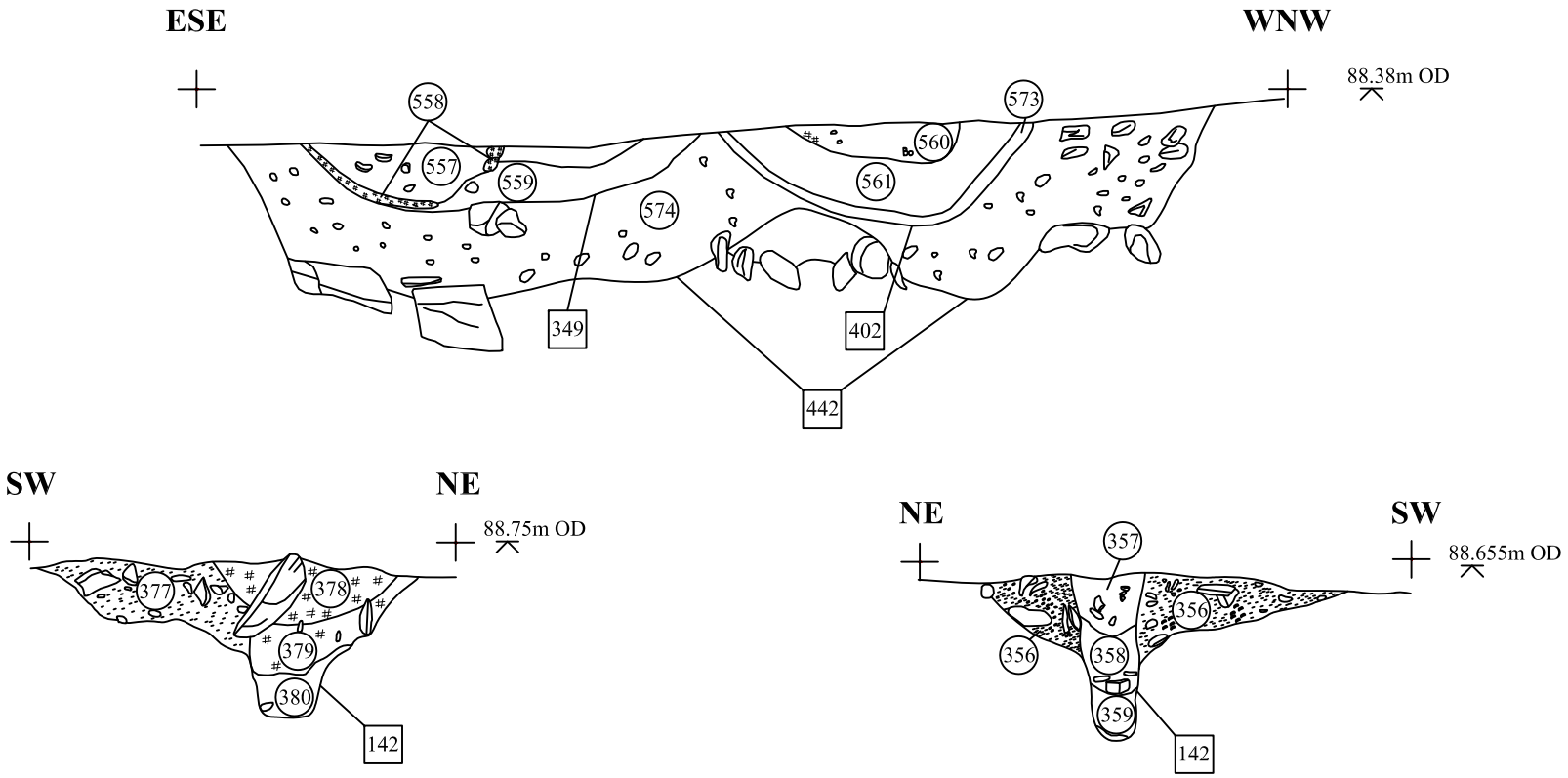
0 1m

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan), Co. Tipperary**

**Figure 21: Sections through hearth and structural features of roundhouse GNo 110, Area B**

Scale 1:20

TVAS IRELAND LTD




J06/15

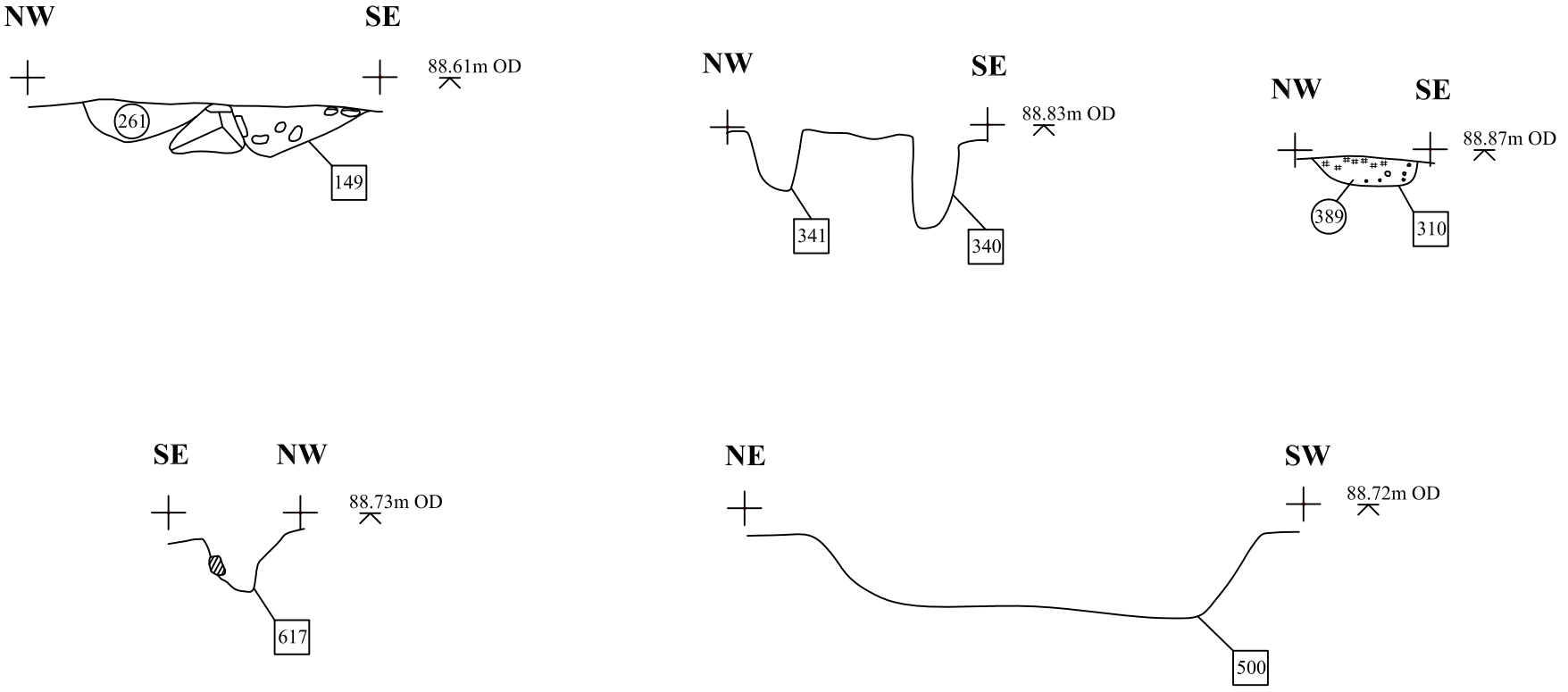
