IAC Irish Archaeological Consultancy

ARCHAEOLOGICAL EXCAVATION REPORT
N59 MOYCULLEN BYPASS, CO. GALWAY
KILLARAINY 1
SITE TYPE: PIT (UNDATED)

MINISTERIAL DIRECTIONS NO. A067
REGISTRATION NO.: E4575

ON BEHALF OF
GALWAY COUNTY COUNCIL

ITM: 520920, 733320

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NRA National Roads Authority An tÚdarás um Bóithre Náisiúnta

Ceart agus cóir

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ABSTRACT

The following report describes the results of an archaeological excavation at Killarainy 1 (Registration No.: E4575 and under Ministerial Directions A067), which was located along the route of the N59 Moycullen Bypass in County Galway. The site at Killarainy 1 was discovered during advance archaeological testing undertaken in 2014 by IAC Ltd (Ryan 2014; Registration No.: E4512).

Stage (iii) excavation work at Killarainy 1 was undertaken from the 23 to 25 of October 2014.

Killarainy 1 was a large irregular pit. It was backfilled with clay and stones and contained some evidence that the stones were scorched probably before they were dumped in the pit. There was no obvious function for the pit. It may have been a quarry pit that was backfilled or possibly a large cut for the erection of a post associated with the nearby prehistoric activity represented by the burnt mounds of Killarainy 3 and Killarainy 4.

Post-excavation analysis of charcoal recovered from the fill of the pit C6/S1 indicated that hazel was the only species present. The function of the feature is unknown.

A single find, a retouched artefact classified as a sub–circular convex scraper was recovered from topsoil at Killarainy 1. Dating the activity at Killarainy 1 on the basis of a single artefact type is problematic, however, this find would not be uncommon in a Neolithic or Early Bronze Age context.

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1. INTRODUCTION

1.1 GENERAL

This report presents the results of the Stage (iii) Excavation and Stage (iv) Post-Excavation Services at Killarainy 1 carried out in the townland of Killarainy, Co. Galway (Figures 1–4). This work was undertaken as part of an archaeological mitigation program completed under the Archaeological Consultancy Services Contract for the N59 Moycullen Bypass, Co. Galway. Archaeological fieldwork was directed by Shane Delaney of Irish Archaeological Consultancy Ltd (IAC) under Registration Number E4575 (Ministerial Directions A067) as issued by the Department of Arts, Heritage and the Gaeltacht (DoAHG) in consultation with the National Museum of Ireland (NMI). The work was undertaken on behalf of Galway County Council and it took place between 23 and 25 of October 2014.

The purpose of the Stage (iii) Excavation Services was to preserve by record through appropriate rescue excavation any significant archaeological features or deposits discovered by earlier investigations, so as to mitigate impacts on the archaeological remains discovered within the footprint of the project.

1.2 THE DEVELOPMENT

The development context of the excavations described here is the construction of the N59 Moycullen Bypass, in County Galway (Figure 1). It will extend north and east of the village, from the townland of Drimcong, *c.* 1.5 km northwest of Maigh Cuilinn (Moycullen), to the townland of Claídeach (Clydagh) *c.* 2 km to southeast, over a distance of 4.3 km, on 37.9 ha of land acquired by Galway County Council. The project will involve construction of a new single-carriageway road, as well as all ancillary works, roundabouts, footpaths and cycleways, bridge structures and realignments of some local roads where they are intersected by the bypass as approved by An Bord Pleanála on 15 November 2012.

1.3 TOPOGRAPHY & SITE DESCRIPTION

The proposed scheme is located in the townlands of Druim Cong (Drimcong), Cill Ráine (Killarainy), Liagán (Leagaun), Maigh Cuilinn (Moycullen), Baile Uí Chuirc Thiar (Ballyquirke West), Baile Uí Chuirc Thoir (Ballyquirke East), Coill Bhruachláin (Kylebroghlan), Ogúil (Uggool) and Claídeach (Clydagh) in the parish and barony of Moycullen. The scheme is located to the east and northeast of both the N59 and the village of Moycullen. The hilly terrain to the southwest is characterised by peaty acid soils on granite bedrock. The lake basin to the northeast has clay and alluvial soils on limestone bedrock. Several watercourses drain the higher ground and the primary of these, the Loughkip River south of Moycullen, is crossed by the scheme. To the north and east Moycullen is fringed by a series of smaller lakes in the Lough Corrib basin, including Ballyquirke Lake. The lands acquired for the project extend over 37.9 ha of improved pasture fields, woodland, peat bog and the partly built-up outskirts of the village.

