

**N7 Nenagh to Limerick  
High Quality Dual Carriageway  
Archaeological Resolution Project  
E2483, Ballycuddy More Site 1, Co. Tipperary**

**(A026/405 & 406)**

**Final Archaeological Excavation Report**

**for**

**Limerick County Council**

**Kate Taylor**

**20<sup>th</sup> September 2011**

**J06/15**

**(NGR 179840 175000 to 179950 175145)**

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**Job J06/15**



**European Union  
Structural Funds**



**20<sup>th</sup> September 2011**

## Summary

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

**Scheme number:** A026/000

**Site name:** E2483, Ballycuddy More Site 1, Co. Tipperary

**Scheme sub number:** A026/405 & 406

**Record number:** E2483

**Townland:** Ballycuddy More

**Parish:** Burgesbeg

**Barony:** Owney and Arra

**County:** Tipperary

**NGR:** 179840 175000 to 179950 175145

**OS 6" Sheet No:** Co. Tipperary (NR) Sheet 026

**Chainage:** 23470 to 23640

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

**Naturally occurring geology:** Glacial gravels

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

**Licence Eligible Director:** Kate Taylor (transferred from Markus Casey)

**Report author:** Kate Taylor

**Site activity:** Excavation

**Site area:** 1983 m<sup>2</sup>

**Date of fieldwork:** 6<sup>th</sup> to 17<sup>th</sup> October 2006 & 22<sup>nd</sup> March to 13<sup>th</sup> April 2007

**Date of report:** 20<sup>th</sup> September 2011

**Summary of results:** Five areas were excavated. Pits, cremation burials, postholes, stakeholes and charcoal-rich spreads were examined. One of the excavated areas produced prehistoric pottery and lithic artefacts including chert arrowheads.

**Monuments identified:** Neolithic domestic activity, an Iron Age cremation cemetery and early medieval and post-medieval activity.

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

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**Report edited/checked by:** Milica Rajic ✓11.09.2011

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Final Archaeological Excavation Report**

Kate Taylor

## **Introduction**

This report documents the final results of the archaeological excavation of Neolithic domestic activity, an Iron Age cremation cemetery and early medieval and post-medieval activity on the route of the N7 Nenagh to Limerick High Quality Dual Carriageway (HQDC), Ballycuddy More Site 1 (E2483), Co. Tipperary (NGR 179840 175000 to 179950 175145) (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 June 2008 (Ruttle and Taylor 2008).

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 High Quality Dual Carriageway. 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 E2483 was located between NGRs 179840 175000 and 179950 175145 in Ballycuddy More townland, parish of Burgesbeg, barony of Owey 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 area of peat 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.

Ballycuddy More Site 1 (E2483) was located on gently sloping pasture in the foothills of the Arra Mountains. The site is bounded to the south-west by the townland boundary with Ballywilliam, a minor roadway, and to the north-east by the townland boundary with Cloghleigh, a stream. The site was broken up into five trenches (A-E). The natural geology is composed of glacial gravels, notably brown sandy silt overlying gravely silty orangey brown soils. The sites lie at approximately 80 m above Ordnance Datum (OD).

### **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](http://www.archaeology.ie), the *Excavations* database and publications ([www.excavations.ie](http://www.excavations.ie) and Bennett 1987-2008) and from holdings of the County Tipperary Local Studies Centre, Thurles.

#### ***Cartographic sources***

The townland of Ballycuddy More is not shown on the 1655-56 Down Survey map of Burgesbeg parish. The approximate location of Ballycuddy More is in Dromvne townland.

On the 1<sup>st</sup> edition Ordnance Survey (OS) map (Fig. 3) the townland is made up of large open fields. There are three farmsteads in the townland, one off the Limerick-Nenagh road with the others to the east. There are two gravel pits between these eastern farmsteads.

There is no change between the 1<sup>st</sup> edition OS map and Griffith's valuation map (Griffith 1851).

On the 2<sup>nd</sup> (1901-1902) and 3<sup>rd</sup> (1954) OS editions (not illustrated) the three farmsteads are still marked with the addition of 'Burgess Schools' in the north of the townland.

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

There are no recorded monuments in the townland, however several lay within 1 km of the site. Four ringforts (raths) lie within 900 m to the north and north-east of the site (TN020-064, TN020-068, TN020-069 and TN020-071). TN026-004, an enclosure lies 850 m east, whilst TN026-07201, a holy tree and TN026-07202, a children's burial ground, are 690 m north-west.

#### ***The Excavations database***

A search of the *Excavations* database was made for the townland of Ballycuddy More and the neighbouring townlands of Ballycuddy Beg, Ballywilliam, Ballyhisky, Carrigal, Cloghleigh, Dromin and Gortycullane. No archaeological licences have been issued for investigations in any of these townlands.

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

No stray finds are recorded on the National Museum of Ireland Topographic Files for Ballycuddy More.

### **Documentary sources**

The townland name, Ballycuddy More derives from the Irish *Baile Uí Chuidithigh Mór*. The Irish prefix *baile* means town or home, hence the big homestead of the Cuddy's.

No mention is made of Ballycuddy More in the Civil Survey of 1654-6 of Burgesbeg parish. The townland may be a later sub-division of Dromvne townlands.

The proprietors of Dromvne in 1640 were 'Teige ó Bryen of Dromvne Gent., John ó Kennedy of Knigh Gent., Kenedy ó Bryen of Tullaghedy and Therlagh ó Bryen of Belline, all Irish Papists' (Simington 1931). The land contained an estimated 225 plantacon acres, which included 100 arable acres, 115 pasture acres and 10 meddow acres, and was valued at 10 li, and is described below:

*The sd. two plds are bounded on the East wth. the lands of Bunnagurt, on the West wth. the lands of Gortmore, SheSiraghkeale, and Ballykilliam all in this Parish on the South wth. the lands of Carroue in Upp Ormond & Parish of Kilmore and on the North wth. the lands of Barebehagh and Carrigmadden in the Parish of Youghill. The sd. Teige ó Bryen pprietor in fee by Descent from his Ancestors of one pld & one sixteenth pte of a pld of the sd. two plds of Dromone. The sd. John Kennedy ppreitor of one fourth & one eight pte of a pld by purchas long before the Rebellion from Donnogh ó Bryen & Bryen ó Bryen (as wee are informed) of the sd. two plds of Dromvne. The sd. Therlagh ó Bryen pprietor in fee of one eight & one sixteenth pte of a pld of the sd. two plds of Dromvne by purchas long before the rebellion from Conor ó Bryen of Dromvne (as wee are informed). The sd. Kenedy ó Bryen pprietor of one eight and one sixteenth pte of a pld of the sd. two plds of Dromvne in fee by Descent from his Ancestors. The sd. two plds of Dromvne are not cleereely devided betweene the sd. pprietors whereby each pprietors pportion may be pticulerly meared & bounded. Upon the sd. lands there is a Connybrough and on the South of the sd. lands som underwood & noe other Improvemt but totally wast.*

Ballycuddy More is not mentioned on the Ordnance Survey Name Books or Letters.

Samuel Lewis writing in the mid 19<sup>th</sup> century describes Burgesbeg parish (Lewis 1837, 231-2) but Ballycuddy More townland itself is not mentioned.

There are five occupiers listed in Griffith Valuation (1851) in Ballycuddy More townland. The occupiers are Michael D'Arcy, Michael and Lawrence Kennedy and Patrick and Margaret Woods. The lessor is William Finch Esq.

### **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.

The above Recorded Monuments were described in the report but no other areas of potential were identified for Ballycuddy More townland.

### **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 archaeological 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. The results of the testing are not discussed except where archaeological deposits were encountered.

Sites excavated nearby during this project were Ballywilliam Site 1, E2479, a Middle Bronze Age roundhouse, prehistoric pits, two *fulachtaí fia* and an Iron Age or early medieval enclosure with internal pits, postholes, a kiln, a roundhouse and several possible graves, 20 m south-west (McNamara et al 2011); and Cloghleigh Site 1, E2480, Middle to Late Bronze Age burnt stone spreads and pits and early medieval to medieval burnt stone spreads, 50 m north-east (Ruttle 2010a).

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

Ballycuddy More is a townland formed after the Civil Survey. There are no upstanding monuments in the townland. The number of ringforts however, within proximity to the townland, would suggest that the area was populated by the early medieval period and nearby excavations have revealed evidence of prehistoric activity in the area.

### **Earlier test excavations**

Part of site E2483 was identified during centre-line and offset testing of the road route by Judith Carroll and Company Ltd (Gibbons 2006a-b). The remainder of the site was uncovered following further test trenching by Headland Archaeology Ltd (MacLeod and O'Neil 2007).

Area A (A026/406) contained two spreads of *fulacht fia* type material (Gibbons 2006a). The first spread was a dark black layer of charcoal mixed with heat-shattered stones measuring 0.80 m by 0.70 m and 0.02 m thick. The second spread was a light brown to grey clay. Some heat-shattered stones were mixed into the clay.

A linear feature and a sub-oval pit were identified at Area B (A026/405). The linear feature was orientated north-east to south-west and contained a single fill of dark greyish brown sandy silt with inclusions of small stones and gravel. The pit measured 0.70 m by 0.49 m and was covered with a sandstone slab. The feature was not fully sectioned but oxidised soil, charcoal flecking and burnt bone were observed. The linear feature was interpreted as a cultivation furrow or drainage feature and the pit as a cremation burial (Gibbons 2006b).

Areas C to E were discovered during the later phase of testing as the area had previously been inaccessible (MacLeod and O'Neil 2007). Area C was seen to contain at least eight small features that might have been cremation burials; Area D contained a pit, an area of burning, four postholes and a furrow; whilst Area E contained ten spreads, ten post-or stakeholes, three pits, an area of burning and a possible ring ditch. Prehistoric pottery was recovered from the surface of several of the features. On their south side the Areas C and D were bounded by a local road.

Following the submission of a report on the testing 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 at Areas A and B took place from 6<sup>th</sup> to 17<sup>th</sup> October 2006 and was directed by Markus Casey, supervised by Edel Ruttle and assisted by Anna Łukasz, Marcin Olejnik, Jaroslaw Szymonski

and Szymon Wojciechowski. The fieldwork at Areas C to E took place from 22<sup>nd</sup> March to 13<sup>th</sup> April 2007 and was directed by Kate Taylor (licence transferred), supervised by Astrid Nathan and John Murphy and assisted by Monika Bednarczyk, Borbala Dios, Joanna Jezierska, Wojciech Kozlowski, Katarzyna Kozyra, Robert Laczak, Piotr Lemaniak, Anna Łukasz, Fintan McCarthy, Tomasz Neyman, Carles Plana Lorenzo, Christophe Poulain, Agata Raclaw, Artur Rosiek, Monika Rosiek, and Monika Widelka.

The stripped areas are detailed in Table 1 below. 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.

The archaeological features were excavated 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.

**Table 1: Stripped areas of E2483**

Area No.	Scheme Sub No.	Stripped area
Area A	A026/406	55.70m <sup>2</sup>
Area B	A026/405	119.66m <sup>2</sup>
Area C	N/A	109.63m <sup>2</sup>
Area D	N/A	293.21m <sup>2</sup>
Area E	N/A	1324.13m <sup>2</sup>

### **Excavation results** (Figs 4-15, Plates 1-15)

Five areas were opened (Fig. 2) but the site is phased here as a whole. Seven phases of activity were recorded at the site. A context list is given as Appendix 1.

Topsoil (recorded as 50, 63 and 288) overlay all the archaeological features.

### ***Phase 1: Early Neolithic***

#### ***Area E***

At the western side of Area E were twelve pits (201-4, 206-7, 209, 211, 214, 216 and 218-9) and a stakehole (217) that, although in close proximity to each other, were not obviously connected and did not form a clear pattern (Fig. 4, Plates 1-2). No structure was apparent but the features seem to represent domestic activity. The majority of the pits produced Early Neolithic carinated bowl sherds (201, 204, 206, 207, 214, 216 and 218) whilst lithic artefacts including chert debitage and rubbing stones were also found in pit 214. A small fragment of burnt bone came from pit 207. The pottery assemblage is fairly uniform suggesting a single phase of activity. Pits 206, 214 and 218 returned radiocarbon dates ranging from 3933 to 3658 cal. BC (see Table 17 for details) and the likelihood, based on the overlap of the dates, is that the site was occupied between 3800 and 3700 BC.

The pits varied in size, ranging in width from 0.23 m to 1.02 m with different shapes and profiles recorded (Fig. 5, Table 2). Many of the features were not well defined and appeared to have been disturbed, probably by later agricultural activity. The pit fills were brown, dark brown or grey brown deposits and were composed of sandy silt or sandy clay with varying amounts of charcoal and stone inclusions. Stakehole 217 was circular with tapered profiles, was filled with brown sandy silt with occasional charcoal and stone inclusions, had a diameter of 0.10 m and was 0.15 m deep.



**Table 2: Description of Early Neolithic pits in Area E**

Cut	Deposit(s)	Length (m)	Width (m)	Depth (m)	Plan / Profile
201	254	0.74	0.46	0.20	Irregular / concave
202	255	0.44	0.37	0.25	Sub-circular / steep sides, flat base
203	256, 265	0.80	0.60	0.10	Oval / concave
204	257	0.49	0.23	0.20	Oval, steep sides, concave base
206	266, 267, 268	1.02	0.77	0.40	Oval / steeply concave
207	263, 264	0.60	0.45	0.21	Oval / concave with step on west side
211	262	0.71	0.52	0.27	Oval / irregular sides, flat base
214	273, 274	0.70	0.65	0.29	Sub-circular / steep sides, concave base
216	276	0.38	0.30	0.14	Oval / steep sides, flat base
218	278	0.57	0.57	0.24	Circular / vertical sides, concave base
219	279	0.50	0.45	0.21	Irregular / irregular sides, concave base

A small length of furrow (210) was excavated among the pits. The furrow was just 0.50 m wide and 0.05 m deep and contained Early Neolithic carinated bowl sherds. This furrow was aligned differently to the two main sets of furrows see in Area E (Fig. 4) and it is likely that the pottery originated in one of the pits that were truncated by ploughing. It is alternatively possible that this feature was contemporary with the pits and represents part of a structure.

Early Neolithic pottery and a leaf-shaped chert arrowhead were also recovered as residual material from later pit 208.

A number (289) was assigned to the surface of Area E in order to record the artefacts that were recovered during cleaning. Nine sherds of Early Neolithic carinated bowl were recovered this way.

#### *Area C*

A rubbing stone was found in topsoil (180) in Area C. Along with the numerous rubbing stones found in pit 214 it is probable that these were used in the manufacture of pottery and date to the Early or Middle Neolithic.

#### ***Phase 2: Middle to Late Neolithic 3500-2500 BC***

Middle to Late Neolithic features were recorded in Areas A and B and they were contemporaries.

#### *Area B*

Hearth pit 1 in Area B was a large oblong cut filled with two deposits that produced three pieces of saddle querns, two of which co-join (Figs 6-7, Plates 3-4). The cut measured 2.45 m by 1.06 m by 0.86 m. The main fill of the hearth (51) was greyish brown sandy silt which contained a substantial amount of charcoal and medium-sized stones that were mostly flat and burnt. The stones appeared to have been used to backfill the hearth after its final use. Deposit 54 was a burnt clay layer and was orangey red in colour at the top varying to red at the base. This deposit was purely confined to the western side of the hearth. Deposit 51 returned a radiocarbon determination of 3330-2927 cal. BC (UBA-13690, 4437±34).

#### *Area A*

Three pits and two spreads were excavated within Area A (Figs 8-9). Although only one feature is accurately dated they are all described together. All the features and deposits were truncated by machining and the site had been previously disturbed in the 1980s when the stream, which bounded the site to the north-east, was re-channelled and material from the stream was dumped in this area. The features are detailed in Table 3.

Pit 5 was a large feature, sub-rectangular in shape and flat-based (Plate 5). The pit had a single fill (55) of dark grey sandy silty clay with a concentrated patch of charcoal at the top of the deposit. There were also burnt sandstone inclusions.

Pit 6 was also sub-rectangular in plan with the flat base formed naturally by bedrock and containing four deposits (Plate 6). Deposit 57 was purely concentrated in the north of the pit and was brownish orange clayey silt. Deposit 58, that filled most of pit 6, was grey sandy clay with inclusions of a small amount of sandstone. The tertiary deposit was black silt (61) and this had a high inclusion of charcoal. Deposit 61 returned a radiocarbon date of 3346-2933 cal. BC (UBA-13691, 4458±53). Deposit 62 was concentrated in the south of pit 6 and consisted of brown sandy clay.

Pit 6 cut a small pit (7) to the east. Pit 7 was oval and contained two sterile fills. The primary fill (60) consisted of blue gritty sand, whilst the upper deposit (59) was mixed blue orange sandy clay. Both had been sealed by deposit 58 of pit 6.

Spread 64 was a very small deposit of black silty clay with charcoal inclusions and degraded stone. Spread 65 was a larger deposit of greyish black silty with 40% charcoal inclusions and fewer stones (Plate 7).

**Table 3: Description of Middle to Late Neolithic features in Area A**

Cut	Deposit(s)	Length (m)	Width (m)	Depth (m)	Plan / Profile
5	55	2.40	1.00	0.20	Sub-rectangular / Flat based
6	57, 58, 61, 62	1.60	1.20	0.20	Sub-rectangular / Flat based
7	59, 60	0.80	0.60	0.15	Oval / Concave
	64	0.25	0.25	0.10	Circular
	65	0.90	0.80	0.08	Roughly circular

#### *Area E*

A lozenge-shaped arrowhead, E2483:289:1, found in Area E is typologically dated to the later Neolithic.

#### ***Phase 3: Late Neolithic / Early Bronze Age (Beaker) 2500-2300 BC***

#### *Area E*

Pit 208 (Table 4) was located amongst the Early Neolithic pits (Fig. 4) and, although it also contained carinated bowl sherds and a Neolithic leaf-shaped arrowhead, it produced the only sherd of Beaker pottery (E2483:259:3) found at the site and was radiocarbon dated to 2550-2234 BC (Beta-244831, 3910±40).

Pit 209 truncated the western edge of pit 208 so is of this period or later.

**Table 4: Description of Late Neolithic / Early Bronze Age (Beaker) pits in Area E**

Cut	Deposit(s)	Length (m)	Width (m)	Depth (m)	Plan / Profile
208	259	1.60	1.00	0.26	Oval / concave sites, flat base
209	260	0.86	0.46	0.17	Oval / concave sides, flat base

#### ***Phase 4: Middle Bronze Age 1600-1100 BC***

#### *Area E*

At the east of Area E a hearth (220), two pits (200, 226), postholes (224, 227) and stakeholes (228, 229) were revealed (Fig. 4, Table 5). Again, whilst these may represent domestic activity, they did not form an obvious pattern and no structure was apparent. No artefacts were recovered from any of these features.

Hearth 220 had an unusual shape, with a sub-circular pit at the east and an irregular curving elongated extension at the west (Fig. 10, Plate 8). The feature measured 1.80 m by 0.55 m and was 0.57 m deep. The pit end was steep-sided with a concave base, whilst the elongated section had an irregular profile with two postholes in its base. There was evidence of *in situ* burning at the eastern end and the two fills (280-281) were charcoal rich. Deposit 280 returned a radiocarbon date of 1391 to 1215 cal. BC (UBA-13698, 3034±24).

The pits, postholes and stakeholes are not directly dated but may have been associated with hearth 220. The distinction between the pits and postholes is fairly arbitrary. Pits 200 and 226 contained fills that were brown, dark brown or grey brown and were composed of sandy silt with varying amounts of charcoal and stone inclusions (Fig. 10, Plates 9-10). The postholes and stakeholes were filled similar fills of brown sandy silt with occasional charcoal flecks.

**Table 5: Description of Middle Bronze Age features in Area E**

Cut	Deposit(s)	Length (m)	Width (m)	Depth (m)	Plan / Profile
200	250, 251, 252	0.43	0.36	0.16	Sub-circular / steeply concave
224	285	0.24	0.23	0.10	Sub-circular / steeply concave
226	287	0.98	0.95	0.26	Circular / steep sides, flat base
227	290, 291	0.28	0.28	0.14	Circular / steep sides, flat base
228	292	0.13	0.13	0.21	Circular / tapered
229	293	0.10	0.10	0.14	Circular / tapered

### **Phase 5: Iron Age 700 BC-AD 450**

#### **Area C**

Nine pits in Area C may represent cremation burials (100-102, 105-107, 109-110 and 112) (Fig. 11, Plates 11-12). These features were circular or oval in plan, 0.33 to 0.60 m wide and 0.15 to 0.32 m deep and had both concave and steep-sided profiles (Fig. 12, Table 6). The pit fills were generally dark brown or black sandy silt with charcoal inclusions and a small amount of stone, except for pit 100 that had 50% medium sized stones within its fill. Pit 106 had an upper fill of pale brown silty sand that acted as a sealing layer, partially masking the feature. Pit 112 had charcoal-rich material in the lower and upper fill, with a sterile deposit (165) between, suggesting at least two burial actions.

Although small amounts of burnt bone were observed in the pit fills during excavation, only five of the pits (100, 101, 105, 106 and 107) actually produced any bone from the sieved soil samples (see Appendices 1-3). It is possible that the bone was extremely finely ground before deposition and was therefore not recoverable. The bone had been burnt at high temperatures, above 800°C, which would be consistent with deliberate cremation of human remains, however the fragments were too small for identification and could, at best be described as coming from medium to large mammals, which would include humans (see below). If these were human burials then they were token deposits of part of the cremated remains only. The charcoal recovered from soil samples showed a distinct preference for hazel as a fuel with some oak used (see below). Only pit 106 did not contain any hazel charcoal and pit 107 was the only example to contain other wood with small amounts of *Prunus* and ash present. Several of the pits contained charred hazel nut shells but it is not clear if these were deliberately incorporated into the deposits or simply included along with hazel branches.

Pit 101 produced a radiocarbon determination of 357-250 cal. BC (Beta-244830, 2140±40 BP) and pit 112 a date of 91 cal. BC to cal. AD 73 (UBA-13692, 2003±33). These dates suggest that the cemetery

was in use for a considerable period of time during the Iron Age. The other burials that were not radiocarbon dated presumably occurred during this span of use.

**Table 6: Description of Iron Age possible cremation burial pits in Area C**

Cut	Deposit(s)	Length (m)	Width (m)	Depth (m)	Plan / Profile
100	150	0.36	0.36	0.15	Circular / steep sides, flat base
101	151	0.46	0.40	0.23	Oval / concave
102	152	0.60	0.46	0.20	Oval / concave
105	155	0.50	0.45	0.16	Sub-circular / concave
106	156, 157	0.52	0.40	0.30	Sub-circular / steep sides, flat base
107	158, 159	0.40	0.40	0.26	Circular / steep sides, flat base
109	161	0.58	0.50	0.15	Oval / steep sides, concave base
110	162	0.33	0.33	0.19	Circular / steep sides, concave base
112	164, 165, 166	0.45	0.38	0.32	Oval / steep sides, flat base

Pit 108 was irregular (measuring 0.40 by 0.16 m), extremely shallow (0.05 m) and contained mixed black silty clay with charcoal inclusions. There was slight evidence of *in situ* burning and it is possible that this feature was a severely truncated hearth or, more speculatively, the location of a pyre associated with the cremation burials. The feature is not directly dated but it contained only hazel charcoal which is consistent with the possible cremation burial and it is likely that these features are all of the same phase.

#### **Phase 6: Early medieval AD 450-1169**

##### *Area D*

There were eight pits in Area D of various shapes and sizes that were not obviously related to each other (Figs 13-14, Plate 13, Table 7). Two of these pits are dated to the early medieval period.

Six of the pits (113-117 and 121) were small sub-circular or oval features, 0.23 to 0.59 m across and 0.04 to 0.20 m deep with concave profiles. These features had dark brown to black sandy silt fills and one (113) showed evidence of *in situ* burning.

Pit 119 was sub-rectangular or oval in plan, very clearly defined with a flat base (Plate 14). The lower fill was black and charcoal rich, whilst the upper fill was brown sandy silt. The original size of pit 119 could not be determined as it had been almost entirely truncated by recut pit 111 that was the same width and depth. The fills of pit 111 were largely black charcoal-rich silty clay and silty sand with a thin layer of grey silty sand in the upper part of the feature. There was evidence of *in situ* burning around the edges of both pits. The charcoal identified in both these pits was purely oak, suggesting deliberate fuel selection, perhaps for charcoal production. Fill 174 in pit 111 produced a radiocarbon determination of cal. AD 695-885 (UBA-13694, 1221±24), and pit 113 a determination of cal. AD 898-1039 (UBA-13693, 1033±31). As these dates were both obtained from oak charcoal it is difficult to make interpretations about whether these features were contemporary or represent different phases of activity.