0 1m

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan), Co. Tipperary**

**Figure 22: Sections through pits 349, 402 & 442 and elements of roundhouse GNo 135, Area B**

Scale 1:20

TVAS IRELAND LTD




J06/15

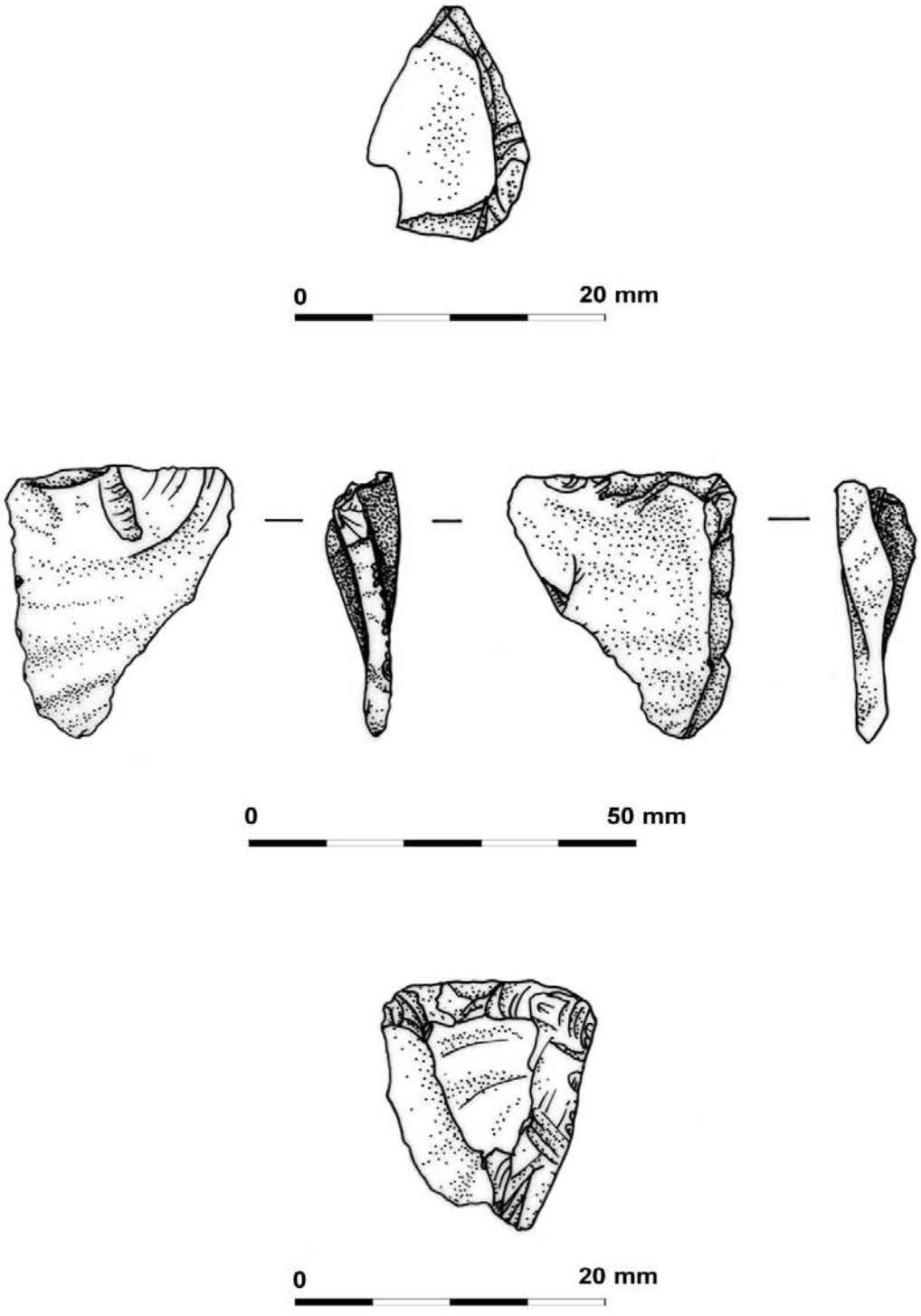
0 1m