Killarainy 1 lies at c. 16 m Ordnance Datum (OD) and is located in the parish of Moycullen (Figure 2). The site is located in pasture at National Grid Ref.: 520920, 733320 (ITM). It was cleared of scrub and rock by the present landowner's family in the recent past (pers comm. Mr Pat Feeney).

1.4 PREVIOUS ARCHAEOLOGICAL INVESTIGATION

A programme of Stage (i) testing for this scheme was undertaken in the townlands of Drimcong, Killarainy, Leagaun, Moycullen, Ballyquirke West, Ballyquirke East, Kylebroghlan, Uggool and Clydagh, Co. Galway in June and July 2014 (Ryan 2014; Registration No. E4512). A total of 26,682 square metres of archaeological test trenches were excavated across the bypass scheme and at one location of higher potential near a cairn (outside the road footprint) by Ballyquirke Lake a further 3,390 square metres was stripped of topsoil by machine. Nine sites of archaeological significance, Killarainy 1–7, Ballyquirke East 1 and Clydagh 1, were identified as part of this testing. Of these, three sites comprising isolated hearths and spreads (Killarainy 6, Killarainy 7 and Clydagh 1) were resolved during Stage (ii) pre-excavation services (testing) and area described in the corresponding Stage (i) report.

The excavation results for Killarainy 1 are presented here and the remaining sites Killarainy 2 (E4576), Killarainy 3 (E4577), Killarainy 4 (E4578), Killarainy 5 (E4579) and Ballyquirke East 1 (E4580) will be discussed in separate reports.

A review of the Excavations Bulletin (1970–2010) revealed that several programs of previous archaeological testing have been undertaken in Moycullen in addition to the Stage (i) testing for this scheme (Ryan 2014). However none of these had identified any features of archaeological significance (Elliot 2000, Crumlish 2001 and Casey 2005).

2 METHODOLOGY

2.1 STAGE (III) EXCAVATION METHODOLOGY

Stage (iii) excavation services on this present road project include:

- excavation of all sites in accordance with the specification in the contract and agreed method statements
- all necessary on-site illustration, photography, survey and recording to meet requirements as detailed in the specification and method statements
- initial processing, flotation, sieving of all soil samples taken from the excavation and appropriate bagging of all extracted environmental samples
- initial artefact/find stabilisation and conservation
- preparation of Stage (iii) – Preliminary Excavation Report(s).

The Stage (iii) method statement for Killarainy 1 as agreed with the client called for the following work to be undertaken at the site:

The excavation area measured c. 215 sq m and topsoil was stripped at Killarainy 1 by mechanical excavator fitted with a toothless bucket under strict archaeological supervision.

All archaeological features revealed were cleaned by hand and excavated and recorded using customised field record sheets or 'context sheets', as well as supporting records in the form of registers or lists of drawings, photographs, and the excavation director's field diary. All archaeological features found were drawn to scale, photographed and Ordnance Datum levels taken. Comprehensive drawings were produced at appropriate scales.

Appropriate sampling, as per the Stage (iii) Environmental Remains Strategy, was undertaken and the samples were processed as per the strategy.

The excavation area and the locations of any features recorded within them were recorded by our qualified surveyors using GPS survey equipment and have been tied into the National Grid for the report illustrations.

2.5 STAGE (IV) POST-EXCAVATION METHODS

All post-excavation works were carried out in accordance with the relevant approvals and in consultation and agreement with the National Roads Authority (NRA) Project Archaeologist, the National Monuments Section of the DoAHG and the NMI. No date was sought for this site as it was a single isolated pit and the charcoal within the fill appeared to be from a disturbed context and may not have been related to it.

Final Report Date Ranges

The following date ranges for Irish prehistory and medieval periods are used for this final report (after Carlin et al. 2008).