**Table 7: Description of early medieval pits in Area D**

Cut	Deposit(s)	Dimensions (m) (length x width x depth)	Plan / Profile
111	163, 173, 174	1.50 x 0.85 x 0.23	Oval / steep sides, flat base
113	167	0.34 x 0.31 x 0.04	Sub-circular / concave sides, flat base
114	168	0.59 x 0.57 x 0.09	Sub-circular / concave sides, flat base
115	169	0.56 x 0.41 x 0.09	Oval / concave sides, flat base
116	170	0.38 x 0.26 x 0.15	Oval / steep sides, flat base
117	171	0.30 x 0.23 x 0.15	Irregular / undercut

Cut	Deposit(s)	Dimensions (m) (length x width x depth)	Plan / Profile
119	175, 176	0.85 x at least 0.38 x 0.23	Unknown but rounded end / steep sides, flat base
121	178	0.45 x 0.40 x 0.20	Sub-circular / concave

### ***Phase 7: Post-medieval AD 1600-1840***

#### ***Areas B and E***

A north-east to south-west aligned ditch bisected Area E and was also recorded in Area B (Figs 4 & 6, Plate 15). The exposed ditch reached 47 m in length across these two areas and it is assumed to be a post-medieval field boundary. It is however not portrayed on the 1<sup>st</sup> edition OS map (Fig. 3) or subsequent maps and therefore pre-dates 1840.

Three slots were dug in the ditch (2, 4 and 225) which revealed a single sterile mid brown sandy clay fill with inclusions of small stones (Fig. 15). The slots ranged in width from 1.10, 1.20 to 1.80 m and depths of 0.10, 0.12 to 0.31 m respectively.

The area to the north-west of the post-medieval ditch (Areas B and E) was crossed by a series of furrows parallel and approximately perpendicular to the ditch (Fig. 4). It would appear that this field had been intensively ploughed on at least two occasions. Two of the furrows were recorded; 3 in Area B and 210 in Area E (of which 210 is discussed above in Phase 1).

#### ***Area D***

In addition to these furrows an east-west aligned linear feature was seen to cross Area D and three unrecorded slots were dug, revealing that the potential feature was a modern furrow (Fig. 13).

#### ***Unphased features***

The remainder of features could not be connected with any of the above phases due to lack of artefactual evidence or stratigraphic associations. The features are described in Table 8.

#### ***Area C***

Two pits in Area C did not appear to be related to the cremation burials. Pits 103 and 104 were shallow and contained sterile fills of dark orange brown clayey sand (Figs 11 & 15). Pit 104 was partially truncated by a furrow.

#### ***Area D***

In Area D there was a single possible stakehole, 118, that was excavated some distance to the north of the other features (Fig. 13). The stakehole was oval, measured 0.12 m by 0.10 m and was 0.23 m deep with a tapering profile. The stakehole fill (172) was pale brown silty sand with charcoal inclusions.

#### ***Area E***

There were two pits (205 and 215) and a posthole (222) that were isolated features located in the south-western part of Area E (Figs 4 & 15). Pit 205 was disturbed by root activity and was not very clearly defined.

**Table 8: Descriptions of un-phased features in Areas C, D and E**

Cut	Deposit(s)	Dimensions (m) (length x width x depth)	Plan / Profile
103	153	0.60 x 0.50 x 0.15	Oval / steep sides, flat base

<b>Cut</b>	<b>Deposit(s)</b>	<b>Dimensions (m) (length x width x depth)</b>	<b>Plan / Profile</b>
104	154	0.30 x 0.25 x 0.10	Sub-square / steep sides, flat base
118	172	0.12 x 0.10 x 0.23	Oval / tapering
205	253, 258	1.10 x 0.93 x 0.22	Irregular / irregular
215	275	0.40 x 0.32 x 0.15	Oval / steeply concave
222	283	0.22 x 0.22 x 0.11	Circular / steep sides, concave base

### ***Non-archaeological features***

Five features were investigated and proved to be root holes (Area D; 120 and 122 and Area E; 212, 213 and 221) and therefore are not described further.

### **Finds**

A catalogue of the finds is given in Appendix 2. Finds include burnt bone fragments, various lithics, prehistoric pottery and quern and rubbing stones.

**Bone** by Fiona Beglane

### ***Methodology***

Contexts were described on the basis of the stratigraphic information supplied by the excavator. Remains were identified using comparative collections held by the author and by reference to Hillson (1992) and Schmid (1972). Approximate size ranges for the contents of each sample were estimated and notable fragments were measured to an accuracy of 0.10 mm using a digital calliper. 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.

The vast majority of bone could not be identified to element or species however some classification could be undertaken. Where possible bones were classified by the size of the animal from which they originated, however burning can shrink and distort bones by up to 50% (Davis 1987, 26) so that size estimations need to be treated with care. In an Irish context 'large mammal' (lm) includes cattle and horse, 'medium mammal' (mm) includes sheep, goat, pig and larger dogs, with 'small mammal' (sm) including species such as hare, cat, fox, small dog etc. Human bone would fall into the category of large or medium mammal depending on the element of the body. Cortical bone is the dense bone that makes up the shaft of a long bone, and has high strength in compression. Trabecular or cancellous bone is honeycombed in form and found at the ends of long bones, inside the flat bones such the pelvis and inside the vertebrae. This type of bone is light in weight but not as strong.

### ***Results***

Results are summarised in Table 9. All the bones were calcinated, suggesting that they had been burnt at temperatures above 800°C (Ubelaker 1989). Bone fragments were small, typically 2-12 mm in size and both cortical and trabecular bone fragments were identified in the samples, however beyond identifying that these came from medium/large mammals no further identification was possible. Of the seven features yielding burnt bone, five were listed as being potential cremation pits however no bone could be identified to species within these features so that they may include human bone, animal bone or a mixture of the two. If these were cremation pits it is likely that they contained only token deposits since a cremated adult will yield 1200-3000g of bone (McKinley 1994).

### ***Discussion and conclusion***

This small assemblage contained both cortical and trabecular bone from medium/large mammals. Unfortunately no further identification was possible, so that the use of the pits at Ballycuddy More for cremation burial cannot be proven or disproved.

**Table 9: Bone identification**

Find No.	Cut	Deposit	Description	Weight (g)	No of fragments	Typical fragment (mm)	Notable fragments (mm)	Smallest fragment	Singed, Burnt or Calcinated?	Identifications
E2483:51:3	1	51	Hearth	<1	2	2-5		Dust	C	Trabecular bone fragment
E2483:150:1	100	150	Cremation pit	1	25	10		Dust	C	Cortical and trabecular bone
E2483:150:1	100	150	Cremation pit				15.6x8.8x4.3		C	Cortical long bone shaft of 1m
E2483:150:1	100	150	Cremation pit				10.8x8.0x4.0		C	Trabecular bone fragment with outer surface
E2483:150:1	100	150	Cremation pit				12.0x4.8x4.0		C	V-profile fragment of bone surface (Largest of 3 similar shaped fragments) from mm/1m
E2483:151:1	101	151	Cremation pit	<1	14	8-12		Dust	C	Long bone fragments from mm/1m. Trabecular bone fragments
E2483:155:1	105	155	Cremation pit	<1	12	3-8			C	Cortical and trabecular bone
E2483:156:1	106	156	Cremation pit	7	ca 35	5-10		Dust	C	Cortical and trabecular bone
E2483:156:1	106	156	Cremation pit				22.7x17.9x6.4		C	Trabecular bone fragment with outer surface, possible long bone fragment of mm/1m
E2483:158:1	107	158	Cremation pit	<1	ca 20	5-10	7.4x7.3x3.4	~3mm	C	Cortical bone
E2483:263:1	207	263	Pit	<1	1		6.7x5.6x1.5		C	Cortical bone



***Lithic*** by Joanna Nolan

### *Introduction*

This report details the analysis of four lithic artefacts recovered on the excavations of site E2483 on the Tipperary section of the N7 Nenagh to Limerick High Quality Dual Carriageway. Three of the items are of chert and one is of flint. The details of the artefacts were catalogued on a Filemaker pro database.

This site was excavated on the route of the N7 Nenagh to Limerick High Quality Dual Carriageway in Co. Tipperary. The excavation covered four separate areas but the lithic material came only from Area E. This section of the site contained seventeen pits, a hearth, three postholes and three stakeholes that are thought to be representative of domestic activity although no structure was evident.

The area in which these excavations were carried out is characterised by bedrock geology of Carboniferous Limestones, Devonian Sandstone and Silurian Greywackes, the sequence details refer to upper layers of shaley cherty fossiliferous Limestones (McCarthy Hyder 2001). The chert used in this assemblage corresponds with these characteristics; it is likely that locally available chert was the predominant raw material used.

The source of the flint raw material is less obvious. The flake, E2483:289:2, is too large to have been struck from such small glacially-transported material and probably represents importation of this raw material.

### *Results*

The site produced four lithic items; two arrowheads, a flake and a piece of struck debitage (Table 10, Figs 16-17). Two of these; the lozenge-shaped arrowhead and the flint flake (E2483:289:1 & 289:2 respectively) were found on the site surface. The other two items; the leaf-shaped arrowhead and the debitage (E2483:259:1 & 273:1 respectively) came from pit fills (208 & 214).

**Table 10: Lithic material**

Find no.	Cut	Deposit	Item	L (mm)	W (mm)	T (mm)	Retouch	Raw material
E2483:259:1	208	259	Arrowhead, leaf-shaped	29.09+	17.83	03.86	Yes	Chert
E2483:273:1	214	273	Debitage, struck	19.93+	13.17	06.42	No	Chert
E2483:289:1	-	289	Arrowhead, lozenge-shaped	34.73+	18.71	03.59	Yes	Chert
E2483:289:2	-	289	Flake	48.91+	27.08	09.75	Yes	Flint

This is a very small group of material, with a restricted range of lithic types, half of them are not securely contexted, probably as a result of post-depositional disturbances. This group of material is too small to extrapolate trends about the culture it represents or the type of activities which might have generated it. Any conclusions are restricted to the individual items.

The two arrowheads are both Neolithic types, the lozenge-shaped example probably dates from later in the Neolithic (Woodman 1994) (Fig. 16). The two flakes were produced using bi-polar or anvil technology, this technique is also recognised in the Neolithic period. The larger flake (E2483:289:2) is a large portion of the core from which it was struck, previous flake removal scars from long narrow blades are obvious on its dorsal (Fig. 17).

The raw material used is not homogenous even across the cherts. It is likely that the four items represent separate knapping episodes. The local geology is described as glacial gravels, a mix that

could contain these cherts. The flint flake is quite large and, as it is tertiary, was struck from a large nodule which would not be locally available. It probably represents the importation of this raw material into the area.

Lithic items were not the only material found in pit fills on this site, a group of eleven quern and rubbing stones were recovered from this excavation, all but one came from pits. The eight rubbing stones from Area E were recovered from pit 214 along with seventeen pottery finds. In her analysis of these rubbing stones, Sternke (below) suggests a deposition format associated with site or artefact abandonment. There could be a trend for some form of structured deposition of artefacts within Area E. The presence of the lozenge-shaped arrowhead in the fill of pit 208 may be reflecting this trend. In the British Neolithic the phenomenon of this type of deposition is well documented (Thomas 1999). The expression of this behaviour in Ireland is described by Bradley as being 'associated with timber buildings rather than pits' (2007, 44). Despite a lack of structural evidence this site is interpreted as the product of domestic activity, therefore broadly within the context expected for structured depositional behaviour.

### **Pottery** by Eoin Grogan and Helen Roche

#### *Summary*

The site produced an assemblage of 75 sherds (plus 21 fragments, total weight: 339 g) representing at least 24 Early Neolithic carinated bowls and a single final Neolithic/ Early Bronze Age Beaker. This is an important assemblage as this is the first record of either pottery type in the area.

#### *The pottery in context*

The pottery at Ballycuddy More came from the fills of eight pits (201, 204, 206–08, 214, 216 and 218) within a cluster of features on the western side of Area E. A small quantity was also recovered from disturbed contexts – a furrow (210) and during initial site cleaning (289). There was little variation in the pottery at Ballycuddy More indicating a single phase of activity in the Early Neolithic.

#### *The Neolithic pottery*

The Early Neolithic assemblage from Ballycuddy More consists of 75 sherds (eight rim-, 29 neck-, 11 shoulder- and 27 body-sherds, plus 21 fragments; total weight: 338.5g) representing at least 24 carinated bowls (Nos 1-9 and Groups I-XV (Group numbers (Roman numerals) refer to sherds from a distinct vessel where the overall form is not identifiable)); however, amongst the sherds that could not be ascribed to particular vessels there may be as many as three other pots giving a probable minimum number of 27 (Table 11).

The assemblage is of uniformly good quality containing well-made and well-finished vessels. The surfaces are smooth and even and the pots are generally thin-walled and evenly manufactured. In general the neck (8-10 mm) is thicker than the body (6-9 mm). However, a few thicker walled vessels, such as Nos 5 & 9 (Fig. 18) and Group IX also occur and there are also some fine walled pots, such as Nos 1 (Fig. 18), 4 & 6 (Fig. 19), Groups VII–VIII and X.

The initial manufacture process involved kneading the clay and adding temper and/or stone inclusions. It appears that Early Neolithic pottery was also folded as part of this stage and the pottery has a typical vertically striated characteristic in section. All of the vessels were coil built. Generally shallow or straight coil breaks were identifiable on sherds from several vessels.

There is a limited range of stone inclusions in the Ballycuddy More assemblage. All of the vessels contain quartzite which was either crushed, giving an angular shape, or rounded, suggesting its use in a naturally rolled state, possibly derived from fine sands and gravels. Both fine and coarser grained material is present. A single large vessel, No. 7, also contained sandstone inclusions (Fig. 19, Plates

16-17). The quartzite inclusions are generally  $\leq 1.50$  mm but occasionally pieces up to 3 by 2 mm are included even in fine walled vessels. The fabric generally also contains sand grade material, i.e. particles too small to be identified in hand samples.

The surfaces were carefully smoothed over with the fingers or a smooth implement: narrow horizontal striations left by such a tool survive on sherds from the neck, shoulder and body of several pots. When the clay was dry, but before firing, the pots were burnished, probably by rubbing with a smooth stone or leather cloth, to provide an even finer finish. Clear evidence for burnishing survives on 15 pots (Nos 2–5, 7–9, Groups II–III, V–VI, VIII, XI, XIII and XV) (Plates 18-19); however, it is probable that all of the vessels were originally finished in this fashion. There are some very fine vessels (e.g. No. 7 (Plate 16) and Group XV) of compact fabric with a ‘polished’ outer surface.

The fragmented nature of the assemblage precluded accurate measurements for any of the vessels. Where possible a rough size bracket has been provided and this indicates a broad range including small (less than 16 cm in rim diameter), medium (16–26 cm) and larger (over 26 cm) vessels. Of the eight vessels where this was assessed one was a small pot, two were small to medium, three were medium sized and there were two medium to large vessels. While it should be emphasised that these are only rough calculations, it appears that the Ballycuddy More assemblage contained a suite of carinated bowls.

While there is a limited number of feature sherds, eight rim- and 11 shoulder- sherds, the assemblage is dominated by flat or round topped everted rims and simple angle or small step shoulders. Most of the vessels appear to have deep rounded body profiles. These forms represent the earliest type of Neolithic pottery (Case 1961: ‘Dunmurry-Ballymarlagh styles’; Sheridan 1995: ‘classic’ carinated bowls) in Ireland and are widely dated to 4000–3600 BC.

The pottery is generally in reasonably good condition although there is some damage to the surfaces and edge breaks on most sherds. However, there is not much indication of severe wear, abrasion or weathering of the type that can be associated with exposure in the open, or on a midden. Overall the condition of the pottery is consistent with some movement after breakage but also with considerable protection from the elements. It is also evident that this assemblage represents only a fraction of the domestic loss associated with on-site activity. Many vessels were represented by only a few sherds: there were 10 sherds from Vessel 2 and seven from Vessel 1. The remaining examples, including the Groups, consisted of fewer than six sherds. This is typical of domestic assemblages and direct evidence for domestic use, in the form of sooting or blackened accretions, occurs on six vessels (No. 9 and Groups II, X–XI and XII–XIII) (Plates 20-21).

### *The regional context*

While Neolithic pottery has not previously been recorded in this area, the site is close to the important River Shannon crossing point at Ballina-Killaloe 10 km to the south-west. A small assemblage came from the nearby sites of Ballyhisky Site 2 and Carrigatogher (Abbott) Site 1 to the north-east (Ruttle 2010b; McNamara et al 2010; Grogan and Roche 2009a; 2009b). Although few other settlement indicators have been identified, the distribution of stone axes along the flanks of the Shannon valley suggest occupation in the area; in addition, Ballycuddy More is on an important prehistoric routeway along the valley of the Kilmaistulla River which leads to the upper valleys of the Suir and Nore (Grogan 2005, 99–102, fig. 6.6; Sheridan et al. 1992). The closest concentrations of early Neolithic carinated bowls are at Lough Gur, Co. Limerick (Ó Riordáin 1954; Grogan and Eogan 1987), the court tomb at Shanballyedmond (O’Kelly 1958) and the Cashel area of Co. Tipperary (Grogan and Roche 2006).

### *Final Neolithic / Early Bronze Age Beaker*

This is represented by a single small body sherd of a fine Beaker (Vessel 10) from pit 208. This feature also produced early Neolithic pottery and appears to have been disturbed. The date of 2480–

2290 cal. BC (2 sigma) from the pit is in keeping with the wider evidence that Beaker was in use during the period 2450–2300 BC.

As with the Neolithic pottery this is the first record of Beaker from the area. The closest concentrations of Beaker are also from Lough Gur, Co. Limerick (Ó Ríordáin 1954; Grogan and Eogan 1987) and the Cashel area of Co. Tipperary (Grogan and Roche 2006).

### *Catalogue*

The excavation number E2483 is omitted throughout: only the context number, in **bold**, followed by the find number is included (*e.g.* **254**:1). Numbers in square brackets (*e.g.* **266**:[1a–c]) indicate that the sherds are conjoined. 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), decoration or fabric indicates separate pots. Group numbers (Roman numerals) refer to sherds of distinctive fabric from a vessel where the overall form is not identifiable principally due to the absence of sufficient feature (rim/ neck/ shoulder) sherds. While this generally indicates separate pots due to the nature of the material it is possible that some Vessel Groups may represent portions of vessels otherwise identified by Vessel Numbers. Individual sherds that could not be definitely ascribed to either category are described separately; these may come from further pots that are not, however, included in the calculations of minimum and maximum numbers of vessels. The inclusions were examined using simple magnification and in some cases attribution reflects probable, rather than certain, identification. N/A means measurement not possible.

### Early Neolithic carinated bowls

#### *Fill 254 of pit 201*

*Group I:* This is represented by a single worn necksherd (**254**:1) from a vessel of dark red-brown fabric with a high content of quartzite inclusions ( $\leq 3.45 \times 3.30$  mm, occasionally up to  $5.20 \times 4.98$  mm). Neck thickness: 8.86 mm; weight: 4 g.

#### *Fill 257 of pit 204*

*Group II:* This is represented by two sherds (1 necksherd: **257**:2; 1 bodysherd: **257**:3) from a vessel with a curved neck. The red-brown fabric has a burnished external surface (neck and body) and a blackened accretion on the inner neck surface. There is a medium to high content of quartzite inclusions ( $\leq 3.80 \times 2.30$  mm). Neck thickness: 9.50 mm; body: 7.73 mm; weight: 16 g.

*Group III:* This is represented by a single necksherd (**257**:4; 1 fragment: **257**:1) from a vessel with a gently curved neck. The dark red-brown fabric has a red-brown core and the external surface is burnished. There is a medium to high content of quartzite inclusions ( $\leq 3.80 \times 2.30$  mm). Neck thickness: 9.50 mm; weight: 2 g.

#### *Fill 266 of pit 206*

*Group IV:* This is represented by three worn bodysherds (**266**:[1a–c]) from a vessel of dark red-brown fabric with a dark grey core and inner surface. There is a medium content of quartzite inclusions ( $\leq 3.23 \times 2.85$  mm). Body thickness: 7.26 mm; weight: 7 g.

#### *Fill 268 of pit 206*

*Group V:* This is represented by four worn sherds (1 rimsherd: **268**:9 (Fig. 22); 3 necksherds: **268**:6, 12 & 18; 4 fragments: **268**:13–16) from a vessel with a rounded everted ('bulbous') rim and a gently curved neck. The dark red-brown friable fabric has a dark grey to red-brown core and dark grey inner surface. The external neck surface is burnished. There is a high content of quartzite inclusions ( $\leq 3.99 \times 2.77$  mm, occasionally up to  $4.42 \times 4$  mm). Neck thickness: 8.28 mm; weight: 19 g.

*Vessel 1:* This is represented by seven sherds (1 small worn rimsherd: **268:10**; 1 shouldersherd: **268:5**; 3 necksherds: **268:1**, 7–8; 2 bodysherds: **268:4**, & 11) from a vessel with a rounded, outwardly expanded, rim, a curved neck, angular small step shoulder and deep rounded body profile (Fig. 19). The dark red-brown to dark grey to grey-brown friable fabric has a dark grey to red-brown core and dark grey inner surface. The external neck surface is burnished. There is a high content of quartzite inclusions ( $\leq 2 \times 1$  mm, up to  $4 \times 3$  mm). Neck thickness: 5.38–6.28 mm; body: 6.05 mm; weight: 27 g.

*Group VI:* This is represented by a single necksherd (**268:17**) of red-brown fabric. The external neck surface is burnished. There is a medium content of quartzite inclusions ( $\leq 2 \times 1$  mm, occasionally up to  $3.92 \times 3.50$  mm). Neck thickness: 9.91 mm; weight: 4 g. (*Comment* From a thicker walled vessel similar to Group II.)

*Group VII:* This is represented by a single small necksherd (**268:19**) of red-brown fabric. The external neck surface is burnished. There is a high content of quartzite inclusions (occasionally up to  $2.64 \times 2.50$  mm). Neck thickness: 5.58 mm; weight: 0.5 g. (*Comment* From a fine walled vessel.)

*Vessel 2:* This is represented by ten sherds (3 shouldersherds: **268:2–3** & **20**; 2 necksherds: **268:[22a–b]**; 5 bodysherds: **268:21**, 23–25 & **27**; 2 fragments: **268:29–30**) from a medium sized vessel with a gently curved neck and simple angle shoulder (Fig. 20, Plate 18). The red-brown fabric has a grey brown core; the external neck surface is burnished. There is a low to medium content of quartzite inclusions ( $\leq 2.50 \times 2$  mm, occasionally up to  $4.34 \times 2.58$  mm). Neck thickness: 9.74 mm; body: 10.16 mm; weight: 48 g.

*Group VIII:* This is represented by two small necksherds (**268:26** & **28**) of red-brown fabric with a grey-brown core. The external neck surface is burnished. There is a medium content of quartzite inclusions ( $\leq 2.16 \times 2$  mm). Neck thickness: 6.20 mm; weight: 2 g.

#### *Fill 263 of pit 207*

*Group IX:* This is represented by three sherds (2 shouldersherds: **263:[2a–b]**; 1 bodysherd: **263:3**) from a vessel of red-buff fabric with a simple angle shoulder. There is a medium content of quartzite inclusions ( $\leq 2 \times 2$  mm, up to  $5.40 \times 2.97$  mm). Neck thickness: 10.49 mm; body: 9.41 mm; weight: 15 g.

*Group X:* This is represented by a single shoulder/bodysherd (**263:4**) from a vessel of hard red-buff fabric with a simple rounded shoulder and deep rounded body profile (Fig. 20). Part of the inner surface is abraded but, where preserved, has a blackened accretion. There is a medium content of quartzite inclusions ( $\leq 2 \times 1$  mm, up to  $3.40 \times 2.25$  mm). Body thickness: 6.21 mm; weight: 10 g.

*Group XI:* This is represented by two sherds (1 shouldersherd: **263:5**; 1 necksherd: **263:7**) from a vessel with a simple rounded shoulder and deep rounded body profile (Fig. 20). The dark red-buff fabric has a dark grey core and red-brown inner surface. There is a blackened accretion on the outer neck surface which is burnished. There is a high content of quartzite inclusions ( $\leq 2.10 \times 2$  mm, occasionally up to  $5.56 \times 5.15$  mm). Neck thickness: 8.48 mm; body: 8.11 mm; weight: 5 g.

*Other sherds:* Two small necksherds (**263:6** & **8**); weight: 1 g.