**N7 Nenagh-Limerick HQDC, E3327, Carrigatogher (Ryan), Co. Tipperary**

**Figure 23: Sections through features related to structure GNo 135**

Scale 1:20

TVAS IRELAND LTD




J06/15

**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary**

**Figure 24: Finds: lithic fragment (E3327:483:1), a lithic flake (E3327:487:1) and a lithic core (E3327:560:2)**

Drawn by Astrid Nathan

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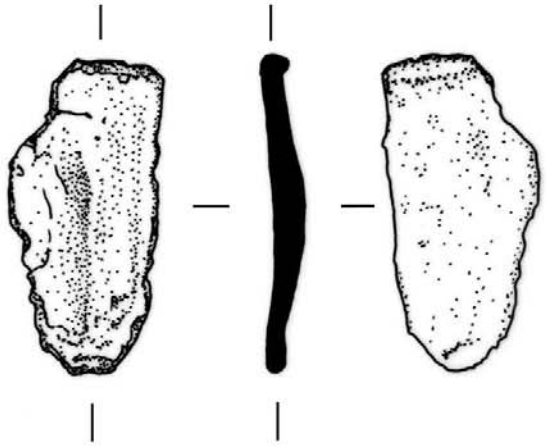


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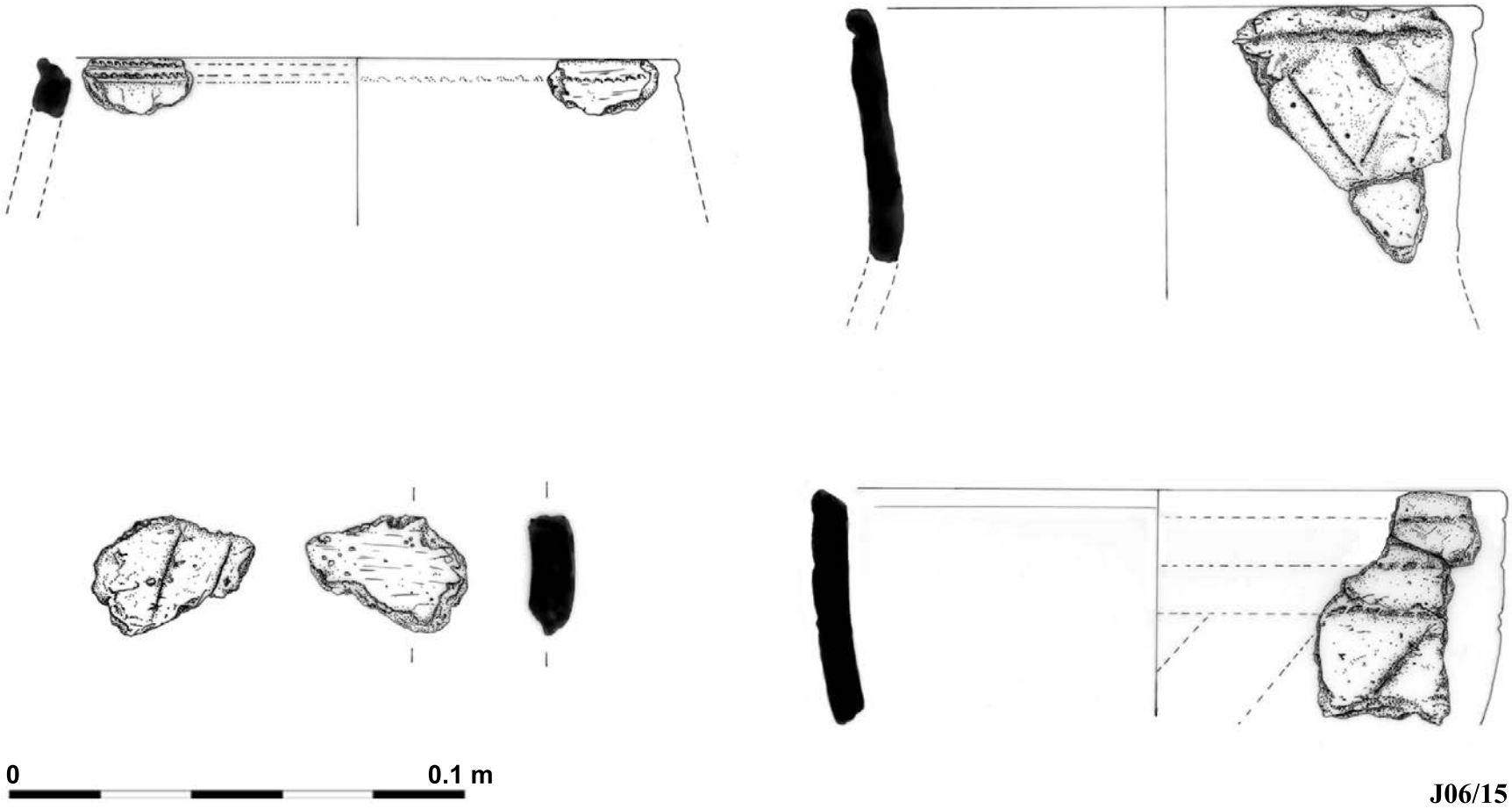
**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary**