Mesolithic: 7000–4000 BC
Neolithic: 4000–2500 BC
Early Bronze Age: 2500–1700 BC
Middle Bronze Age: 1700–1200 BC
Late Bronze Age: 1200–800 BC
Iron Age: 800 BC–AD 500
Early medieval period: AD 500–1100
Medieval period: AD 1100–1600
Post-medieval period: AD 1600–1800

3 EXCAVATION RESULTS

3.1 NATURAL GEOLOGY

Contexts

CONTEXT	FILL OF	L (m)	W (m)	D (m)	BASIC DESCRIPTION	INTERPRETATION
C2	N/A	N/A			Mid-orange sandy silty clay	Subsoil

Finds: None

Interpretation

The glacial till subsoil at the site consisted of a mid–orange sandy clay. The archaeological activity on the site was cut into the subsoil.

3.2 PIT

Contexts

CONTEXT	FILL OF	L (m)	W (m)	D (m)	BASIC DESCRIPTION	INTERPRETATION
C3	N/A	4.80	2.60	1.15	Irregular, well defined, undulating base	Cut of pit
C4	C3	4	2.60	0.73	Loose mid-brown silty clayey loam	Upper fill of pit
C5	C3	4.80	2.60	1.1	Angular limestone and granite stones	Stone deposit in pit fill
C6	C3	1.25	1	0.45	Dark brown charcoal-rich silt	Charcoal-rich fill
C7	C3	0.80	0.90	0.14	Compact mid-brown silty clay	Compact basal deposit

Finds: None

Interpretation

C3 was a large irregular shaped pit that was well defined and deepest at the northwest (Figure 3; Plates 1–4). The base of the pit appeared to be a layer of re-deposited subsoil (C7) which was probably churned up and trampled during the original excavation of the pit. This was sealed by a deposit of charcoal-rich material (C6). There was no evidence for *in situ* burning so this may have been dumped into the pit. Analysis of charcoal from the deposit C6 has revealed that hazel was the only species present. Hazel wood may have been chosen for firewood at the site for its calorific value. Conversely hazel wood may have also been selected as post material if the feature was indeed a post-hole (O Carroll, Appendix 2.1). The entire pit appeared to have been backfilled with a loose silty deposit (C4) with large irregular stones (C5) throughout, some displaying evidence for burning.

There was no obvious function for the feature. It may simply have been a quarry pit for the extraction of stone. An alternative interpretation may be as a post-hole support. As the pit was more regular and deepest on the northwest side it may have been used to support an upright post or totem angled in from the east and propped up with the disturbed stones (C5) recorded in the general fill (C4), and may have been

related to the prehistoric activity recorded at the neighbouring burnt mound sites at Killarainy 3 and 4.

3.3 TOPSOIL

Contexts

CONTEXT	FILL OF	L (m)	W (m)	D (m)	BASIC DESCRIPTION	INTERPRETATION
C1	N/A	N/A	N/A	0.40	Mid-brown silty clay	Topsoil

Finds:

Context	Find Number	Material	Period	Description	Length	Breadth	Thickness
C1	E4512:1:1	Chert	Neolithic	Chert scraper	28mm	22mm	12mm

Interpretation

The topsoil at Killarainy 1 consisted of a mid-brown silty clay and this sealed the upper fill of the pit. A chert scraper (E4512:1:1) was found in the topsoil at the site during the testing phase of works and may indicate a Late Neolithic or Early Bronze Age date for the pit (Appendix 2.2).

Throughout the Killarainy area there was evidence for agricultural furrows cutting the subsoil indicating that the topsoil across the area had been tilled. The furrows were widely spaced and up to 1 m apart, indicating that they were spade dug. The area was depicted on the first edition Ordnance Survey maps as woodland which was later removed and the land improved for tillage and more recently pasture. The landowner recalled that hollows, prone to flooding to the east of the field alongside a small wetland area, had been filled with bedrock and stone walls cleared from the centre of the field in the recent past (*pers comm*. Mr Pat Feeney). Scorched clay was also noted throughout the topsoil indicating that 'paring and burning' was practised as a means of fertiliser at Killarainy. This process required the upper sod to be removed, dried, burnt and then spread back over the soil to enrich it (Bell and Watson 2009, 71).