#### *Fill 259 of pit 208*

Two small necksherds (**259:[2a–b]**) of red-brown fabric with a medium content of quartzite inclusions ( $\leq 2 \times 1$  mm). Neck thickness: 8.12 mm; weight: 1 g. (*Comment* This context also produced a small Beaker sherd (see below).)

#### *Fill 273 of pit 214*

*Vessel 3:* This is represented by four sherds (2 shouldersherds: **273:[16a–b]**; 1 necksherd: **273:18**; 1 bodysherd **273:12**) from a medium sized vessel with a gently curved neck, a pinched-up small step

shoulder and deep rounded body profile (Fig. 21, Plate 19). The red-brown fabric has some grey-brown surface areas; the external neck surface is burnished. There is a low to medium content of quartzite inclusions ( $\leq 2 \times 1$  mm, occasionally up to  $4.20 \times 3.20$  mm). Neck thickness: 8.29 mm; body 7.25 mm; weight: 37 g.

*Vessel 4:* This is represented by two rimsherds (**273**:17a–b]) from a fine small vessel with a flat-topped rim; the rounded outward expansion is pinched in against the external neck surface (Fig. 19, Plate 18). The neck is very gently curved. The red-brown fabric has some grey-brown surface areas; the rim and external neck surface are burnished. There is a low content of quartzite inclusions ( $\leq 2.39 \times 2$  mm). Neck thickness: 4.76–5.74 mm; weight: 4 g.

*Vessel 5:* This is represented by four sherds (1 rimsherd: **273**:14; 1 necksherd: **273**:11; 2 bodysherds: **273**:10 & 13) from a heavy vessel with a flat-topped, sharply everted, rim that is pinched in against the external neck surface (Fig. 18). The neck is gently curved. The red-brown to dark grey fabric has dark red-brown surfaces; the rim and external neck surface are burnished. There is a medium to high content of quartzite inclusions ( $\leq 3 \times 2$  mm, occasionally up to  $5.25 \times 3.45$  mm). Neck thickness: 9.98 mm; body 9.97–12.39 mm; weight: 14 g.

*Vessel 6:* This is represented by four sherds (1 rimsherd: **273**:22; 3 bodysherds: **273**:23–24] & 25; 10 fragments: **273**:15 (8) & 26 (2)) from a heavy vessel with a rounded, slightly everted, rim (Fig. 19). The neck is gently curved. The red-brown to dark grey fabric has a medium content of quartzite inclusions ( $\leq 2 \times 1$  mm, occasionally up to  $3 \times 2$  mm). Neck thickness: 5.83 mm; body: 5.97 mm; weight: 11 g.

*Other sherds:* Three worn bodysherds (**273**:19–21) of buff to red-brown fabric; weight: 6 g.

#### *Fill 276 of pit 216*

*Vessel 7:* This is represented by five sherds (2 neck/ shouldersherds: **276**:1a–b]; 1 necksherd: **276**:2; 2 bodysherds: **276**:3–4; 1 fragment: **276**:5) from a fine heavy vessel with a gently curved neck and sharp, simple angle shoulder (Fig. 19, Plates 16–17). The very smooth red-brown fabric has grey-brown core; the external surface is finely burnished. There is a low content of quartzite ( $\leq 3 \times 2$  mm, up to  $4.30 \times 2.70$  mm) and occasional sandstone inclusions (up to  $7.20 \times 5.40$  mm). Neck thickness: 10.10 mm; body: 8.88 mm; weight: 44 g.

#### *Fill 278 of pit 218*

*Vessel 8:* This is represented by two sherds (1 rimsherd: **278**:2; 1 necksherd: **278**:3) from a fine vessel with a rounded everted rim and a gently curved neck (Fig. 21). The very smooth fabric is dark red-brown; both surfaces are burnished, the external is especially finely finished. There is a low content of quartzite inclusions ( $\leq 1.50 \times 1$  mm, up to  $3.55 \times 2.12$  mm). Neck thickness: 7.98 mm; weight: g.

*Vessel 9:* This is represented by a single shouldersherd (**278**:6) from a vessel with a straight, upright neck and a small step shoulder (Fig. 18, Plate 20). The dark red-brown fabric has a dark grey core and inner surface; there is sooting on the inner surface. Burnishing survives on the external body surface. There is a low content of quartzite inclusions ( $\leq 1.50 \times 1$  mm, up to  $3.86 \times 3.66$  mm). Neck thickness: 9.73–10.45 mm; weight: 7 g.

*Group XII:* This is represented by two bodysherds (**278**:4–5) from a vessel of dark red-brown fabric with a dark grey core and inner surface; there is a blackened accretion on the inner surface (Plate 21). There is a high content of quartzite inclusions ( $\leq 1.50 \times 1$  mm, up to  $3.75 \times 3.50$  mm). Body thickness: 9.56 mm; weight: 16 g.

*Other sherds:* Necksherd (**278**:7) of smooth red- to grey-brown fabric; there is sooting on the external surface. There is a low content of quartzite inclusions ( $\leq 1.50 \times 1$  mm, up to  $2.50 \times 2$  mm). Neck thickness: 7.83 mm; weight: 2 g.

Much worn bodysherd (**278:8**; 1 fragment: **278:1**) of buff fabric; weight: 2 g.

*Fill 261 of furrow 210*

Bodysherd (**261:2**) of grey-brown fabric with a dark grey core. There is a medium content of quartzite inclusions ( $\leq 1.50 \times 1$  mm, up to  $2.80 \times 2.50$  mm). Body thickness: 8.54 mm; weight: 3 g.

Necksherd (**261:1a**; 1 fragment: **278:1b**) of red-brown fabric with a dark grey core. There is a medium content of quartzite inclusions ( $\leq 1$  mm, up to  $2 \times 1$  mm). Neck thickness: 5.93 mm; weight: 1 g.

*Surface cleaning 289 of topsoil 288 in Area E*

*Group XIII:* Necksherd (**289:9**) of buff-brown fabric with a dark grey core and grey-brown inner surface. The sherd is broken at the junction between the neck and body leaving a scar where the shoulder would have been located. The external surface of the neck is burnished. There is a medium content of quartzite inclusions ( $\leq 1.50$  mm, up to  $3 \times 2$  mm). Neck thickness: 8.10 mm; weight: 20 g.

*Group XIV:* Two small bodysherds (**289:4–5**) of buff fabric with a dark grey core and inner surface. There is a medium content of quartzite inclusions ( $\leq 1.50$  mm, up to  $3.90 \times 2.80$  mm). Body thickness: 9.09 mm; weight: 4 g.

*Group XV:* This is represented by three sherds (1 small rimsherd: **289:7**; 1 necksherd: **289:6**; 1 fragment: **289:8**) from a fine vessel with a small rounded, everted rim and a gently curved neck. The red-brown fabric has dark red-brown surfaces; the rim and outer surface of the neck are burnished. There is a low content of quartzite inclusions ( $\leq 1.50$  mm). Neck thickness: 6.50 mm; weight: 4 g.

Final Neolithic / Early Bronze Age (Beaker)

*Fill 259 of pit 208*

*Vessel 10:* Single small bodysherd (**259:3**) of compact red-buff fabric with a very low content of quartzite inclusions ( $\leq 1.50 \times 1$  mm). Body thickness: 5.76 mm; weight: 0.5 g. (*Comment* This context also produced a small early Neolithic sherd (see above). It is evident that the pit was disturbed and this is confirmed by the radiocarbon date of 2480–2290 cal. BC (2 sigma).

*Note regarding pottery by Kate Taylor*

Since this pottery report was completed by Eoin Grogan and Helen Roche in 2009, information has become available about the Neolithic enclosure at Tullahedy, just 4.1 km from Ballycuddy More. A large assemblage of Neolithic pottery was recovered from the site, including approximately 336 vessels, mainly carinated bowl forms dating from 3725–3335 cal. BC (Cleary in press).

**Table 11: Details of pottery including individual vessels**

Vessel No	Cut	Deposit	Find nos	No. of sherds	Rim sherd	Neck sherd	Shoulder sherd	Body sherd	Fragment	Total	Inclusions	Vessel size (cm)	Weight (g)	Pottery type	Burnished
Group I	201	254	254:1	1	0	1	0	0	0	1	Q	-	4	ENCB	-
Group II	204	257	257:2-3	2	0	1	0	1	0	2	Q	M	16	ENCB	Y
Group III	204	257	257:1 & 4	1	0	1	0	0	1	2	Q	-	2	ENCB	Y
Group IV	206	266	266:1a-c	3	0	0	0	3	0	3	Q	-	7	ENCB	-
Group V	206	268	268:6, 9, 12-16 & 18	4	1	3	0	0	4	8	Q	-	19	ENCB	Y
Vessel 1	206	268	268:1, 4-5, 7-8 & 10-11	7	1	3	1	2	0	7	Q	-	27	ENCB	-
Group VI	206	268	268:17	1	0	1	0	0	0	1	Q	-	4	ENCB	Y
Group VII	206	268	268:19	1	0	1	0	0	0	1	Q	-	0.5	ENCB	-
Vessel 2	206	268	268:2-3, 20-25, 27 & 29-30	10	0	2	3	5	2	12	Q	M	48	ENCB	Y
Group VIII	206	268	268:26 & 28	2	0	2	0	0	0	2	Q	-	2	ENCB	Y
Group IX	206	263	263:2-3	3	0	0	2	1	0	3	Q	-	15	ENCB	-
Group X	207	263	263:4	1	0	0	0	1	0	1	Q	-	10	ENCB	-
Group XI	207	263	263:5 & 7	2	0	1	1	0	0	2	Q	-	5	ENCB	Y
Other	207	263	263:6 & 8	2	0	2	0	0	0	2	Q	-	1	ENCB	-
Other	208	259	259:2a-b	2	0	2	0	0	0	2	Q	-	1	ENCB	-
Vessel 3	208	273	273:12, 16a-b & 18	4	0	1	2	1	0	4	Q	M	37	ENCB	Y
Vessel 4	214	273	273:17a-b	2	2	0	0	0	0	2	Q	S	4	ENCB	Y
Vessel 5	214	273	273:10-11 & 13-14	4	1	1	0	2	0	4	Q	M-L	14	ENCB	Y
Vessel 6	214	273	273:15 & 22-26	4	1	0	0	3	10	14	Q	S-M	11	ENCB	-
Vessel 7	216	276	276:1-5	5	0	2	1	2	1	6	Q Sa	M-L	44	ENCB	Y
Vessel 8	218	278	278:2-3	2	1	1	0	0	0	2	Q	-	8	ENCB	Y
Vessel 9	218	278	278:6	1	0	0	1	0	0	1	Q	-	7	ENCB	Y
Group XII	218	278	278:4-5	2	0	0	0	2	0	2	Q	-	16	ENCB	-
Other	218	278	278:1 & 7-8	2	0	1	0	1	1	3	Q	-	4	ENCB	-
Other	210	261	261:1-2	2	0	1	0	1	1	3	Q	-	4	ENCB	-
Group XIII	-	289	289:9	1	0	1	0	0	0	1	Q	-	20	ENCB	Y



Vessel No	Cut	Deposit	Find nos	No. of sherds	Rim sherd	Neck sherd	Shoulder sherd	Body sherd	Fragment	Total	Inclusions	Vessel size (cm)	Weight (g)	Pottery type	Burnished
Group XIV	-	289	289:4-5	2	0	0	0	2	0	2	Q	-	4	ENCB	-
Group XV	-	289	289:6-8	2	1	1	0	0	1	3	Q	S-M	4	ENCB	Y
<i>Total</i>				<i>75</i>	<i>8</i>	<i>29</i>	<i>11</i>	<i>27</i>	<i>21</i>	<i>69</i>			<i>338.5</i>	<i>ENCB</i>	
Vessel 10	208	259	259:3	1	0	0	0	1	0	1	Q	-	0.5	Beaker	-

Q=quartzite; Sa=sandstone; S=small vessel; M=medium sized vessel; L=large vessel; ENCB=Early Neolithic carinated bowl

**Stone** by Farina Sternke*Introduction*

Eleven stone tools from the archaeological excavations at E2483 Ballycuddy More Site 1, Co. Tipperary as part of the N7 Nenagh to Limerick HQDC Archaeological Resolution Contract were presented for analysis (Table 12). The finds are associated with a series of prehistoric pits, cremation burials, postholes, stakeholes and charcoal-rich spreads.

**Table 12: Composition of the stone tool assemblage**

Find No	Cut	Deposit	Material	Type	Condition	L (mm)	W (mm)	Th (mm)	Complete
E2483:51:1	1	51	Sandstone	Quern stone	Burnt	418	333	106	No
E2483:51:2	1	51	Sandstone	Quern stone?	Burnt	415	241	99	No
E2483:180:1	-	180	Sandstone	Rubbing stone	Weathered	121	91	45	Yes
E2483:273:2	214	273	Sandstone	Rubbing stone	Slightly weathered	48	25	17	Yes
E2483:273:3	214	273	Sandstone	Rubbing stone	Slightly weathered	47	32	28	Yes
E2483:273:4	214	273	Sandstone	Rubbing stone	Burnt	33	27	25	Yes
E2483:273:5	214	273	Sandstone	Rubbing stone	Burnt	40	28	21	No
E2483:273:6	214	273	Sandstone	Rubbing stone	Slightly weathered	37	26	18	Yes
E2483:273:7	214	273	Sandstone	Rubbing stone	Slightly weathered	47	39	16	No
E2483:273:8	214	273	Sandstone	Rubbing stone	Rolled	50	46	12	No
E2483:273:9	214	273	Sandstone	Rubbing stone	Burnt	28	25	25	No

*Methodology*

All stone 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, artefact condition, length, with and thickness measurements and fragmentation. The general typological and morphological classifications were based on Woodman *et al.* 2006. Natural chunks were not analysed further.

*Quantification*

The stone tools are eleven modified pieces of sandstone.

*Provenance*

Finds E2483:51:1 and E2483:51:2 were recovered from the fill of hearth 1 in Area A. Artefact E2483:180:1 was found in the topsoil in Area C and finds E2483:273:2-9 were recovered from the fill of a pit (14) in Area E.

*Condition*

The artefacts survive in variable condition (Table 13). Only five artefacts are complete (see Table 12).

**Table 13: Assemblage condition**

Condition	Amount
Slightly weathered	4
Weathered	1
Rolled	1
Burnt	5
<i>Total</i>	<i>11</i>

#### *Technology/Morphology*

The stone tools can be divided into two groups: two quern stones including fragments and nine rubbing stones.

#### Quern stones

Find E2483:51:1 is a burnt saddle quern stone which is broken in half (Fig. 22). It is missing at least three more pieces and measures 418 mm in length, 333 mm in width and 106 mm in thickness. The quern shows extensive wear on two opposed grinding/milling surfaces, so much so that no evidence of the preparatory pecking of the surfaces remains.

The other burnt quern fragment, E2483:51:2 may belong to E2483:51:1, but this is unlikely. It measures 415 mm long, 241 mm wide and 99 mm thick. Its grinding/milling surface is entirely missing and may have flaked off in the course of burning. The quern shows the slightest evidence of wear on its underside. It also has some wear traces on one flat smoothed side.

#### Rubbing stones

The nine rubbing stones (E2483:273:2-9) show wear on at least one surface and in most cases their entire circumference is slightly worn (Figs 23-24). The rubbing stones are rather small and their general length ranges from 30 to 50 mm; only artefact, E2483:180:1, is larger and measures 121 mm in length (Fig. 25). Most of these tools were probably associated with pottery manufacture and may have been used as polishing stones (Trenna Valado 2008).

#### *Dating*

The artefacts are typologically diagnostic. The saddle quern and quern fragment date to the Late Neolithic period or to the Bronze Age. However, the rubbing stones may date to the Early or Middle Neolithic based on their possible association with leaf-shaped arrowheads and other Neolithic lithic material.

#### *Conservation*

Stone tools do not require specific conservation, but should be stored in a dry, stable environment. Preferably, each stone tool should be bagged separately and contact with other stone tools 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*

The overall condition of the assemblage is poor and five artefacts are burnt. This is not uncommon. O'Sullivan and Kenny (2008) have recently suggested that quern stones were deliberately smashed or

‘killed’ and deposited when a settlement site was abandoned. As ethnographic data and recent research suggest (Campbell 1987, van Gijn and Verbaas 2009), this idea is neither new nor particularly limited to a specific chronological period. In fact, it is a practice which has its origins in the Neolithic period, where quern stones were deliberately smashed, burnt and occasionally stained with red ochre prior to their deposition or abandonment (van Gijn and Verbaas 2009). Van Gijn and Verbaas (ibid) have recently suggested that the staining of quern stones symbolises their bleeding and signifies their certain ‘death’, perhaps a metaphor for the total abandonment of a settlement (see also Campbell 1987). As O’Sullivan and Kenny (2008) pointed out the reasons for the ‘killing’ of quern stones and the abandonment of a settlement site could range from simple traditions to complex ritual behaviour. In this context, it is possible that other related tools, e.g. manos, were treated in a similar manner.

### *Summary*

The stone tools from the archaeological excavation at E2483 Ballycuddy More Site 1, Co. Tipperary are a saddle quern, another quern fragment and nine rubbing stone. The quern stones are typologically diagnostic and date to the Late Neolithic or Bronze Age period. They are almost certainly associated with a settlement with related activities that took place at this site in Area A. The rubbing stones may have been used to manufacture pottery and probably date to the first half of the Neolithic period (Early-Middle Neolithic).

### **Samples**

A total of 66 bulk soil samples and two had-collected charcoal samples were taken from the site. A catalogue of the samples is given in Appendix 3. Sixty-one of these samples have been floated and wet sieved through a 300 micron mesh and then through a 2 mm mesh in order to recover charred plant material, cremated bone and small artefacts.

### ***Charred plant remains*** by Mark Robinson

Five areas were excavated at Ballycuddy More Site 1 (E2483). Various settlement-related features were found including pits, post-holes and hearths. In addition, there were also potential cremation burials in Areas C and D. Forty-six samples produced carbonised plant remains and the results are given in Tables 14-16.

Samples were floated in water onto a 0.30 mm mesh and the dried flots were scanned under a binocular microscope for charcoal, seeds, chaff etc. A representative range of charcoal was picked out, broken transversely and examined at x50 magnification, enabling ring-porous taxa to be identified. When a fragment of diffuse-porous wood was noted, it was broken in the appropriate planes and examined by high-power incident-light microscopy at magnifications of up to x400. An estimate was made of the abundance of each taxon of charcoal which is indicated in the tables. The only other remains present were nut shell fragments. Those samples that contain nut shell fragments were sorted, the fragments identified and counted, and the results included in the tables alongside the charcoal results.

There were some differences between the charcoal assemblages from the various areas. The three samples from Area A all contained a limited amount of *Quercus* sp. (oak) charcoal and Sample 5, from a pit, also contained much charcoal of *Alnus glutinosa* (alder). The only sample from Area B was from a hearth. It contained some charcoal of *Corylus avellana* (hazel) and very many nut shell fragments of *C. avellana*. Both the cremation and non-cremation samples from Area C contained charcoal of *C. avellana* and several of them also contained nut shell fragments of *C. avellana*. In contrast the only charcoal from the features in Area D was *Quercus* sp. Samples 35 and 36, both from pit 111, comprised very large quantities of charcoal such that these samples were about 50% charcoal. Nut shell fragments were absent from the Area D samples. The charred assemblages in the 25 samples from Area E tended to be dominated either by *C. avellana* or *Quercus* sp. Other taxa were sparse. A

large quantity of *Quercus* charcoal and a single nut shell fragment of *C. avellana* were found in the samples from hearth 220.

The cremations tended to contain the same range of remains as were found in the other contexts from those areas. The samples from Area C mostly yielded charcoal of *C. avellana* and there were hazel nut shell fragments in some of them. In contrast, the samples from Area D only contained charcoal of *Quercus*.

The predominance of oak and hazel charcoal suggested that the site had a ready supply of fuel from woodland. There was little evidence for the exploitation of scrub. The differences between the charcoal from the various areas may have been related to different activities, or to the different periods in which they were used. The nut shell remains may show that hazel nuts were also being gathered from the woodland. However, there was no evidence for cereal cultivation.

**Table 14: Charcoal from the Phase 1-4 Neolithic – Bronze Age features at E2483 Ballycuddy More Site 1 Areas A, B & E**

Phase	Area	Cut	Deposit	Sample	Volume (L)	<i>Prunus</i> sp. sloe, cherry etc	Pomoideae indet. hawthorn, apple etc	<i>Ulmus</i> sp. elm	<i>Corylus avellana</i> L. hazel	<i>Quercus</i> sp. oak	<i>Alnus glutinosa</i> (L.) Gaert. alder
1	E	211	262	44	0.25	-	-	-	-	++	-
1	E	201	254	46	2	-	-	-	-	+++	-
1	E	202	255	47	0.25	-	-	-	+	-	-
1	E	206	266	48	2	-	-	-	+	-	-
1	E	206	267	49	2	-	+	-	+	+	-
1	E	206	268	50	2	-	-	-	++	-	-
1	E	214	273	51	20	-	-	+	+++	+	-
1	E	203	265	53	2	-	+	-	-	+	-
1	E	207	263	54	2	-	-	-	++	-	-
1	E	207	264	55	2	-	-	-	+	-	-
1	E	218	278	59	20	-	-	-	+++	-	-
1	E	207	263	70	-	-	-	-	+	-	-
2?	A	5	55	5	2	-	-	-	-	+	+++
2	A	6	61	6	2	-	-	-	+	++	-
2?	A		64	7	2	-	-	-	+	+	-
2	B	1	51	1	12	-	+	-	++87n	-	-
3	E	208	259	42	0.25	-	-	-	++	-	+
3+	E	209	260	43	0.25	-	-	-	+	-	-
4	E	220	280	61	4	-	-	-	-	++++	-
4	E	220	280	62	0.25	-	-	-	-	++++	-
4	E	220	281	63	2	-	-	-	-	++	-
4?	E	224	285	64	0.25	-	-	-	-	++	-
4?	E	226	287	65	0.25	-	-	-	-	++	-
4	E	220	280	66	-	-	-	-	- 1n	-	-
4?	E	227	290	67	0.5	-	-	-	-	+++	-
4?	E	228	292	68	0.5	-	-	-	-	++	-
4?	E	228	292	69	0.25	-	-	-	-	++	-
4	E	200	250	39	0.25	-	-	-	-	+	-
4	E	200	251	40	0.25	+	-	-	-	-	-

+ present, ++ some, +++ much, ++++ very much, n nut shell fragments

**Table 15: Charcoal from the Phase 5 Iron Age features at E2483 Ballycuddy More Site 1, Area C**

Phase	Area	Cut	Deposit	Sample	Volume (L)	<i>Prunus</i> sp. sloe, cherry etc	<i>Corylus avellana</i> L. hazel	<i>Quercus</i> sp. oak	<i>Fraxinus excelsior</i> L. ash
5	C	101	151	9	2	-	++2n	-	-
5	C	100	150	12	2	-	++6n	+	-
5	C	105	155	14	1	-	++	-	-
5	C	106	157	17	1	-	-	+	-
5	C	107	158	18	4	+	++	-	+
5	C	109	161	19	4	-	++	-	-
5?	C	108	160	20	1	-	++	-	-
5	C	110	162	21	4	-	++	-	-
5	C	112	164	22	1.5	-	++	-	-
5	C	112	165	23	1.5	-	+ 6n	-	-
5	C	112	166	24	2	-	++ 2n	++	-

+ present, ++ some, n nut shell fragments

**Table 16: Charcoal from the Phase 6 early medieval features at E2483 Ballycuddy More Site 1, Area D**

Phase	Area	Cut	Deposit	Sample	Volume (L)	Pomoideae indet. hawthorn, apple etc	<i>Alnus glutinosa</i> (L.) Gaert. alder	<i>Corylus avellana</i> L. hazel	<i>Quercus</i> sp. oak
6	D	111	163	34	2	-	-	-	+++
6	D	111	173	35	2	-	-	-	++++
6	D	111	174	36	2	-	-	-	++++
6	D	113	167	31	1	-	-	-	++
6?	D	114	168	32	2	-	-	-	+
6	D	119	175	37	2	-	-	-	+
6	D	119	176	38	2	-	-	-	+++

+ present, ++ some, +++ much, ++++ very much, n nut shell fragments



**Radiocarbon dates**

Radiocarbon determination was made by Beta Analytic Inc. from samples 9 and 42 and by Queens University Belfast from samples 6, 24, 31, 36, 50-51 59 and 66 (Table 17, Fig. 26). The calibration curve used was IntCal09 (Reimer et al 2009) and the plot was created with OxCal v4.1.4 (Bronk Ramsey 2009).