**Figure 25: Razor find (E3327:158:2)**

Drawn by Astrid Nathan

TVAS IRELAND LTD

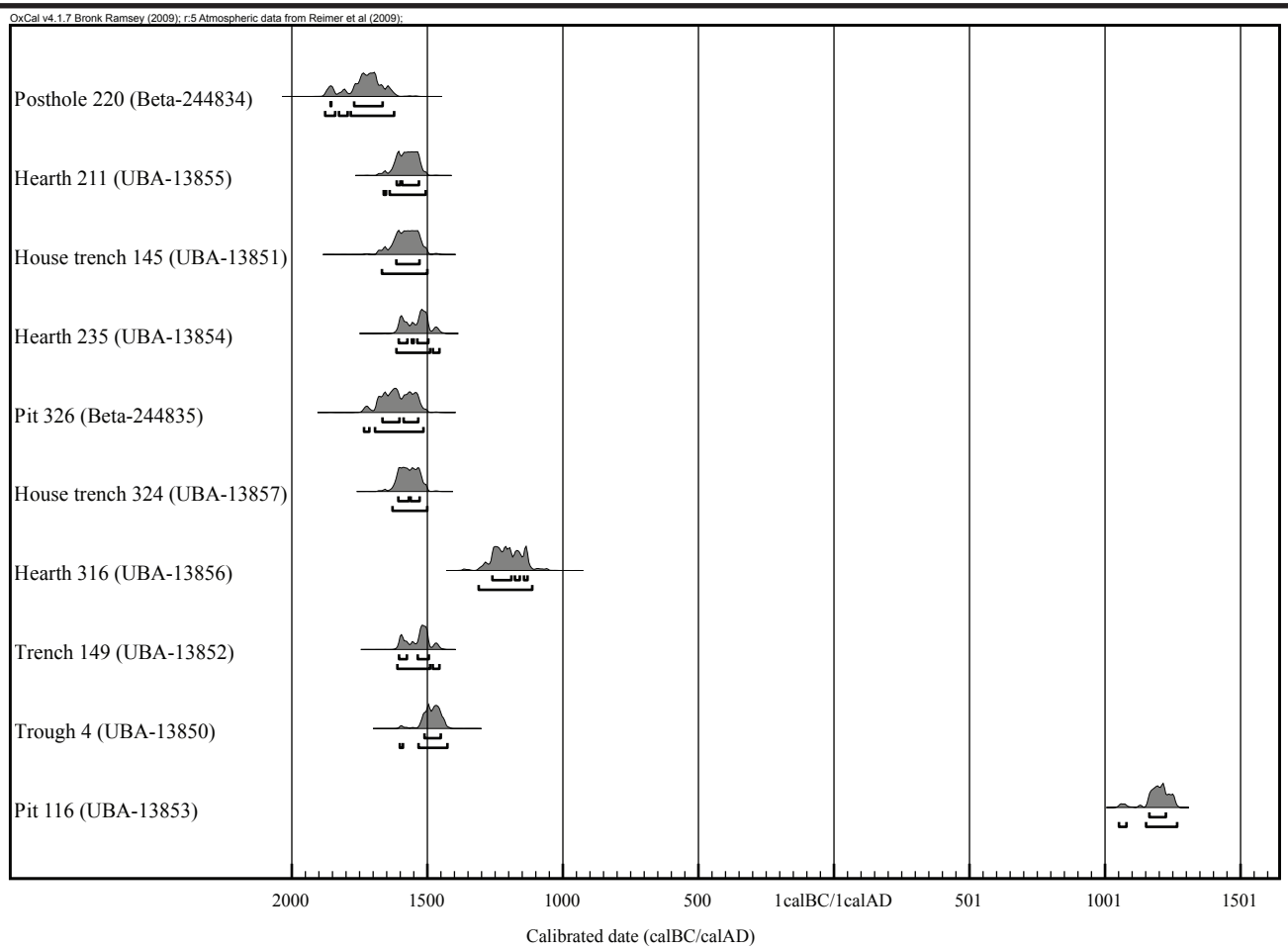



**N7 Nenagh-Limerick HQDC**
**E3327, Carrigatogher (Ryan) Site 3, Co. Tipperary**

**Figure 26: Pottery finds: rim fragment (E3327:158:10), rimsherd (E3327:257:1), bodysherd (E3327:357:1), rimsherd (E3327:389:1)**

Drawn by Astrid Nathan

TVAS IRELAND LTD

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**N7 Nenagh - Limerick HQDC**
**E3227, Carrigatogher (Ryan) Site 3, Co. Tipperary**

**Figure 27: Calibrated radiocarbon dates**

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**Plate 1: Area A prior to excavation, showing deposits 52 and 54. Looking north-east. Scales 2m & 1m.**

**Plate 2: Trough 4, Area A. Looking west. Scales 2m, 1m & 0.5m.**


**Plate 3: Area B post-excavation, showing structures 104, 110 and 135. Looking east. Scales 2m.**

**Plate 4: Structure 104, fully excavated, Area B. Looking north-west. Scales 2m.**


**Plate 5: Slot 136 through foundation trench 140, structure 104, Area B. Looking north-east. Scale 2m.**


**Plate 6: Entrance gully 414 and posthole 425, structure 104, Area B. Looking south-west. Scales 0.5m & 0.3m.**


**Plate 7: Posthole 220 in interior of structure 104, Area B. Looking east. Scales 0.5m & 0.3m.**

**Plate 8: Slot 117 through foundation trench 140 and pits 116 and 129, structure 104, Area B. Looking north-west. Scales 2m.**

**Plate 9: Structure 110, fully excavated, Area B.**
**Looking north-west. Scales 2m.**


**Plate 10: Entrance gully 421 and posthole 427, structure 110, Area B.**
**Looking west. Scales 0.3m**

**Plate 11: Hearth deposit 575 within house 110, Area B. Looking east. Scales 1m & 0.5m.**

**Plate 12: Structure 135 fully excavated, Area B. Looking north-west. Scales 2m.**


E3327:158:2 Front

E3327:158:2 Back

0 10cm

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**E3327, Carrigatogher (Ryan), Site 3, Co. Tipperary**

**Plate 13: Find 158:2 copper alloy razor**

Scale 1:1

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E3327:257:1 Vessel 5


E3327:389:1 Vessel 7

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**Plate 14: Finds 257:1 Vessel 5 & 389:1 Vessel 7**

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