4 SYNTHESIS

The synthesis presents the combined results of all of the archaeological analysis carried out at Killarainy 1. This includes the analysis of the physical and archaeological landscape, the compilation of information gathered during research into the site type, date, and function, and the results of the excavation and specialist analysis of samples taken during the course of on-site works.

4.1 LANDSCAPE SETTING

Killarainy 1 lies at c. 16 m Ordnance Datum (OD) and is located in the parish of Moycullen. The site is located c. 700 m northwest of Moycullen village and c. 120 m northeast of the existing N59 road.

4.2 THE PREHISTORIC LANDSCAPE

The Mesolithic Period (c. 7000–4000 BC) is the earliest time for which there is clear evidence of prehistoric activity in Ireland. During this period people hunted, foraged and gathered food and appear to have had a mobile lifestyle. The most common evidence indicative of Mesolithic activity at a site comprises of scatters of worked flint material; a by-product from the production of flint implements or rubbish middens consisting largely of shells (Stout & Stout, 1997). The latter are commonly discovered in coastal regions or at the edge of lakes and a few worked flakes were found near Oughterard (Robinson 1997, 331). Although it is likely that nearby lakeside and riverine environments were an important element for the Mesolithic populations in this landscape, as a food and travelling resource, there are no recorded Mesolithic sites within the boundary of the constraints area. The earliest known settled landscape is located along the northwestern coastal fringe from Clifden to Leenaun (*ibid*.).

During the Neolithic period (c. 4000–2500 BC) communities became less mobile and their economy became based on the rearing of stock and cereal cultivation. This transition was accompanied by major social change. Agriculture demanded an altering of the physical landscape, forests were rapidly cleared and field boundaries constructed. There was a greater concern for territory, which saw the construction of large communal ritual monuments called megalithic tombs, which are characteristic of the period.

The remains of a possible temporary Neolithic settlement was recently identified in Ballyquirke East during advance archaeological testing for the N59 Moycullen Bypass in 2014 (Ryan 2014). The site was identified as a find spot for fragments of stone axes, hammer stones, worked quartz and struck chert items. Prehistoric pottery was also identified in two pit features at the site (*ibid.*). The NMI topographical files record numerous discoveries of polished stone axes within the surrounding area, many of which were retrieved from the bed of the River Corrib near Newcastle and Menlough. A polished stone axehead (NMI 2003:13) and a whetsone (NMI 1932:6502) have also been discovered in Moycullen townland. These finds indicate a widespread settlement in the area during the Neolithic period.

The most common Bronze Age site (c. 2500–800 BC) within the archaeological record is the burnt mound or *fulacht fiadh*. Over 4500 *fulachta fiadh* have been recorded in the country making them the most common prehistoric monument in Ireland. Although burnt mounds of shattered stone occur as a result of various activities that have been practiced from the Mesolithic to the present day, those noted in close proximity to a trough are generally interpreted as Bronze Age cooking/industrial sites. *Fulacht fiadh* generally consist of a low mound of burnt stone, commonly in horseshoe shape, and are found in low lying marshy areas or close to streams or rivers. Often these sites have been ploughed out and survive as a spread of heat shattered stones in charcoal rich soil with no surface expression in close proximity to a trough. The frequency of loughs, rivers and small watercourses in the surrounding area would indicate that this area was highly attractive for settlement and transitory activity during this period.

Two burnt mounds were identified in the townland of Killarainy during advance archaeological testing for the M59 Moycullen Bypass Scheme (Ryan 2014).

4.3 SUMMARY OF THE EXCAVATION RESULTS

Killarainy 1 was a large irregular pit that was deeper to the northwest. It was backfilled with clay and stones (some of which were scorched). There was no obvious function for the pit.

4.4 SUMMARY OF THE SPECIALIST ANALYSES

Analysis of an environmental sample and the artefact recovered from the site was undertaken as part of the post-excavation works. The detailed reports on the results of all analysis are in Appendix 2.

Charcoal Analysis – Ellen O Carroll

Charcoal for analysis was recovered from C6/S1 a fill of the pit/post-hole at Killarainy 1. The date of the feature is unknown. Hazel was the only species present. Some of the hazel was brushwood in nature and contained between two and seven annual tree rings. It would have been collected in the immediate area.