**Table 17: Radiocarbon determination**

Lab code	Cut	Deposit	Sample no.	Sample material	Radiometric age	Calendrical calibrations
Beta-244830	101	151	9	<i>Corylus avellana</i> (hazel) – charred nut shell	2140±40 BP	2 sigma (95%) Cal BC 357-285 Cal BC 255-249 Cal BC 234-250 1 sigma (68%) Cal BC 348-317 Cal BC 208-104
Beta-244831	208	259	42	<i>Alnus</i> (alder) - charred	3910±40	2 sigma (95%) Cal BC 2550-2538 Cal BC 2491-2284 Cal BC 2248-2234 1 sigma (68%) Cal BC 2468-2345
UBA-13690	1	51	1	<i>Corylus avellana</i> (hazel) – charred nut shell	4437±34	2 sigma (95.4%) Cal BC 3330-3215 Cal BC 3185-3156 Cal BC 3126-2999 Cal BC 2994-2927 1 sigma (68.3%) Cal BC 3316-3292 Cal BC 3289-3273 Cal BC 3266-3237 Cal BC 3169-3164 Cal BC 3110-3016
UBA-13691	6	61	6	<i>Corylus avellana</i> L. (hazel) - charred	4458±53	2 sigma (95.4%) Cal BC 3346-3008 Cal BC 2985-2933 1 sigma (68.3%) Cal BC 3329-3216 Cal BC 3182-3157 Cal BC 3124-3081 Cal BC 3069-3025
UBA-13692	112	166	24	<i>Corylus avellana</i> L. (hazel) - charred	2003±33	2 sigma (95.4%) Cal BC 91-69 Cal BC 60-AD 73 1 sigma (68.3%) Cal BC 42-AD 26 Cal AD 42-47
UBA-13693	113	167	31	<i>Quercus</i> sp. (oak) - charred	1033±31	2 sigma (95.4%) Cal AD 898-920 Cal AD 946-1039 1 sigma (68.3%) Cal AD 988-1022

Lab code	Cut	Deposit	Sample no.	Sample material	Radiometric age	Calendrical calibrations
UBA-13694	111	174	36	<i>Quercus</i> sp. (oak) – charred	1221±24	2 sigma (95.4%) Cal AD 695-699 Cal AD 708-747 Cal AD 765-885 1 sigma (68.3%) Cal AD 729-736 Cal AD 772-829 Cal AD 837-867
UBA-13695	206	268	50	<i>Corylus avellana</i> L. (hazel) – charred	4988±30	2 sigma (95.4%) Cal BC 3933-3876 Cal BC 3806-3695 Cal BC 3676-3675 1 sigma (68.3%) Cal BC 3788-3712
UBA-13696	214	273	51	<i>Corylus avellana</i> L. (hazel) – charred	4973±27	2 sigma (95.4%) Cal BC 3893-3883 Cal BC 3799-3693 Cal BC 3682-3663 1 sigma (68.3%) Cal BC 3772-3710
UBA-13697	218	278	59	<i>Corylus avellana</i> L. (hazel) - charred	4955±30	2 sigma (95.4%) Cal BC 3789-3658 1 sigma (68.3%) Cal BC 3771-3699
UBA-13698	220	280	66	<i>Corylus avellana</i> (hazel) – charred nut shell	3034±24	2 sigma (95.4%) Cal BC 1391-1255 Cal BC 1238-1215 1 sigma (68.3%) Cal BC 1372-1343 Cal BC 1317-1265

The majority of the material dated was hazel nut shell which would have been less than one year old at death and so avoids the risk of the ‘old wood effect’.

Samples from pits 206, 214 and 218 are dated to the Early Neolithic (which corresponds with Early Neolithic carinated bowl sherds found within these pits). Samples from hearth pit 1 and pit 6 produced contemporary Middle to Late Neolithic dates. One sample, from pit 208, produced a Beaker period date and the sample from hearth 220 produced a Middle Bronze Age date. Two possible cremation pits, 101 and 112, returned Iron Age dates. Samples from pits 113 and 111 returned early medieval dates.

## Discussion

The excavations at Ballycuddy More Site 1 (E2483), Co. Tipperary have revealed at least seven phases of activity ranging from the Early Neolithic to the post-medieval period. The features excavated represent both settlement and funerary activities. Post-medieval agricultural activity was well represented by the plough furrows and associated field boundary; - agricultural patterns which can be compared with other excavated areas on the project.

### *Early Neolithic*

This phase was the most richly represented in both feature numbers and artefacts. It is likely that these features represent settlement, however no structure was evident and it is not clear what actual activities were taking place. Unfortunately the area had been subject to intensive later agricultural activity, with

part of the site having been cross-ploughed, which had doubtless destroyed some of the less substantial archaeological features and deposits.

The pottery assemblage suggests a single phase of use within the Early Neolithic period. Three radiocarbon determinations span the period 3933-3658 cal BC (at 2 $\sigma$ ) and, examining the dates in detail it seems likely that the site was occupied at some point between 3800 and 3700 BC.

The most important aspect of this phase of activity is the quantity of pottery retrieved. The assemblage of at least 24 Early Neolithic carinated bowls is the first of its kind found in this area. Smaller assemblages were recovered as part of the N7 road scheme at nearby sites E2479, Ballywilliam Site 1 (McNamara *et al* 2011), 320 m to the south-west, E2482, Ballyhisky Site 2 (Ruttle 2010b), 400 m north-east and E2287, Carrigatogher (Abbott) Site 1 (McNamara *et al* 2010) 1.5 km north-east. Other examples were found further afield at Cooleen Site 1 (McNamara 2010). Prior to these excavations the closest assemblages of Early Neolithic carinated bowls were excavated at Lough Gur, Co. Limerick (Ó Ríordáin 1954; Grogan and Eogan 1987), a court tomb at Shanballyedmond, Co. Tipperary (O’Kelly 1958) and in the Cashel area of Co. Tipperary (Grogan and Roche 2006). Further examples have since been found along the route of the N8 Cashel to Mitchelstown Road Scheme. Site 185.1-4, Caherabbeey Upper, Co. Tipperary, a possible structure associated with pits and postholes, excavated on the N8, as well as producing Early Neolithic carinated bowl sherds, produced an Early Neolithic radiocarbon date range (3986-3798 BC from oak charcoal) (McQuade *et al* 2009, 17).

Despite the truncation of the site by later agricultural practices, the pottery assemblage represents typical loss on a settlement site with a range of vessel sizes that would have performed various functions. Six vessels show sooting or charred accretions indicative of cooking. The lithic assemblage, although small, is not inconsistent with a domestic context and a number of rubbing stones found in one of the pits may have been used as polishing stones in the manufacture of the pottery. Little light is cast onto the agricultural economy of the settlement with a complete absence of charred cereal grains and the only possible food waste recovered was a very small amount of calcinated bone and a few hazel nut shells.

The site demonstrates settlement in this period along the important prehistoric routeway of the Kilmastulla River valley. The date of the activity, during the 38<sup>th</sup> century BC, corresponds well with recent statistical analysis of radiocarbon dates that suggest the Neolithic in Ireland began either between 3850 and 3740 BC or between 3750 and 3680 BC, depending on which statistical model is used (Cooney *et al* 2011, 663). It would appear that the features at Ballycuddy More represent some of the earliest Neolithic settlement in Ireland, pre-dating the introduction of rectangular houses and pre-dating the large Neolithic enclosure at Tullahedy, 4.1 km to the north-west (Kelleher 2010, Cleary and Kelleher in press).

### ***Middle to Late Neolithic***

This activity, in Areas A and B, dated to 3346-2927 A large hearth pit and pits and spreads that had *fulacht fia* type attributes represent this later phase of Neolithic activity. The hearth pit had clear evidence of *in situ* burning and was ‘closed’ by broken burnt quern stones. Both of the quern stones had been used before deposition suggesting the ritual ‘killing’ of the stones and hearth.

The concentrated charcoal and burnt sandstone in the pits and spreads indicate nearby burning activity. It is not clear what specific activity the pits and spreads represent; however the deposits were located in close proximity to a water source and it is possible that the sandstone was used to heat water in a similar manner to a *fulacht fia*. The pits could have been used as troughs or hearths. Although the main period use of *fulachtaí fia* was during the Middle and Late Bronze Age (for example Grogan *et al* 2007), burnt stone generating activity has produced dates ranging from the Mesolithic to the medieval period (Brindley *et al* 1990).

### ***Late Neolithic / Early Bronze Age – Beaker period***

A single feature at the site was dated to 2550-2234 cal. BC, within the Beaker period, and this pit produced a single sherd of Beaker pottery. As with the Early Neolithic pottery, this is the first evidence of Beaker pottery from the area. The closest concentrations of Beaker pottery are from Lough Gur, Co. Limerick (Ó Ríordáin 1954; Grogan and Eogan 1987), and along the route of the N8 Cashel Bypass Road Scheme (Grogan and Roche 2006). Very little can be said about the function of this single feature; it was situated amidst the Early Neolithic pits and indeed also contained redeposited Early Neolithic pottery. There is no evidence of above ground markers that would have made this site stand out and the reuse of this location over a thousand years later was probably coincidental.

Other activity of a similar date was excavated nearby as part of the N7 scheme. Beaker pottery was recovered from a pit at Ballywilliam Site 1 E2479 (McNamara et al 2011) 350 m south west and a burnt stone spread within the same site, 625 m south-west, produced radiocarbon dates broadly comparable with that from the Ballycuddy More pit.

### ***Middle Bronze Age***

A small number of features, including a hearth, pits and postholes, are thought to belong to this phase and the hearth was dated to 1391-1215 cal. BC representing the end of the Middle Bronze Age. There were no artefacts recovered and, besides a single charred hazel nut shell, no food waste was present within the fills. It is likely that these isolated features represent small-scale domestic or semi-industrial activity. Several Middle Bronze Age settlements were excavated as part of the N7 scheme, with the closest examples of roundhouses at Ballywilliam Site 1 E2479 (McNamara et al 2011), 350 m south-west, Carrigtogher (Abbott) Site 1 E2287 (McNamara et al 2010), 1.5 km to the north-east and Carrigtogher (Harding) Site 5 E2285 (Ruttle and Taylor 2011), 1.7 km north-east. More ephemeral settlement evidence was recorded at Cloghleigh Site 1 E2480 (Ruttle 2010a) and Ballyhisky Site 2 E2482 (Ruttle 2010b), both within 500 m north-east. These sites were generally earlier in date than the hearth at Ballycuddy More but indicate ongoing occupation of the area through this period.

### ***Iron Age***

A small cemetery of nine pits, thought to represent cremation burials, dates to the middle part of the Iron Age. Radiocarbon determinations span 357 BC to AD 73 suggesting continuous or episodic use throughout this period with no clear difference in the character of the activity at different times.

The quantities of bone recovered are extremely small (maximum 7 g) and, despite small bone flecks having been observed during excavation, cremated bone was only recovered from five of the pits. The bone fragments are too small to be identified to species but could be human and, given the nature of the site, with carefully excavated pits filled with burnt material, it is likely that these do indeed represent deliberate cremation burials. It is of course possible that, although the site is discussed here as funerary, the cremated material is not representative of burial and that the bone is not human, in which case the features could be domestic food waste pits.

The small quantities of bone suggest token burials in which only a handful of the pyre debris was placed in the grave. The fuel used for the cremations was consistently mostly hazel. This is an unusual fuel choice for cremation pyres which require a large amount of timber that will burn to a high temperature for a considerable period of time. Oak is more commonly found to have been used in prehistoric funerary pyres (e.g. Lynch and O'Donnell 2007, 112) and the choice of hazel as a fuel presumably reflects the availability of species within the surrounding woodland at that time.

The presence of hazel nut shells within several of the cremation deposits is worthy of discussion. It is possible that the nuts were inadvertently incorporated into the pyres along with the hazel wood, or that they were food waste used as kindling to help ignite the fires. Alternatively it might be that the nuts were deliberately included in the pyres as a votive offering, perhaps food for the departed. No cereal

grains were contained within the excavated deposits at Ballycuddy More, but deposits of grain within cremation burials is a recognised practice in Irish prehistory (Grogan et al 2007, 112-3). Indeed, burnt cereal continued to be associated with funerary rites in later periods where literary sources reveal that the practice of burning grain to cleanse a house after a death was banned by the early Christian church, being seen as a residual pagan tradition (O'Brien 2008, 294-5).

Burial in the Iron Age appears to have been, from the limited archaeological evidence, diverse and includes cremations deposited within monuments such as ring ditches, barrows or in flat sites and later crouched or extended inhumations (Raftery 1981, O'Brien 2003, McGarry 2005, 2007). No evidence was seen at Ballycuddy More of an enclosing element such as a ditch, or of a mound covering the burials that would indicate that the site was originally a barrow or mound. Although it is possible that any such mound has been destroyed by generations of agricultural activity, it is likely that this was an unenclosed flat cemetery. The site was clearly marked above ground in some fashion however, as it continued to be used for several generations, over at least 150 years and probably longer. The fact that the burial pits did not intersect might also suggest that the individual graves were marked, preventing accidental truncation of existing burials by those that came later.

Although burial monuments such as ring ditches dominate the known Iron Age funerary sites (McGarry 2009), flat unenclosed cremation cemeteries are increasingly being recognised as an Iron Age funerary tradition. As they have no surviving above ground expression and no distinctly Iron Age characteristics, they are more commonly identified when sites are radiocarbon dated. For example, two cemeteries were revealed within 900 m of each other as part of the Ennis Bypass Scheme in Co. Clare. Sites AR100 and AR102, Manusmore, Co. Clare (Hull 2006a-b) both contained burials ranging in dates from the late Neolithic to the late Iron Age and it is possible that the cemeteries may have been used simultaneously. An Iron Age ring ditch was also excavated on the Ennis Bypass Scheme at site AR131, Claureen, Co. Clare (Hull 2006c). Cremated bone and glass beads were recovered from the site which was radiocarbon dated to 100 BC to AD 70. This site was located 8 km from AR100 and AR102 indicating that the different burial traditions were carried out nearby at around the same time.

It is worth noting that the Ennis Bypass flat cremation sites were located on gentle south-facing inclines east of the River Fergus that would have afforded them views across the estuary of the River Fergus. Similarly Ballycuddy More Site 1 was located on a south-west facing incline that overlooks the Kilmastulla River valley with expansive views of the Silvermine Mountains.

Only a handful of Iron Age cremation sites have been excavated in Co. Tipperary. An unenclosed cemetery was excavated at Longstone, Cullen by Peter Danaher of the Office of Public Works in 1973. This site had evidence ranging from the Neolithic, with the latest phase of burial activity (simple cremation pits) thought to have taken place in the Iron Age (Raftery 1981, 191). More recently two ring-barrows and an unenclosed cremation pit were excavated as part of the N8 Cashel to Mitchelstown Road Scheme on the Co. Tipperary section (McQuade *et al* 2009, 162). The ring-barrows, and another on the scheme 25-30 km away in Co. Limerick, were contemporaries and were dated to the 4<sup>th</sup> -1<sup>st</sup> centuries BC. The unenclosed cremation burial pit dated to AD 40-250.

A small number of non-funerary Iron Age sites were excavated a part of the N7 scheme. Ballywilliam Site 1 E2479 (McNamara et al 2011), 350 m south-west, produced a number of radiocarbon dates ranging from the 4<sup>th</sup> century BC to 1<sup>st</sup> century AD. Whilst most of these dates were from residual material in later features they do represent intensive activity in the area and it is possible that a palisade trench on the site formed part of an Iron Age enclosed settlement, although the evidence is not clear. The individuals buried at Ballycuddy More presumably lived somewhere nearby and it is possible that they may have resided at Ballywilliam.

### ***Early medieval***

Two pits in Area D dated to the late 7<sup>th</sup> to mid 11<sup>th</sup> centuries AD. The most significant feature, a large flat-based pit with evidence of *in situ* burning in its base, had been recut with a similar pit, indicating

repeated use. This feature, which may have been a charcoal production pit, had a lower fill mostly composed of charcoal, all oak.

Charcoal was an important commodity, especially used in for iron working, and would have been produced in large quantities. Numerous examples of these features have been recorded on excavations in Ireland, often similarly sub-rectangular features with flat bases such as that at Ballycuddy More. Amongst these examples are nineteen such pits dated to the 9<sup>th</sup>-12<sup>th</sup> centuries AD excavated at Kilmaniheen West, Co. Kerry (Hull and Taylor 2007).

The other dated early medieval feature was a small pit that also showed evidence of *in situ* burning. Whether this feature had a domestic or industrial function is not clear. The charcoal recovered from this, and indeed the other features in Area D, was also only oak, in contrast to the prehistoric features in other areas, which might indicate that they were all broadly contemporary.

An early medieval enclosure, occupied during the 8<sup>th</sup>-10<sup>th</sup> centuries, was excavated as part of the scheme just 300 m to the south-west at Ballywilliam Site 1 E2479 (McNamara et al 2011). It is likely that some of this domestic activity and metal-working was contemporary with the features at Ballycuddy More and it is conceivable that charcoal produced here was used by the enclosure occupants.

### ***Post-medieval***

The ditch that bisected the site is assumed to be a post-medieval field boundary but is not shown on the 1843 1<sup>st</sup> Edition OS map. Furrows parallel and perpendicular to the ditch indicate intensive agricultural activity and this had the prehistoric features.

### **Further work**

The results of this excavation will be published as part of a scheme monograph, hopefully in 2011-2012.

A summary of the findings of the excavation has been submitted to *Excavations 2007*.

An accessible archive of primary records (Appendix 4) will be 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 and will be conserved (where necessary), numbered, labelled, properly packed and will be deposited with the National Museum of Ireland in accordance with *Advice Notes for Excavators* (NMI 2010).

### ***Record of Monuments and Places***

There is no direct evidence that any portion of the site survives outside the excavated area, however features associated with prehistoric activity may exist in the adjacent field to the north-west of Area E and this should be entered in the RMP for County Tipperary

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**Appendix 1: Catalogue of features and deposits**

Area	Cut	Deposit	Description	Sample	Finds	Phase
B		50	Topsoil	-	-	-
A		56	Subsoil	-	-	-
A		63	Topsoil	-	-	-
A		64	Spread	7	-	2?
A		65	Spread	8	-	2?
B	1	51, 54	Hearth	1	Bone & Stone	2
B	2	52	Field boundary ditch slot	-	-	7
B	3	52, 53	Furrow	2, 3	-	7
B	4	52	Field boundary ditch slot	-	-	7
A	5	55	Pit	5	-	2?
A	6	57, 58, 61, 62	Pit	6	-	2
A	7	59, 60	Pit	-	-	1-2
C	100	150	Cremation burial pit	12	Bone	5
C	101	151	Cremation burial pit	9	Bone	5
C	102	152	Cremation burial pit	10	-	5
C	103	153	Pit	11	-	?
C	104	154	Pit	13	-	?
C	105	155	Cremation burial pit	14	Bone	5
C	106	156, 157	Cremation burial pit	16, 17	Bone	5
C	107	158, 159	Cremation burial pit	18	Bone	5
C	108	160	Pit	20	-	5?
C	109	161	Cremation burial pit	19	-	5
C	110	162	Cremation burial pit	21	-	5
D	111	163, 173, 174	Pit	34, 35, 36	-	6
C	112	164, 165, 166	Cremation burial pit	22, 23, 24	-	5
D	113	167	Pit	31	-	6
D	114	168	Pit	32	-	6?
D	115	169	Pit	26	-	6?
D	116	170	Pit	25	-	6?
D	117	171	Pit	27	-	6?
D	118	172	Stakehole	28	-	?
D	119	175, 176	Pit	37	-	6
D	120	177	Root hole	29	-	-
D	121	178	Pit	30	-	6?
D	122	179	Root hole	33	-	-
C & D		180	Topsoil	-	Stone	1
E	200	250, 251, 252	Pit	39, 40, 41	-	4
E	201	254	Pit	46	Pottery	1
E	202	255	Pit	47	-	1
E	203	256, 265	Pit	52, 53	-	1
E	204	257	Pit	45	Pottery	1
E	205	253, 258	Pit	-	-	?
E	206	266, 267, 268	Pit	48, 49, 50	Pottery	1
E	207	263, 264	Pit	54, 55, 70	Bone & Pottery	1
E	208	259	Pit	42	Pottery & Lithic	3
E	209	260	Pit	43	-	3+
E	210	261	Furrow	-	Pottery	7
E	211	262	Pit	44	-	1
E	212	269	Root Disturbance	-	-	-
E	213	270, 271, 272	Root Disturbance	-	-	-
E	214	273, 274	Pit	51	Lithic, Stone & Pottery	1
E	215	275	Pit	57	-	?
E	216	276	Pit	56	Pottery	1

Area	Cut	Deposit	Description	Sample	Finds	Phase
E	217	277	Stakehole	58	-	1
E	218	278	Pit	59	Pottery	1
E	219	279	Pit	60	-	1
E	220	280, 281	Hearth	61, 62, 63	-	4
E	221	282	Root hole	-	-	-
E	222	283	Posthole	-	-	?
E	224	285	Posthole	64	-	4?
E	225	286	Field boundary ditch slot	-	-	7
E	226	287	Pit	65	-	4?
E	227	290, 291	Posthole	67	-	4?
E	228	292	Possible Stakehole	68, 69	-	4?
E	229	293	Possible Stakehole	-	-	4?
E		288	Topsoil	-	-	-
E		289	Surface cleaning for finds	-	Lithic & Pottery	1/2

**Appendix 2: Catalogue of finds**

Find No	Cut	Deposit	Area	Sample No	Category	Description	No pieces	Weight (g)
51:1a-b	1	51	B		Stone	Burnt sandstone quern stone (incomplete)	2	18200
51:2	1	51	B		Stone	Burnt sandstone quern stone (incomplete)	1	10500
51:3	1	51	B	1	Bone	Calcinated trabecular bone fragment	2	<1
150:1	100	150	C	12	Bone	Calcinated cortical and trabecular bone	25	1
151:1	101	151	C	9	Bone	Calcinated long bone fragments from m/l mammal, trabecular bone fragments	14	<1
155:1	105	155	C	14	Bone	Calcinated cortical and trabecular bone	12	<1
156:1	106	156	C	17	Bone	Calcinated cortical and trabecular bone	ca 35	7
158:1	107	158	C	18	Bone	Calcinated cortical bone	ca 20	<1
180:1		180	C		Stone	Weathered sandstone rubbings stone	1	761
254:1	201	254	E		Pottery	Early Neolithic carinated bowl necksherd (Group I)	1	4
257:1	204	257	E	45	Pottery	Early Neolithic carinated bowl fragment (Group III)	1	<1
257:2	204	257	E		Pottery	Early Neolithic carinated bowl necksherd (Group II)	1	9
257:3	204	257	E		Pottery	Early Neolithic carinated bowl bodysherd (Group II)	1	7
257:4	204	257	E		Pottery	Early Neolithic carinated bowl necksherd (Group III)	1	2
259:1	208	259	E		Lithic	Chert arrowhead, leaf-shaped	1	2
259:2	208	259	E		Pottery	Early Neolithic carinated bowl necksherds	2	1
259:3	208	259	E		Pottery	Final Neolithic/Early Bronze Age (Beaker) bodysherd	1	<1
261:1	210	261	E		Pottery	Early Neolithic carinated bowl necksherd and fragment	2	<1
261:2	210	261	E		Pottery	Early Neolithic carinated bowl bodysherd	1	3
263:1	207	263	E	54	Bone	Calcinated cortical bone	1	<1
263:2	207	263	E		Pottery	Early Neolithic carinated bowl shouldersherd (Group IX)	2	5
263:3	207	263	E		Pottery	Early Neolithic carinated bowl bodysherd (Group IX)	1	10
263:4	207	263	E		Pottery	Early Neolithic carinated bowl shoulder/bodysherd (Group X)	1	10
263:5	207	263	E		Pottery	Early Neolithic carinated bowl shouldersherd (Group XI)	1	4
263:6	207	263	E		Pottery	Early Neolithic carinated bowl necksherd	2	1
263:7	207	263	E		Pottery	Early Neolithic carinated bowl necksherd (Group XI)	1	1
263:8	207	263	E		Pottery	Early Neolithic carinated bowl necksherd	1	<1
266:1	206	266	E	48	Pottery	Early Neolithic carinated bowl bodysherds (Group IV)	3	7
268:1	206	268	E	50	Pottery	Early Neolithic carinated bowl necksherd (Vessel 1)	1	2
268:2	206	268	E	50	Pottery	Early Neolithic carinated bowl shouldersherd (Vessel 2)	1	4
268:3	206	268	E	50	Pottery	Early Neolithic carinated bowl shouldersherd (Vessel 2)	1	3
268:4	206	268	E		Pottery	Early Neolithic carinated bowl bodysherd (Vessel 1)	1	8

Find No	Cut	Deposit	Area	Sample No	Category	Description	No pieces	Weight (g)
268:5	206	268	E		Pottery	Early Neolithic carinated bowl shouldersherd (Vessel 1)	1	5
268:6	206	268	E		Pottery	Early Neolithic carinated bowl necksherd (Group V)	1	3
268:7	206	268	E		Pottery	Early Neolithic carinated bowl necksherd (Vessel 1)	1	4
268:8	206	268	E		Pottery	Early Neolithic carinated bowl necksherd (Vessel 1)	1	1
268:9	206	268	E		Pottery	Early Neolithic carinated bowl rimsherd (Group V)	1	2
268:10	206	268	E		Pottery	Early Neolithic carinated bowl rimsherd (Vessel 1)	1	<1
268:11	206	268	E		Pottery	Early Neolithic carinated bowl bodysherd (Vessel 1)	1	5
268:12	206	268	E		Pottery	Early Neolithic carinated bowl necksherd (Group V)	1	5
268:13	206	268	E		Pottery	Early Neolithic carinated bowl fragment (Group V)	1	2
268:14	206	268	E		Pottery	Early Neolithic carinated bowl fragment (Group V)	1	2
268:15	206	268	E		Pottery	Early Neolithic carinated bowl fragment (Group V)	1	2
268:16	206	268	E		Pottery	Early Neolithic carinated bowl fragment (Group V)	2	<1
268:17	206	268	E		Pottery	Early Neolithic carinated bowl necksherd (Group VI)	1	4
268:18	206	268	E		Pottery	Early Neolithic carinated bowl necksherd (Group V)	1	2
268:19	206	268	E		Pottery	Early Neolithic carinated bowl necksherd (Group VI)	1	<1
268:20	206	268	E		Pottery	Early Neolithic carinated bowl shouldersherd (Vessel 2)	1	9
268:21	206	268	E		Pottery	Early Neolithic carinated bowl bodysherd (Vessel 2)	1	4
268:22	206	268	E		Pottery	Early Neolithic carinated bowl necksherds (Vessel 2)	2	13
268:23	206	268	E		Pottery	Early Neolithic carinated bowl bodysherd (Vessel 2)	1	3
268:24	206	268	E		Pottery	Early Neolithic carinated bowl bodysherd (Vessel 2)	1	6
268:25	206	268	E		Pottery	Early Neolithic carinated bowl bodysherd (Vessel 2)	1	2
268:26	206	268	E		Pottery	Early Neolithic carinated bowl necksherd (Group VIII)	1	<1
268:27	206	268	E		Pottery	Early Neolithic carinated bowl bodysherd (Vessel 2)	1	<1
268:28	206	268	E		Pottery	Early Neolithic carinated bowl necksherd (Group VIII)	1	<1
268:29	206	268	E		Pottery	Early Neolithic carinated bowl fragment (Vessel 2)	1	2
268:30	206	268	E		Pottery	Early Neolithic carinated bowl fragment (Vessel 2)	1	2
273:1	214	273	E		Lithic	Chert debitage, struck	1	1
273:2	214	273	E	51	Stone	Slightly weathered sandstone rubbing stone	1	24
273:3	214	273	E	51	Stone	Slightly weathered sandstone rubbing stone	1	43
273:4	214	273	E	51	Stone	Burnt sandstone rubbing stone	1	32
273:5	214	273	E	51	Stone	Burnt sandstone rubbing stone (incomplete)	1	33
273:6	214	273	E	51	Stone	Slightly weathered sandstone rubbing stone	1	21
273:7	214	273	E	51	Stone	Slightly weathered sandstone rubbing stone (incomplete)	1	25
273:8	214	273	E	51	Stone	Rolled sandstone rubbing stone (incomplete)	1	26
273:9	214	273	E	51	Stone	Burnt sandstone rubbing stone (incomplete)	1	22

Find No	Cut	Deposit	Area	Sample No	Category	Description	No pieces	Weight (g)
273:10	214	273	E	51	Pottery	Early Neolithic carinated bowl bodysherd (Vessel 5)	1	4
273:11	214	273	E	51	Pottery	Early Neolithic carinated bowl necksherd (Vessel 5)	1	4
273:12	214	273	E	51	Pottery	Early Neolithic carinated bowl bodysherd (Vessel 3)	1	1
273:13	214	273	E	51	Pottery	Early Neolithic carinated bowl bodysherd (Vessel 5)	1	4
273:14	214	273	E	51	Pottery	Early Neolithic carinated bowl rimsherd (Vessel 5)	1	2
273:15	214	273	E	51	Pottery	Early Neolithic carinated bowl fragments (Vessel 6)	8	3
273:16	214	273	E		Pottery	Early Neolithic carinated bowl shouldersherds (Vessel 3)	2	35
273:17	214	273	E		Pottery	Early Neolithic carinated bowl rimsherds (Vessel 4)	2	4
273:18	214	273	E		Pottery	Early Neolithic carinated bowl necksherd (Vessel 3)	1	<1
273:19	214	273	E		Pottery	Early Neolithic carinated bowl bodysherd	1	3
273:20	214	273	E		Pottery	Early Neolithic carinated bowl bodysherd	1	3
273:21	214	273	E		Pottery	Early Neolithic carinated bowl bodysherd	1	<1
273:22	214	273	E		Pottery	Early Neolithic carinated bowl rimsherd (Vessel 6)	1	2
273:23	214	273	E		Pottery	Early Neolithic carinated bowl bodysherd (Vessel 6)	1	<1
273:24	214	273	E		Pottery	Early Neolithic carinated bowl bodysherd (Vessel 6)	1	3
273:25	214	273	E		Pottery	Early Neolithic carinated bowl bodysherd (Vessel 6)	1	2
273:26	214	273	E		Pottery	Early Neolithic carinated bowl fragments (Vessel 6)	2	<1
276:1	216	276	E		Pottery	Early Neolithic carinated bowl neck/shouldersherds (Vessel 7)	2	33
276:2	216	276	E		Pottery	Early Neolithic carinated bowl necksherd (Vessel 7)	1	5
276:3	216	276	E		Pottery	Early Neolithic carinated bowl bodysherd (Vessel 7)	1	2
276:4	216	276	E		Pottery	Early Neolithic carinated bowl bodysherd (Vessel 7)	1	4
276:5	216	276	E		Pottery	Early Neolithic carinated bowl fragment (Vessel 7)	1	<1
278:1	218	278	E	59	Pottery	Early Neolithic carinated bowl fragment	1	<1
278:2	218	278	E		Pottery	Early Neolithic carinated bowl rimsherd (Vessel 8)	1	2
278:3	218	278	E		Pottery	Early Neolithic carinated bowl necksherd (Vessel 8)	1	6
278:4	218	278	E		Pottery	Early Neolithic carinated bowl bodysherd (Group XII)	1	14
278:5	218	278	E		Pottery	Early Neolithic carinated bowl bodysherd (Group XII)	1	2
278:6	218	278	E		Pottery	Early Neolithic carinated bowl shouldersherd (Vessel 9)	1	7
278:7	218	278	E		Pottery	Early Neolithic carinated bowl necksherd	1	2
278:8	218	278	E		Pottery	Early Neolithic carinated bowl bodysherd	1	<1
289:1		289	E		Lithic	Chert arrowhead, lozenge-shaped	1	2
289:2		289	E		Lithic	Flint flake	1	13
289:3		289	E			Cancelled		
289:4		289	E		Pottery	Early Neolithic carinated bowl bodysherd (Group XIV)	1	2
289:5		289	E		Pottery	Early Neolithic carinated bowl bodysherd (Group XIV)	1	2

<b>Find No</b>	<b>Cut</b>	<b>Deposit</b>	<b>Area</b>	<b>Sample No</b>	<b>Category</b>	<b>Description</b>	<b>No pieces</b>	<b>Weight (g)</b>
289:6		289	E		Pottery	Early Neolithic carinated bowl necksherd (Group XV)	1	2
289:7		289	E		Pottery	Early Neolithic carinated bowl rimsherd (Group XV)	1	<1
289:8		289	E		Pottery	Early Neolithic carinated bowl fragments (Group XV)	4	<1
289:9		289	E		Pottery	Early Neolithic carinated bowl necksherd (Group XIII)	1	20



**Appendix 3: Catalogue of samples**

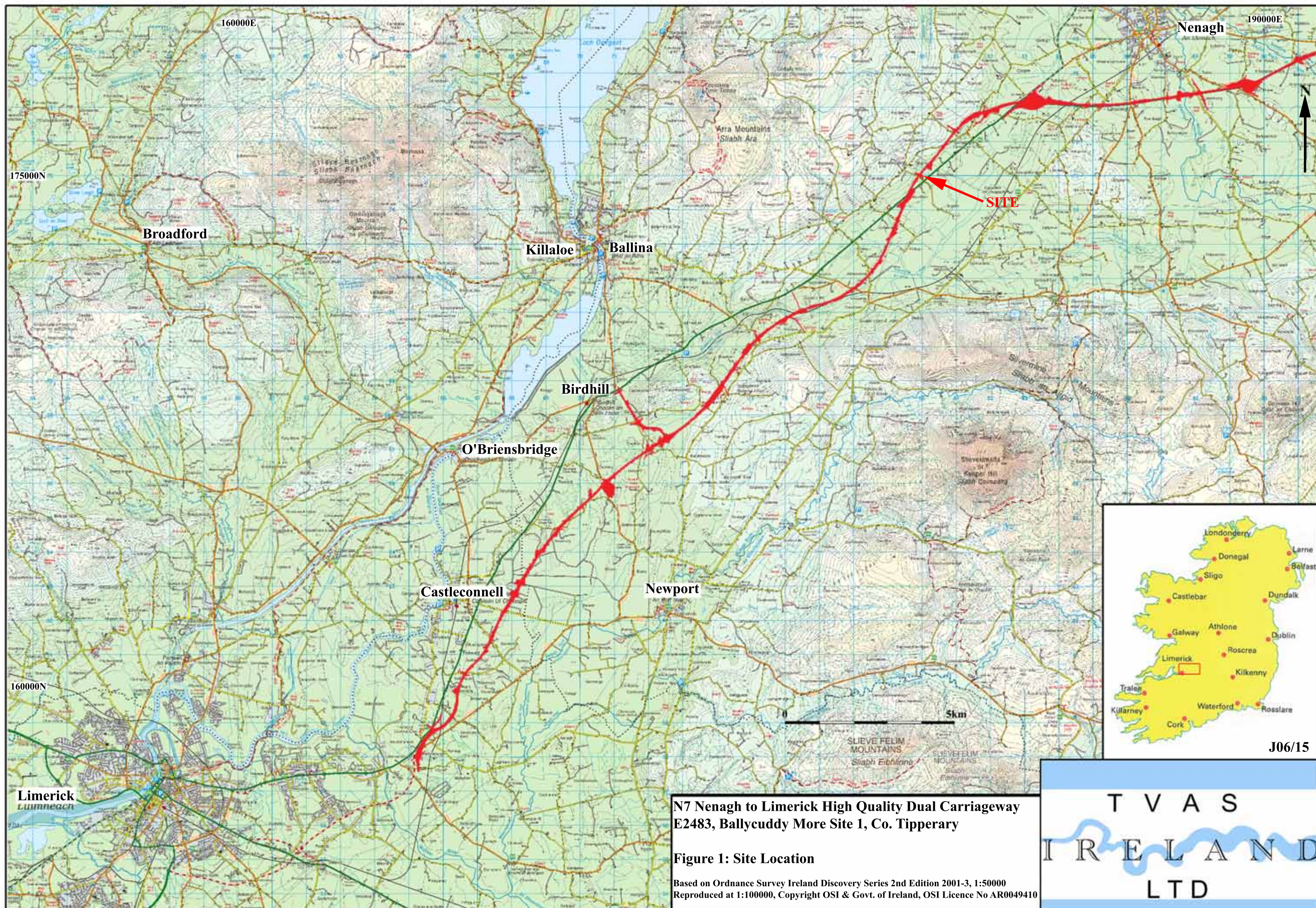
Sample No	Cut	Deposit	Area	Volume sieved (L)	Volume floated (L)	Findings	Charred plant remains
1	1	51	B	12	12	Bone	Yes
2	3	52	B	-	-	-	-
3	3	53	B	-	-	-	-
4						Cancelled	
5	5	55	A	2	2	No	Yes
6	6	61	A	2	2	No	Yes
7		64	A	2	2	No	Yes
8		65	A	2	2	No	No
9	101	151	C	2	2	Bone	Yes
10	102	152	C	0.25	0.25	No	No
11	103	153	C	2	2	No	No
12	100	150	C	2	2	Bone	Yes
13	104	154	C	1	1	No	No
14	105	155	C	1	1	Bone	Yes
15						Cancelled	
16	106	156	C	1	1	No	No
17	106	157	C	1	1	Bone	Yes
18	107	158	C	4	4	Bone	Yes
19	109	161	C	1	1	No	Yes
20	108	160	C	1	1	No	Yes
21	110	162	C	4	4	No	Yes
22	112	164	C	1.50	1.50	No	Yes
23	112	165	C	1.50	1.50	No	Yes
24	112	166	C	2	2	No	Yes
25	116	170	D	2	2	No	No
26	115	169	D	1	1	No	No
27	117	171	D	-	-	-	-
28	118	172	D	0.25	0.25	No	No
29	120	177	D	-	-	-	-
30	121	178	D	0.25	0.25	No	No
31	113	167	D	1	1	No	Yes
32	114	168	D	2	2	No	Yes
33	122	179	D	-	-	-	-
34	111	163	D	2	2	No	Yes
35	111	173	D	2	2	No	Yes
36	111	174	D	2	2	No	Yes
37	119	175	D	2	2	No	Yes
38	119	176	D	2	2	No	Yes
39	200	250	E	0.25	0.25	No	Yes
40	200	251	E	0.25	0.25	No	Yes
41	200	252	E	0.25	0.25	No	Yes
42	208	259	E	0.25	0.25	No	Yes
43	209	260	E	0.25	0.25	No	Yes
44	211	262	E	0.25	0.25	No	Yes
45	204	257	E	0.25	0.25	Pottery	No
46	201	254	E	2	2	No	Yes
47	202	255	E	0.25	0.25	No	Yes
48	206	266	E	2	2	Pottery	Yes
49	206	267	E	2	2	No	Yes
50	206	268	E	2	2	Pottery	Yes
51	214	273	E	20	20	Stone & Pottery	Yes
52	203	256	E	2	2	No	No
53	203	265	E	2	2	No	Yes

Sample No	Cut	Deposit	Area	Volume sieved (L)	Volume floated (L)	Finds	Charred plant remains
54	207	263	E	2	2	Bone	Yes
55	207	264	E	2	2	No	No
56	216	276	E	0.25	0.25	No	No
57	215	275	E	0.25	0.25	No	No
58	217	277	E	2	2	No	No
59	218	278	E	20	20	Pottery	Yes
60	219	279	E	2	2	No	No
61	220	280	E	4	4	Stone	Yes
62	220	280	E	0.25	0.25	No	Yes
63	220	281	E	2	2	No	Yes
64	224	285	E	0.25	0.25	No	Yes
65	226	287	E	0.25	0.25	No	Yes
66	220	280	E	-	-	No	Yes
67	227	290	E	0.50	0.50	No	Yes
68	228	292	E	0.25	0.25	No	Yes
69	228	292	E	0.25	0.25	No	Yes
70	207	263	E	-	-	No	Yes

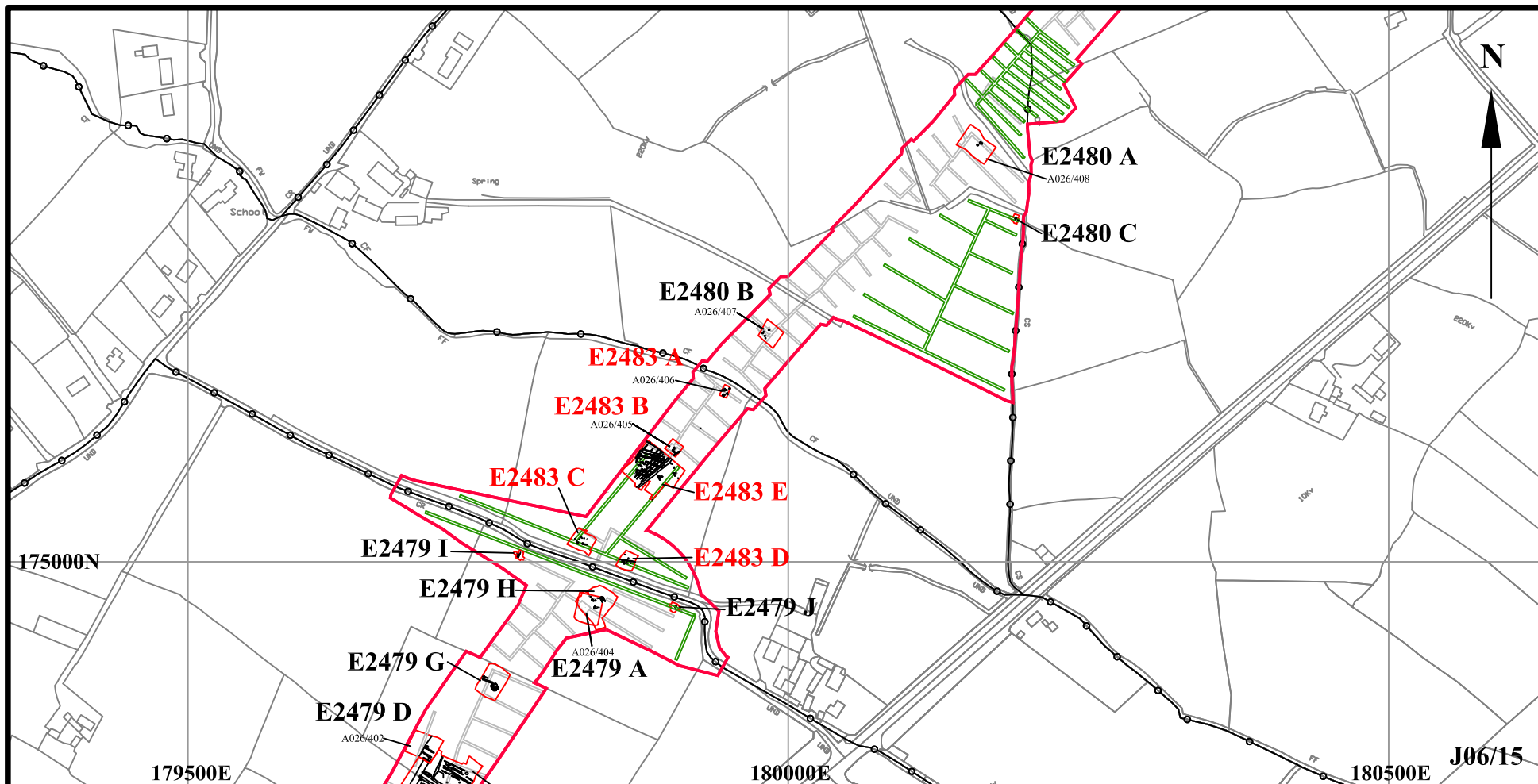
#### Appendix 4: Archive contents

Category	Item	Quantity	Condition
<b>Paper records</b>	Number allocation sheet	2	Good
	Context index sheets	9	Good
	Context sheets	151	Good
	Section index sheets	4	Good
	Plan keys	3	Good
	Sample index sheets	3	Good
	Level sheets	10	Good
	Finds register sheets	2	Good
<b>Plans</b>	1:200 tie-in plans (A2)	2	Good
	1:20 post-ex plans (A2)	20	Good
	1:100 pre-ex plans (A2)	2	Good
	1:100 post-ex plans (A2)	3	
<b>Sections</b>	Section sheets (A2)	6	Good
	1:10 section drawings (on those sheets)	56	Good
<b>Photographs</b>	Digital photographs	180	Digitally stored & backed-up









N7 Nenagh-Limerick HQDC  
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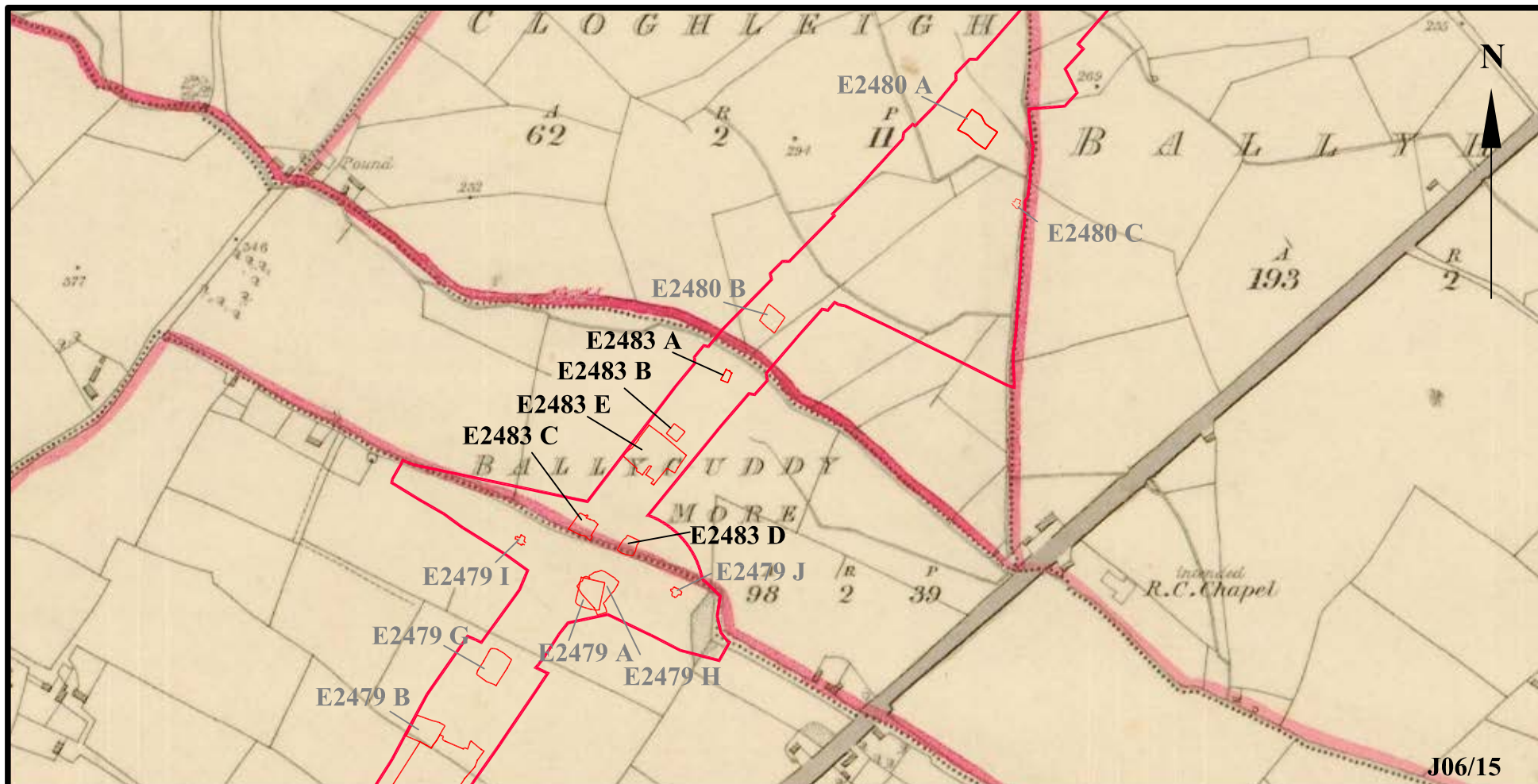
Figure 2: Site location and test trenches

Scale 1:5000

Based on Ordnance Survey Ireland digital mapping

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T V A S  
I R E L A N D  
L T D



0 250m

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**E2483, Ballycuddy More Site 1, Co. Tipperary**

**Figure 3: Ordnance Survey 1<sup>st</sup> Edition Map, 1843**

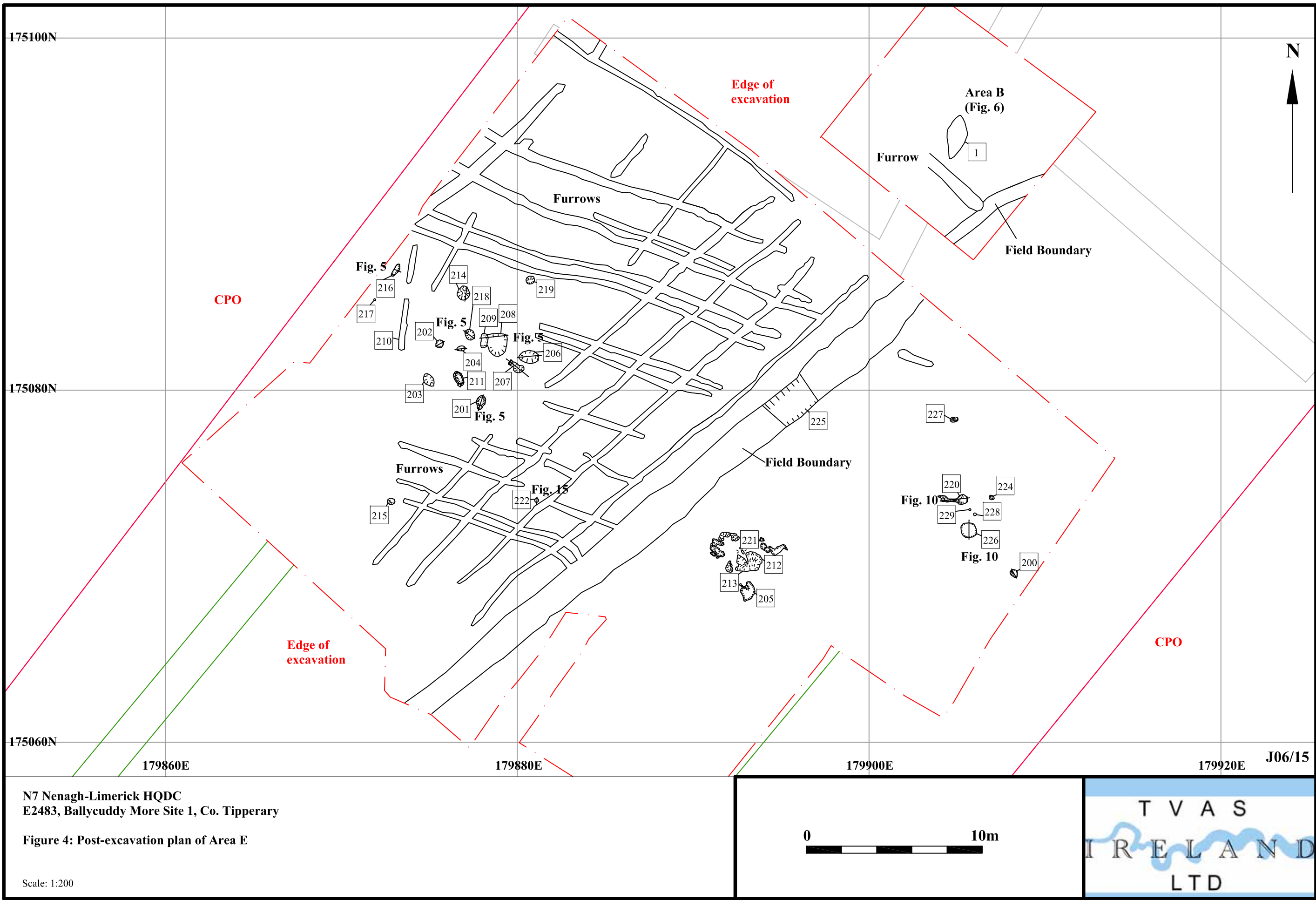
Scale 1:5000

Based on OS 1st Edition, Co. Tipperary Sheet 26, 6" to mile

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T V A S  
 I R E L A N D  
 LTD

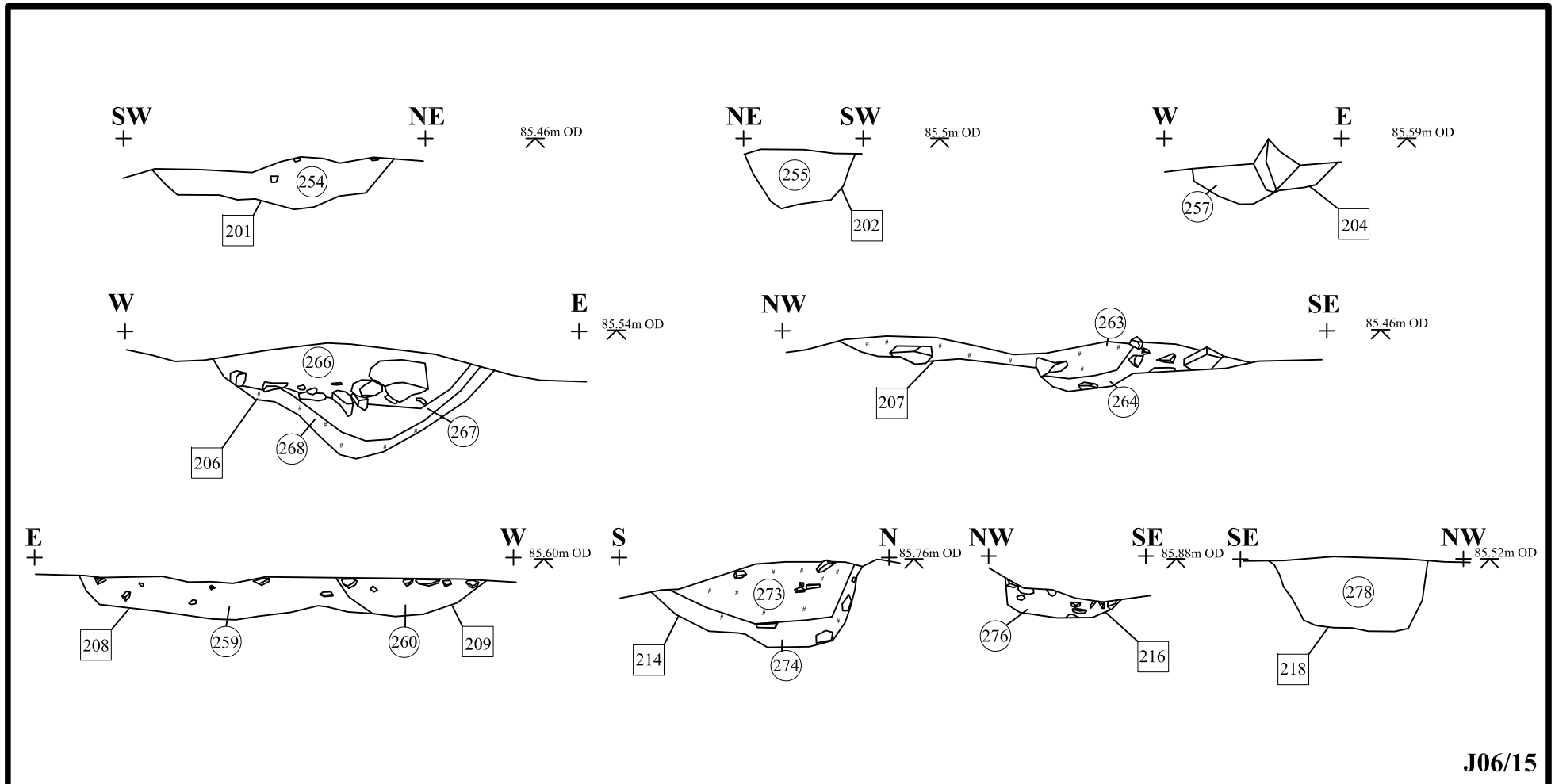


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Figure 4: Post-excavation plan of Area E

Scale: 1:200





0 1m

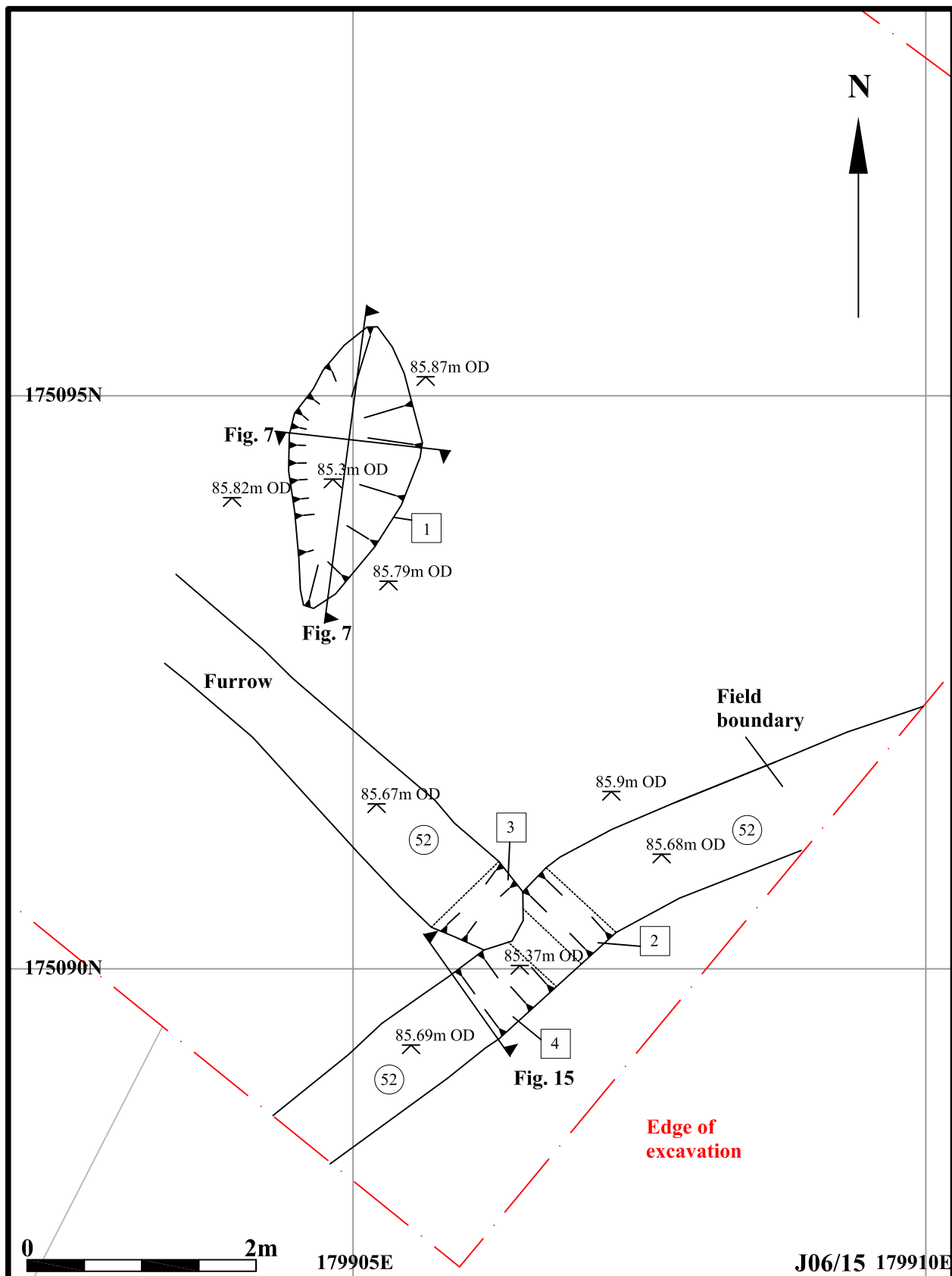
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Figure 5: Sections of Early Neolithic pits 201, 202, 204, 206, 207, 214, 216 and 218 and Late Neolithic / Early Bronze Age pits 208 and 209, Area E

Scale: 1:20

T V A S  
I R E L A N D  
L T D



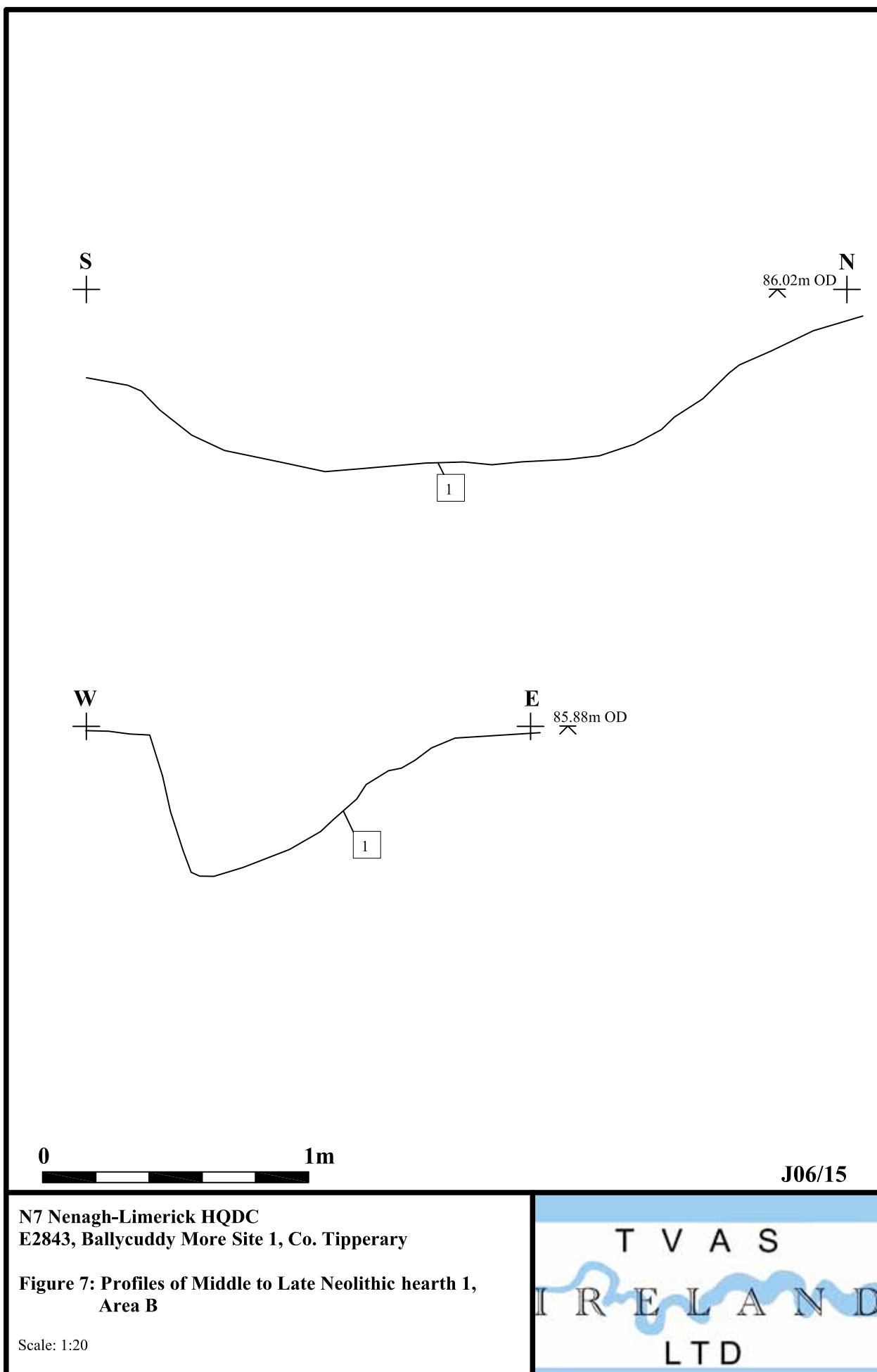


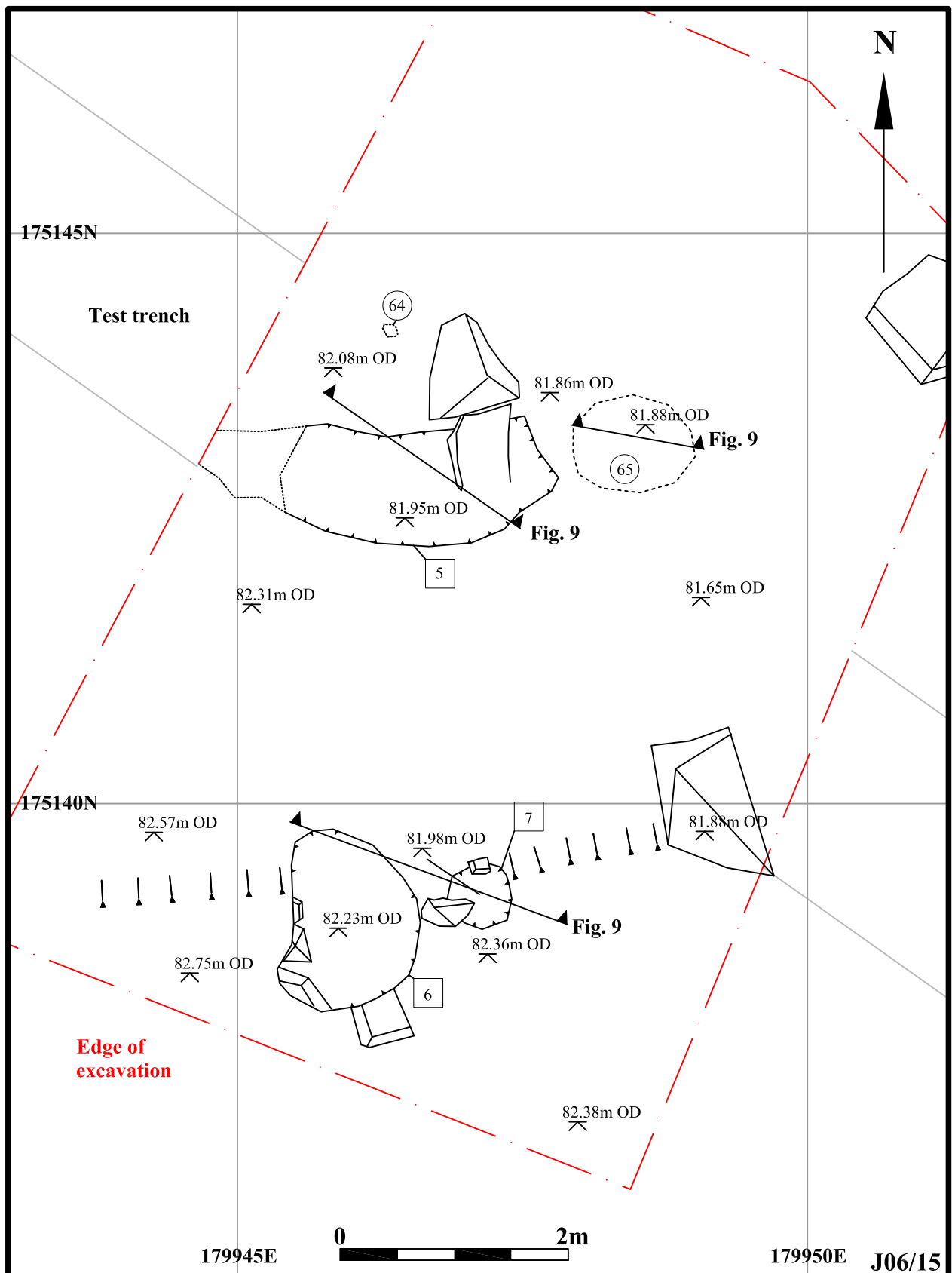
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**Figure 6: Post-excitation plan of Area B**

Scale: 1:50

T V A S  
I R E L A N D  
L T D

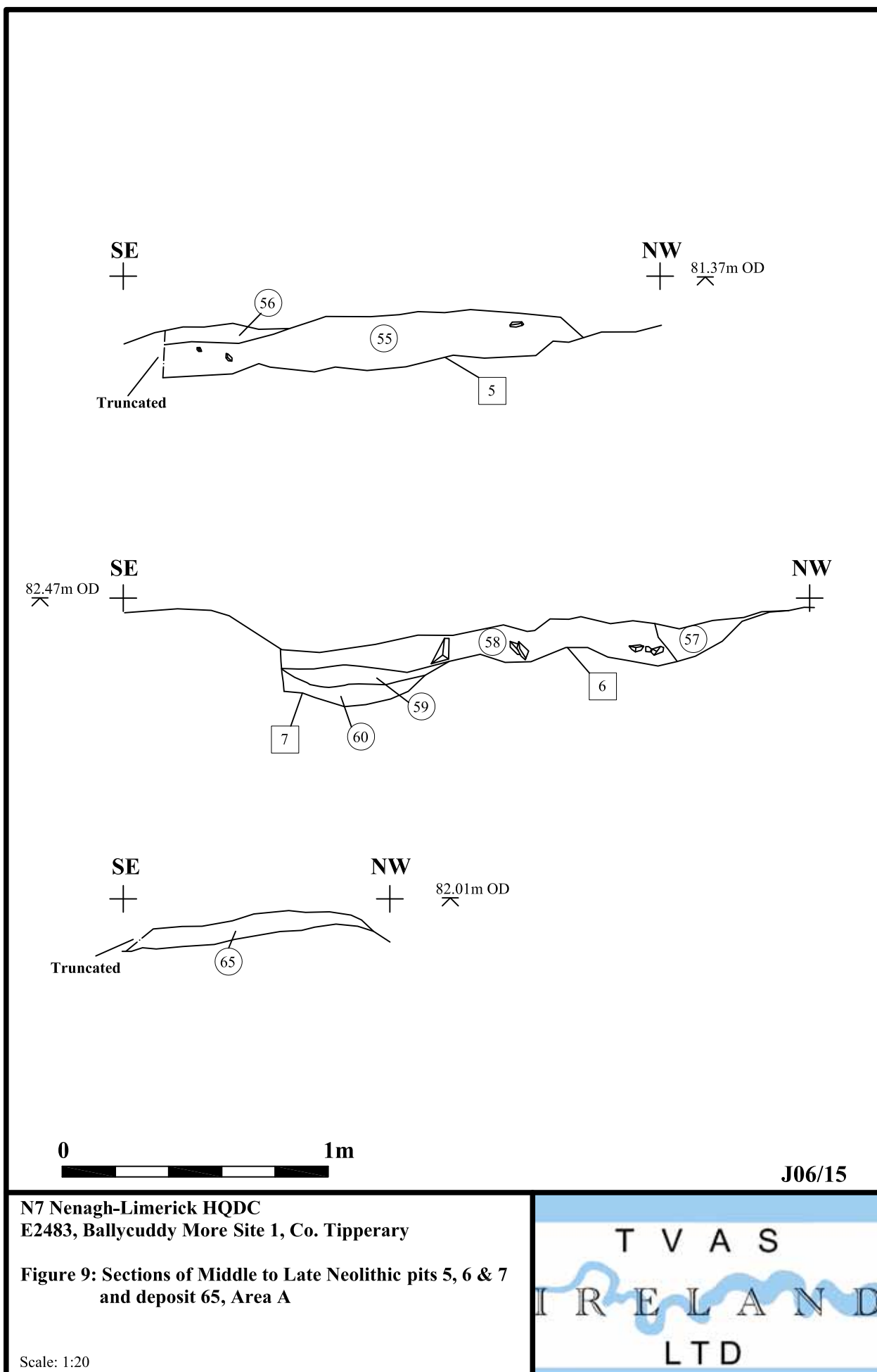




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**Figure 8: Post-excavation plan of Area A**

Scale: 1:50



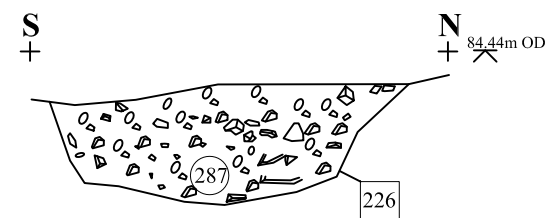
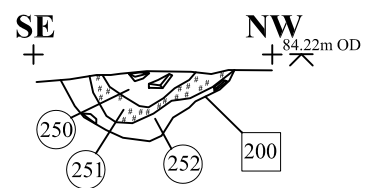
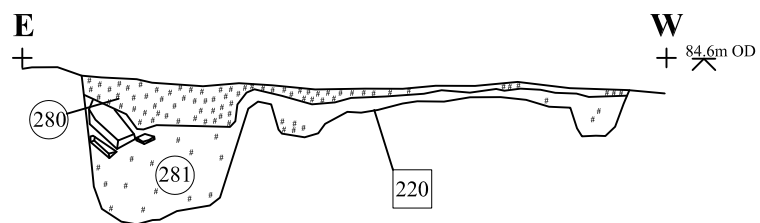
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Figure 9: Sections of Middle to Late Neolithic pits 5, 6 & 7  
and deposit 65, Area A

Scale: 1:20

J06/15

T V A S  
I R E L A N D  
L T D



J06/15

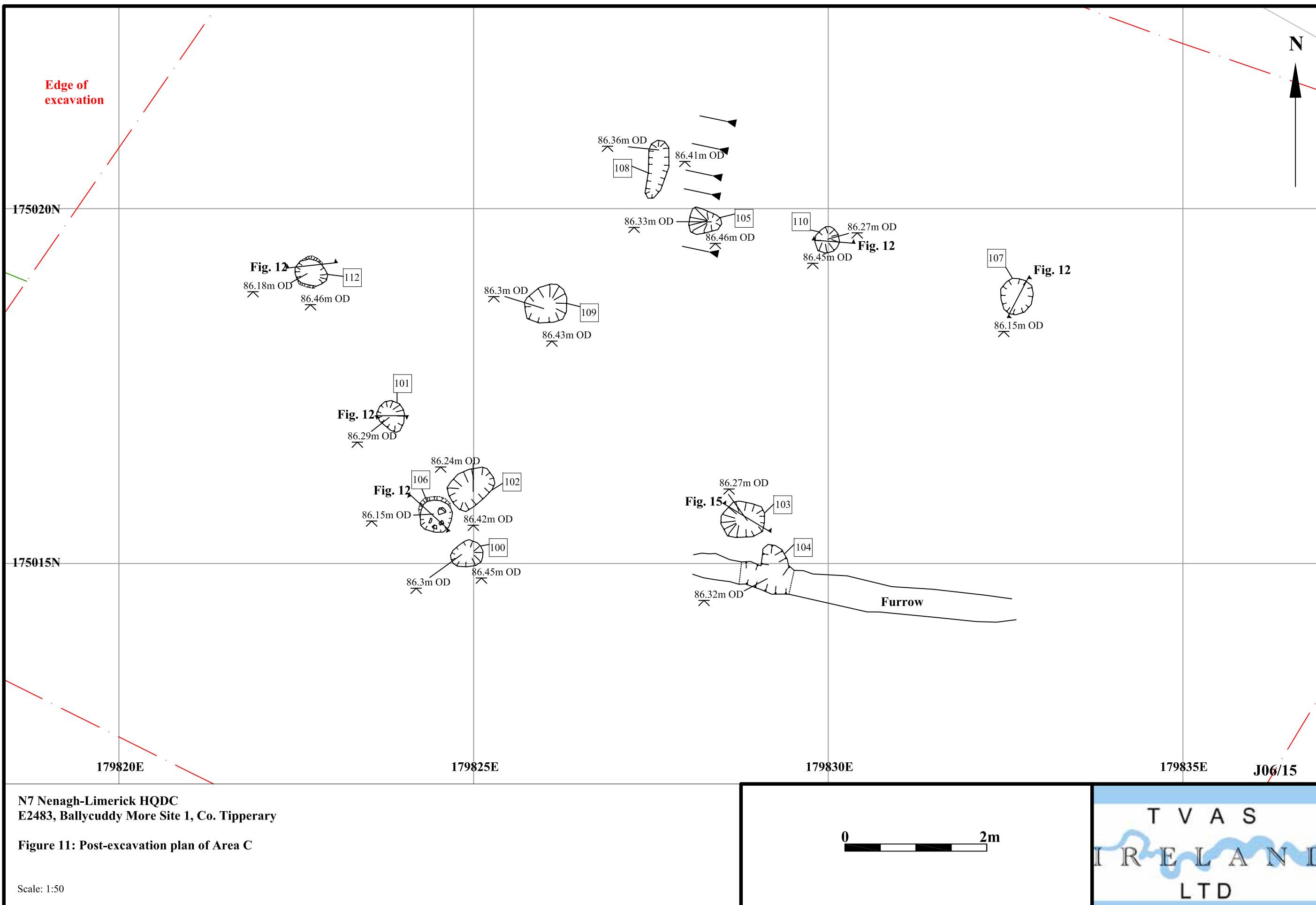


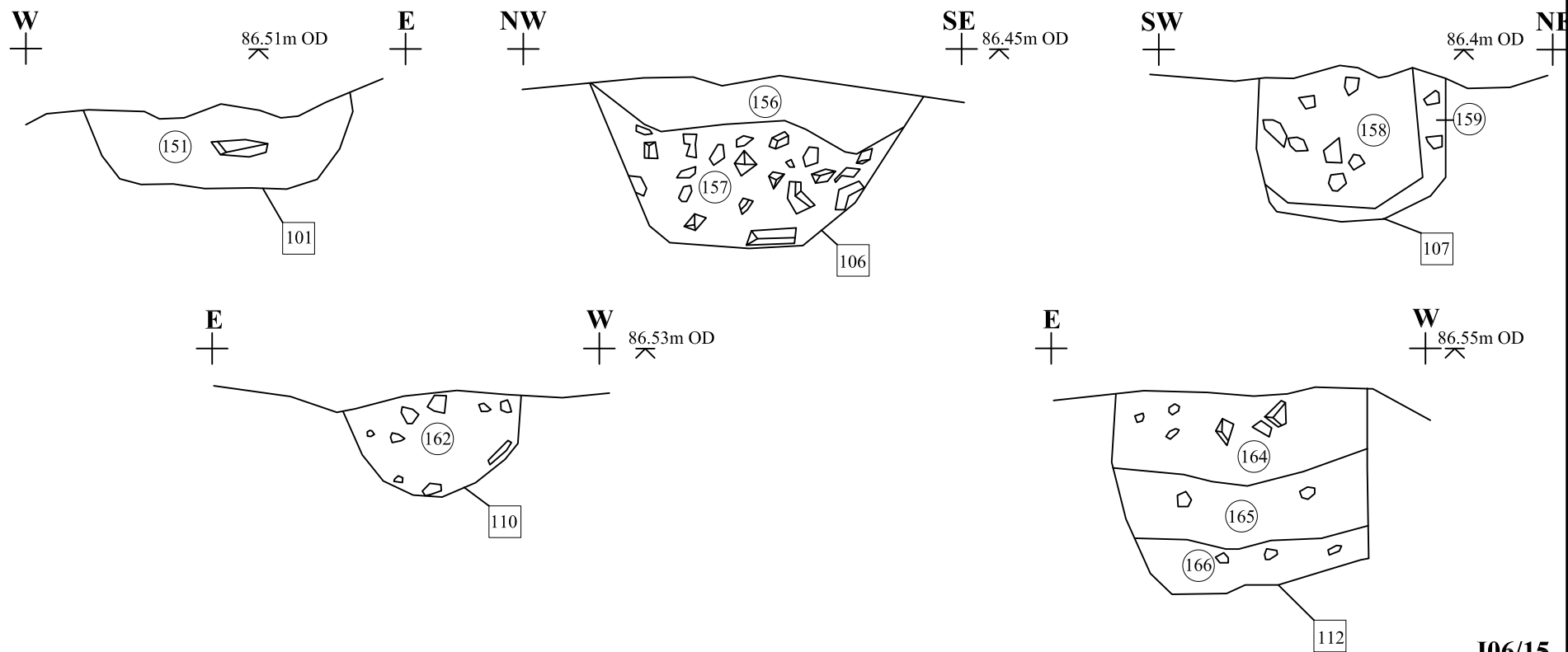
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Figure 10: Sections of Middle Bronze Age hearth 220  
and pits 200 and 226, Area E

Scale: 1: 20

T V A S  
I R E L A N D  
L T D





J06/15

0 0.5m

N7 Nenagh-Limerick HQDC  
E2483, Ballycuddy More Site 1, Co. Tipperary

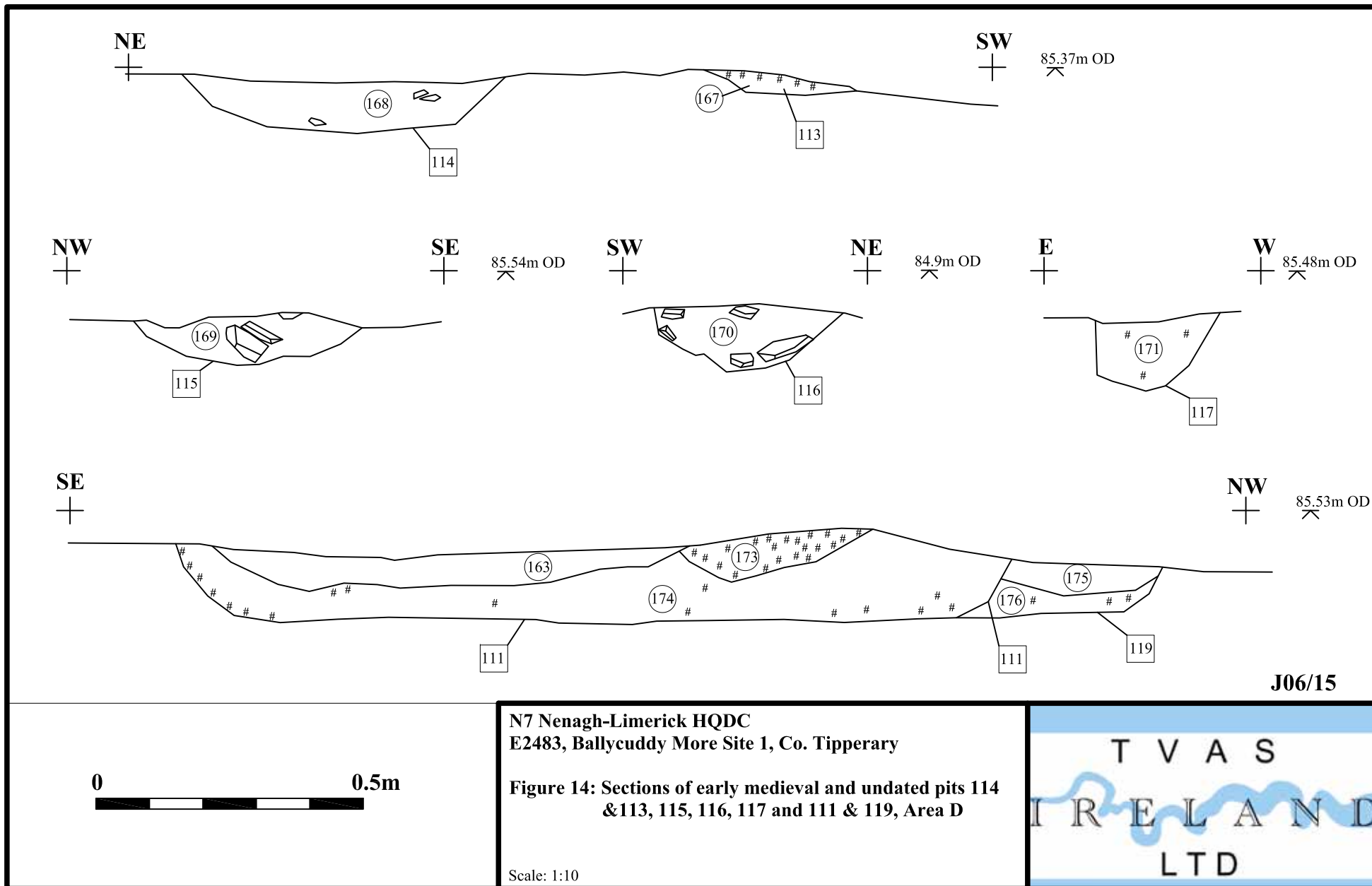
Figure 12: Sections through Iron Age possible cremation  
burial pits 101, 106, 107, 110 and 112, Area C

Scale: 1:10

T V A S  
I R E L A N D  
L T D





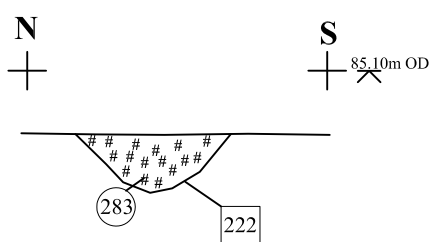
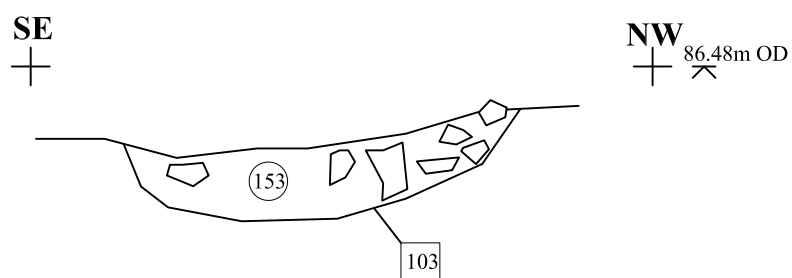
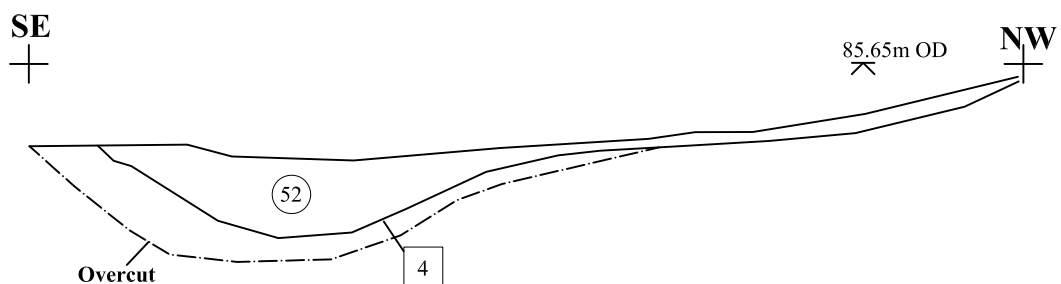


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Figure 14: Sections of early medieval and undated pits 114 & 113, 115, 116, 117 and 111 & 119, Area D

Scale: 1:10

T V A S  
I R E L A N D  
L T D



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Figure 15: Sections of post-medieval ditch slot 4, Area B,  
un-phased pit 103, Area C and un-phased  
posthole 222, Area E

Scale: 1:10

T V A S  
I R E L A N D  
L T D



0 50mm

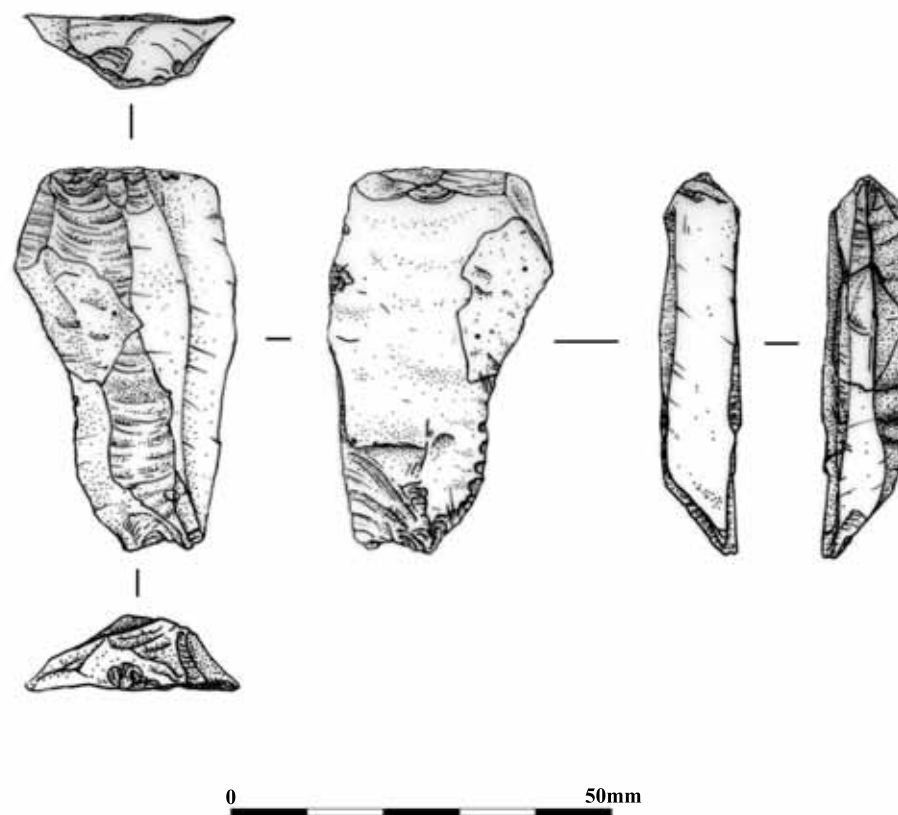
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Figure 16: Finds E2483:259:1 and 289:1 chert leaf-shaped and lozenge-shaped arrowheads

Drawn by Astrid Nathan





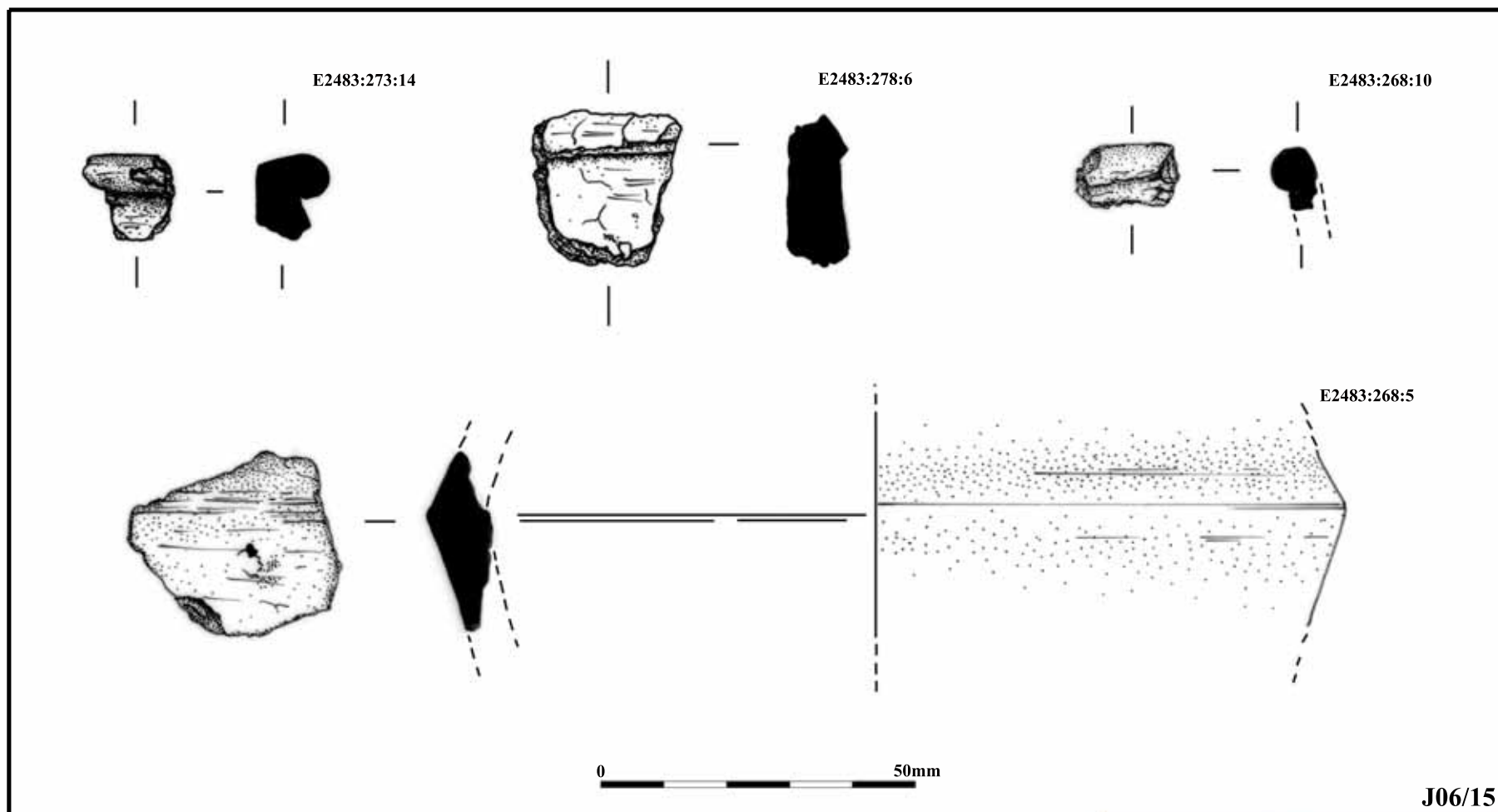
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Figure 17: Find E2483:289:2 flint flake

Drawn by Astrid Nathan

T V A S  
I R E L A N D  
L T D



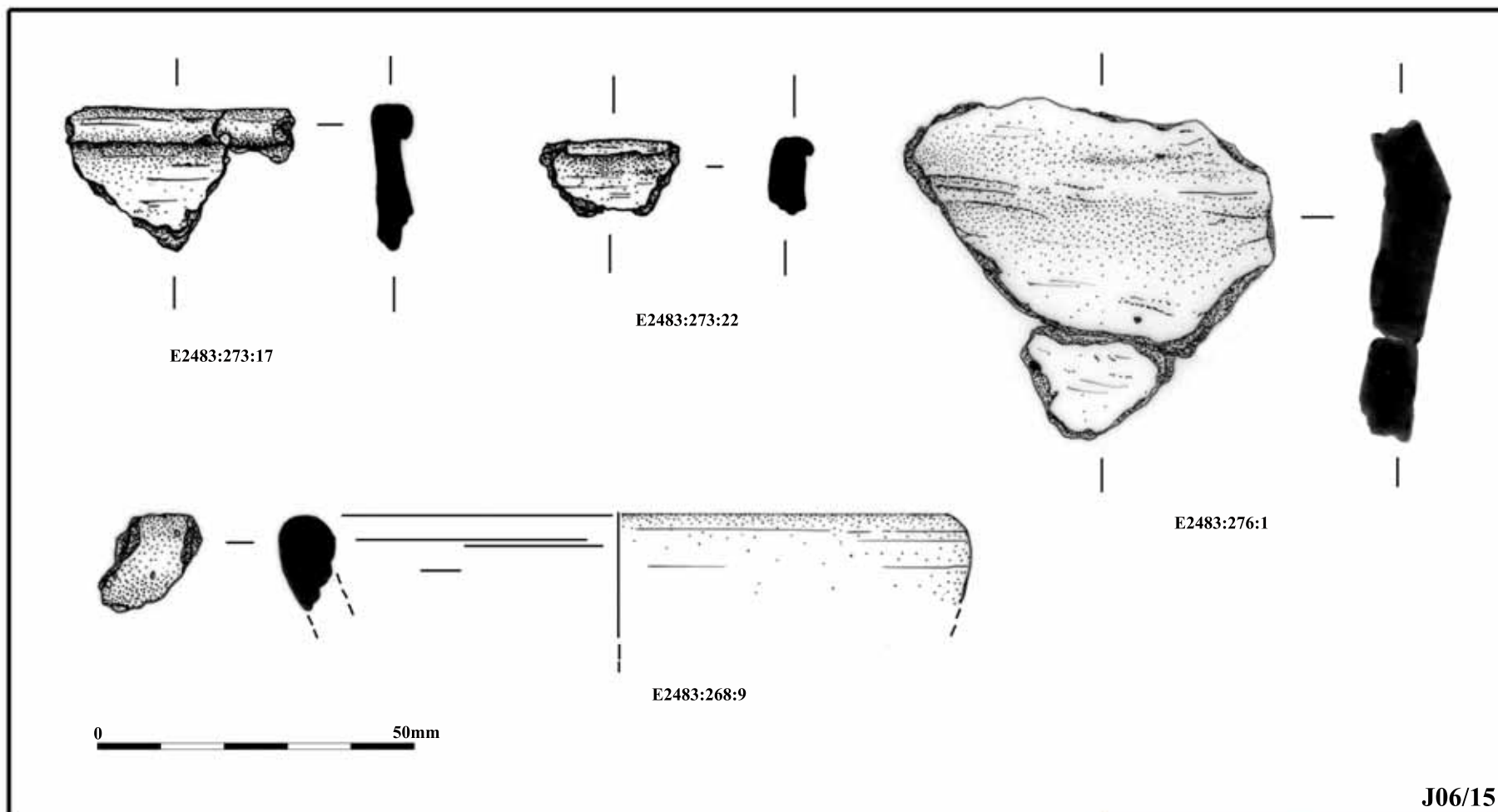
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E2483, Ballycuddy More Site 1, Co. Tipperary

Figure 18: Early Neolithic carinated bowls; E2483:273:14 (Vessel 5, rimsherd);  
278:6 (Vessel 9, shouldersherd); 268:10 & 265:5 (Vessel 1, rim- and shouldersherd)

Drawn by Astrid Nathan



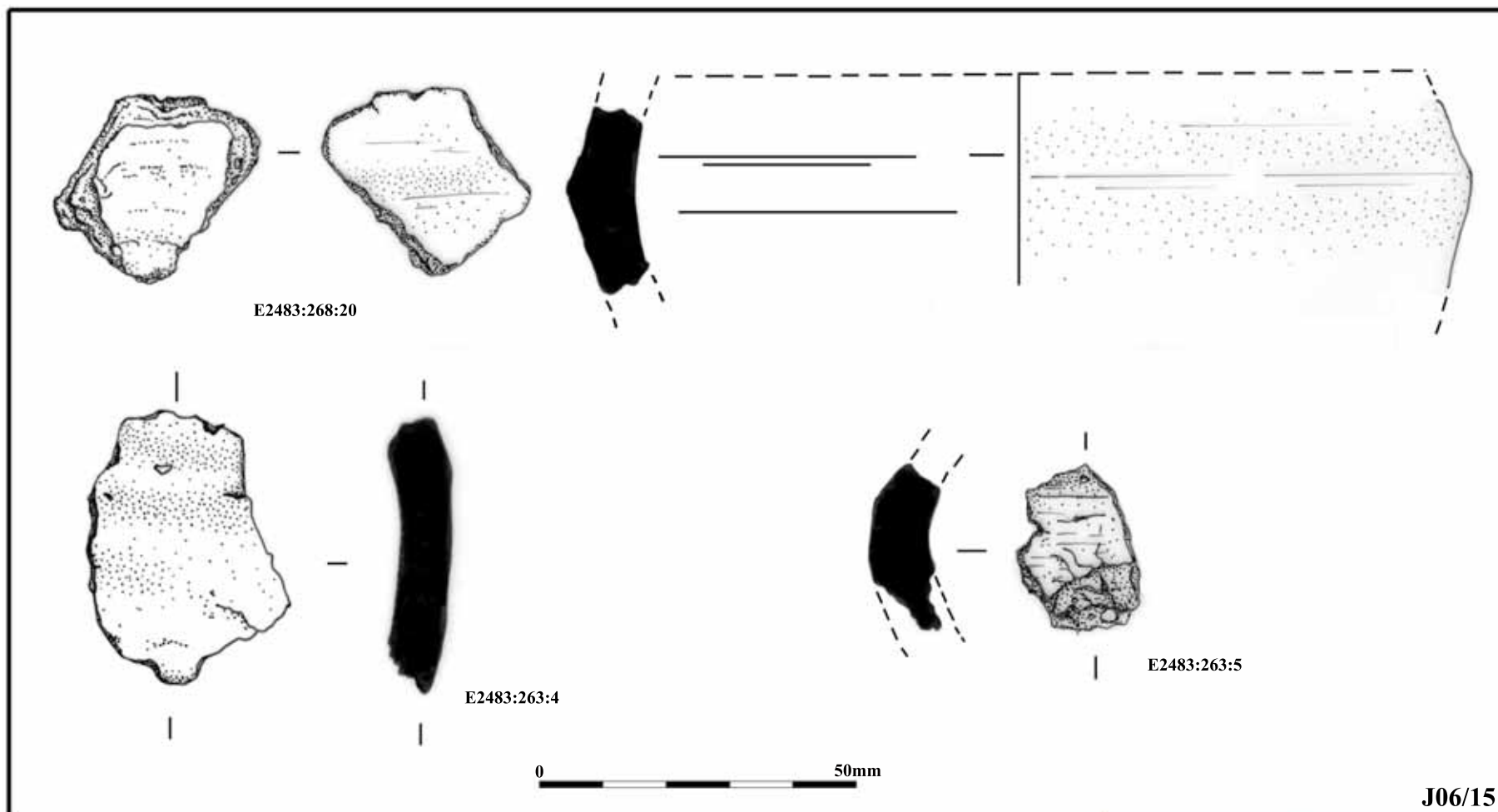


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E2483, Ballycuddy More Site 1, Co. Tipperary

**Figure 19: Early Neolithic carinated bowls; E2483:273:17 (Vessel 4, rimsherds);  
273:22 (Vessel 6, rimsherd); 276:1 (Vessel 7, neck/shouldersherds) and  
268:9 (Group V, rimsherd)**

Drawn by Astrid Nathan



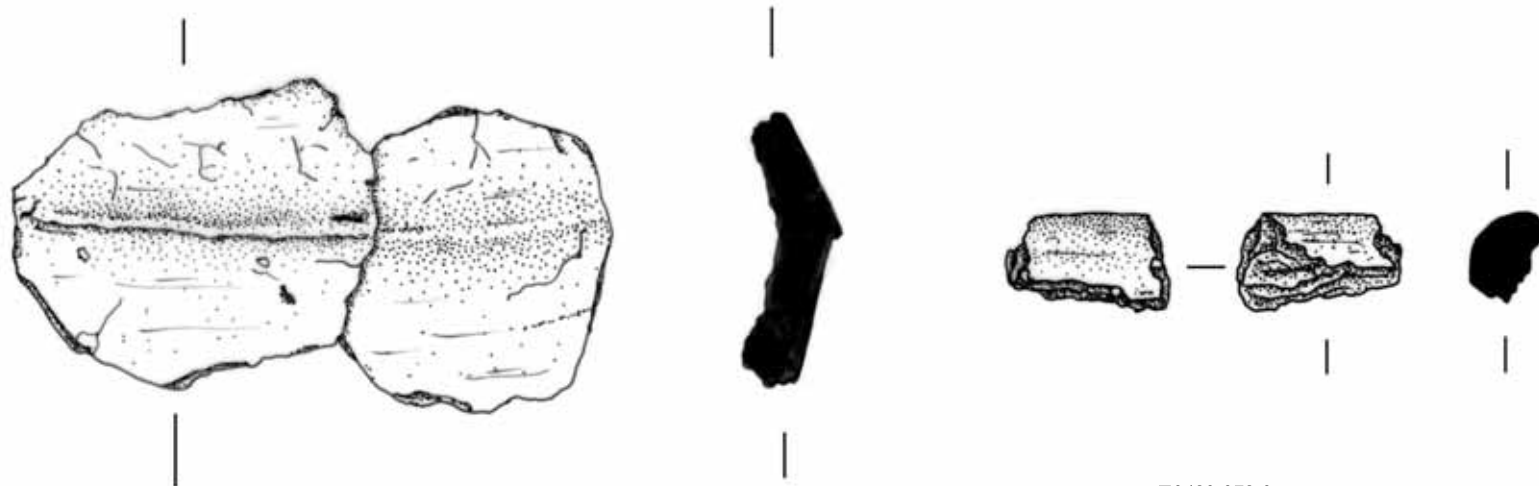


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E2483, Ballycuddy More Site 1, Co. Tipperary

**Figure 20: Early Neolithic carinated bowls; E2483:268:20 (Vessel 2, shouldersherd);  
263:4 (Group X, shoulder/bodysherd) and 263:5 (Group XI, shouldersherd)**

Drawn by Astrid Nathan





E2483:273:16

E2483:278:2

0 50mm

J06/15

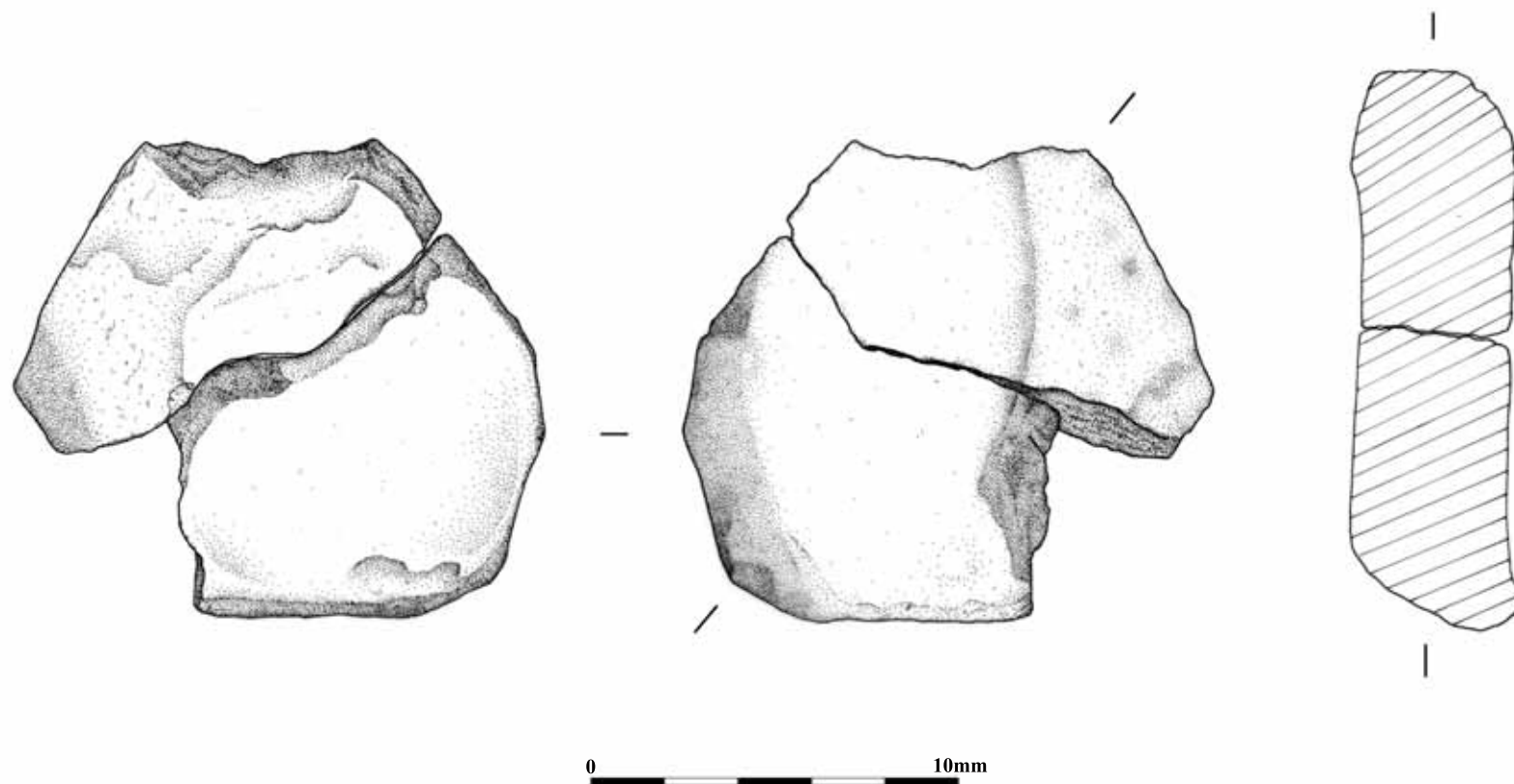
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E2483, Ballycuddy More Site 1, Co. Tipperary

**Figure 21: Early Neolithic carinated bowls; E2483:273:16 (Vessel 3, shouldersherds)  
and 278:2 (Vessel 8, rimsherd)**

Drawn by Astrid Nathan







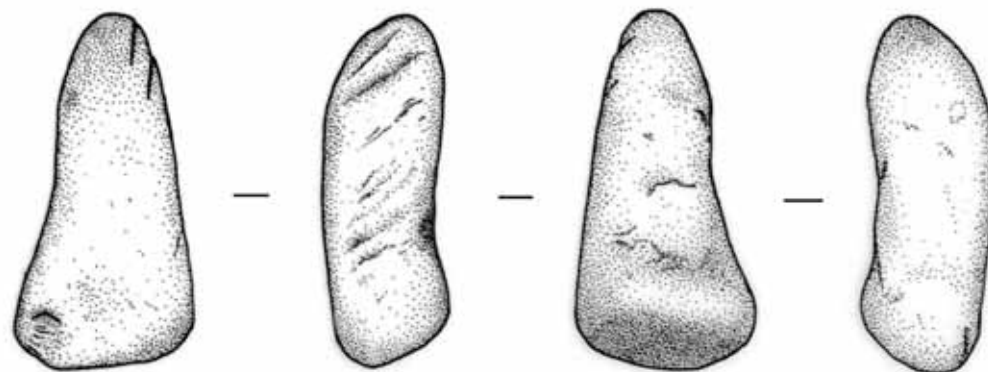
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E2483, Ballycuddy More Site 1, Co. Tipperary

Figure 22: Find E2483:51:1, Late Neolithic / Bronze Age quern stone

Drawn by Astrid Nathan

T V A S  
I R E L A N D  
L T D



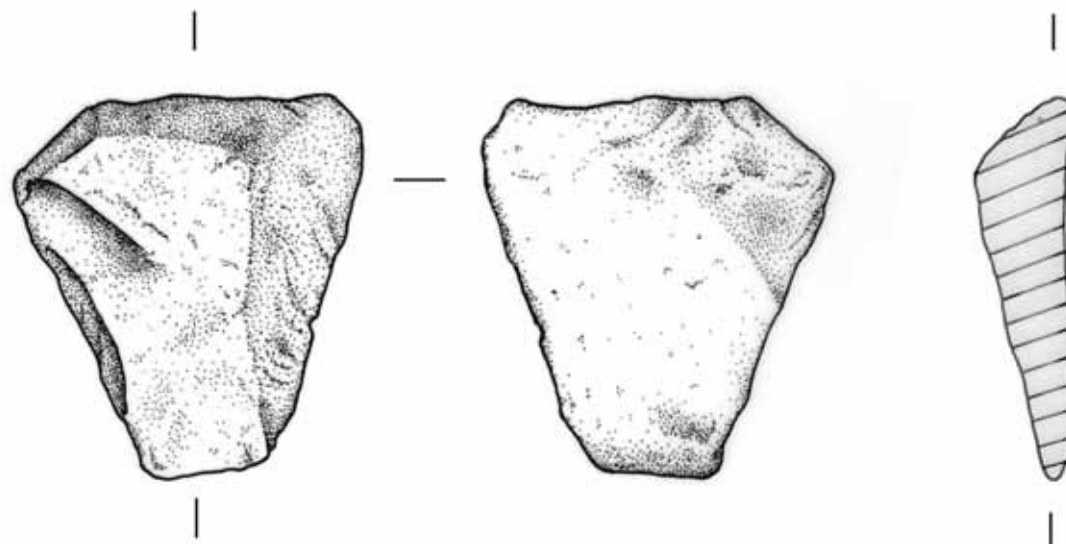
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**N7 Nenagh-Limerick HQDC**  
**E2483, Ballycuddy More Site 1, Co. Tipperary**

**Figure 23: Find E2483:273:2, Early / Middle Neolithic rubbing stone**

**Drawn by Astrid Nathan**

T V A S  
 I R E L A N D  
 LTD



0 50mm

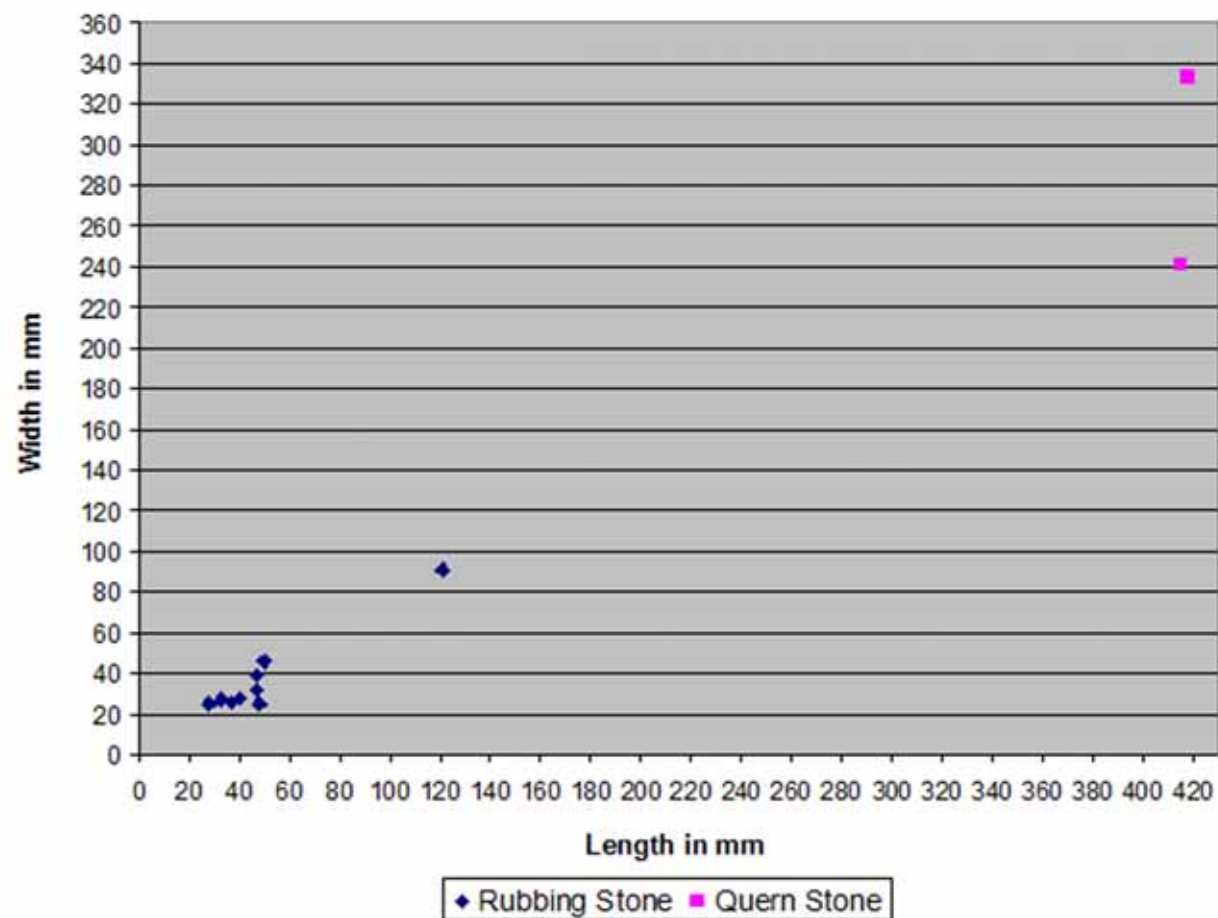
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N7 Nenagh-Limerick HQDC  
E2483, Ballycuddy More Site 1, Co. Tipperary

Figure 24: Find E2483:273:8, Early / Middle Neolithic rubbing stone

Drawn by Astrid Nathan

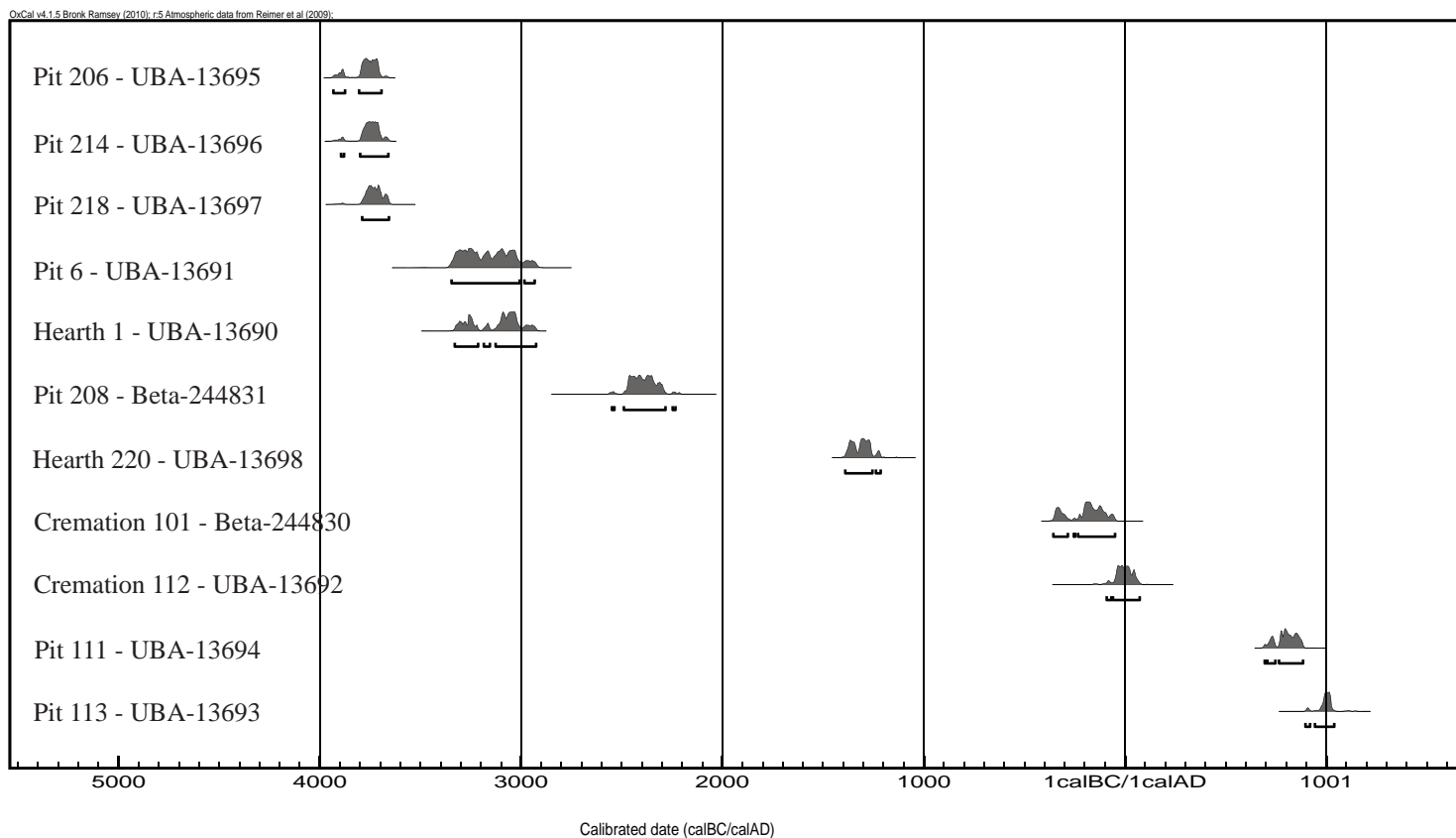
T V A S  
I R E L A N D  
L T D



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E2483, Ballycuddy More Site 1, Co. Tipperary

Figure 25: Dimensions (mm) of the stone tool assemblage



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**E2483, Ballycuddy More Site 1, Co. Tipperary**

**Figure 26 : Calibrated radiocarbon dates**





**Plate 1: Pit 207 fully excavated, Area E, Looking north-east  
Scales 1 m & 0.30 m**



**Plate 2: Pit 211 half-sectioned, Area E. Looking north-east  
Scales 0.50 m & 0.30 m**





**Plate 3: Pit 1 prior to excavation, Area B. Looking east.  
Scales 0.50 m & 0.10 m**



**Plate 4: Pit 1 fully excavated, Area B. Looking west.  
Scales 2 m & 0.50 m**





**Plate 5: Pit 5 half-sectioned, Area A. Looking south-west.  
Scales 0.50 m & 0.30 m**



**Plate 6: Pit 6 fully excavated, Area A. Looking north-west.  
Scale 1 m**





**Plate 7: Deposit 65 prior to excavation, Area A. Looking south-west.  
Scales 0.50 m & 0.10 m**



**Plate 8: Hearth 220 fully excavated, Area E. Looking north-east.  
Scales 1 m & 1 m**



**Plate 9: Pit 200 half-sectioned, Area E. Looking south-west**  
Scales 0.50 m & 0.30 m



**Plate 10: Pit 226 half-sectioned, Area E, Looking west**  
Scales 1 m & 0.30 m





**Plate 11: Area C, fully excavated, Looking south-west  
Scales 2 m & 1 m**



**Plate 12: Cremation burial pit 101 half-sectioned, Area C.  
Looking north-west. Scale 0.30 m**



**Plate 13: Area D, prior to excavation, Looking south-west  
Scales 2 m & 1 m**



**Plate 14: Pits 111 & 119, half-sectioned, Area D. Looking west,  
Scales 1 m & 0.30 m**





**Plate 15: Slot through boundary ditch 225, Area E.  
Looking south-west. Scales 1 m**



**Plate 16: Early Neolithic carinated bowl, Vessel 7  
(E2483:276:1 - exterior)**

**E2483**



**Plate 17: Early Neolithic carinated bowl, Vessel 7  
(E2483:276:1 - interior)**



**Plate 18: Early Neolithic carinated bowls, Vessel 2 (E2483:268:20)  
and Vessel 4 (E2483:273:17)**



**Plate 19: Early Neolithic carinated bowl, Vessel 3  
(E2483:273:16)**



**Plate 20: Early Neolithic carinated bowls, Group II (E2483:257:2)  
and Vessel 9 (E2483:278:6)**



**Plate 21: Early Neolithic carinated bowl, Group XII (E2843:278:4-5)**