Lithics Analysis – Sol Mallía–Guest

One sub-circular convex scraper was recovered from excavations at Killarainy 1. Manufactured of black chert, the artefact was in good condition and was of the type of scraper usually considered to be associated with Late Neolithic and Early Bronze Age assemblages.

5 DISCUSSION AND CONCLUSIONS

5.1 DISCUSSION

Killarainy 1 was a large irregular pit that was deeper to the northwest. It was backfilled with clay and stones (some of which were scorched). There was no obvious function for the pit. It may have been a quarry pit that was backfilled or possibly a large cut for the erection of a post associated with the nearby prehistoric activity represented by the burnt mounds of Killarainy 3 and Killarainy 4.

A single find, a retouched artefact classified as a sub-circular convex scraper was recovered from topsoil at Killarainy 1. Dating the activity at Killarainy 1 on the basis of a single artefact type is not exact, however, this find would not be uncommon in a Neolithic or Early Bronze Age context. Convex scrapers are traditionally considered to have been involved in manufacturing/craft processing activities in a domestic context. Unlike the convex end of blade scraper, usually found in Irish Early Neolithic toolkits, there is a tendency for small disc-like flake scrapers like the Killarainy example to be associated with Late Neolithic/Beaker/Early Bronze Age assemblages (Woodman et al 2006) at a time when these artefacts also seem to become more standardised forms (O'Hare 2005).

Charcoal analysed from the pit was identified as hazel. This may have been picked locally and burns well and hazel is still abundant in the surrounding landscape.

5.2 CONCLUSIONS

Killarainy 1 was an irregular shaped pit located on the edge of a west facing slope. There was no obvious function for the pit. It was located in close proximity to two prehistoric burnt mound sites at Killarainy 3, dated to 1084–906 BC (UBA 29111) and 890–792 BC (UBA 29112) and Killarainy 4, dated to 2014–1777 BC (UBA 29115). Although Killarainy 1 is not dated a Late Neolithic or Early Bronze Age chert scraper was identified from topsoil at the site and may indicate some contemporaneity with the Early Bronze Age burnt mound at Killarainy 4.

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CARTOGRAPHIC SOURCES

Ordnance Survey maps of County Galway 1838–9, 1912–16

ELECTRONIC SOURCES

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http://www.excavations.ie/Pages/Details.php?Year=&County=Galway&id=13699

Crumlish, R. 2001 'Moycullen, 01E0929', Excavations.ie database of Irish excavation reports, 2001:524
http://www.excavations.ie/Pages/Details.php?Year=&County=Galway&id=6479

Elliot, R. 2000 'Moycullen, 00E0513', Excavations.ie database of Irish excavation reports, 2000:0399
http://www.excavations.ie/Pages/Details.php?Year=&County=Galway&id=4673

www.archaeology.ie – DoAHG website listing all SMR sites with aerial photographs

www.osiemaps.ie – Ordnance Survey aerial photographs dating to 1995, 2000 & 2005 and 6”/25” OS maps.

APPENDIX 1 CATALOGUE OF PRIMARY DATA

APPENDIX 1.1 CONTEXT REGISTER

CONTEXT	FILL OF	L(M)	W(M)	D(M)	BASIC DESCRIPTION	INTERPRETATION
C1		All	All	0.40	A mid-brown silty clay	Topsoil
C2		All	All		A mid-orange sandy, silty clay	Subsoil
C3		4.80	2.60	1.15	Irregular shaped pit, well defined at northwest and northeast, undulating base	Cut of pit
C4	2	4	2.60	0.73	Main fill of pit, loose mid-brown silty clayey loam with stones	Upper fill
C5	2	4.80	2.60	1.1	Deposit of large stones within C4. angular limestone and granite stones with some signs of burning, ≤0.40 diameter, randomly placed within C4	Stone deposit
C6	2	1.25	1	0.45	Deposit of dark brown charcoal rich silt	Charcoal rich fill
C7	2	0.80	0.90	0.14	Compact mid-brown silty clay.	Compact basal deposit, trampled natural subsoil

APPENDIX 1.2 CATALOGUE OF ARTEFACTS

One chert scraper was found at this site in the topsoil during the testing Stage (i) (E4512:1:1)

FINDS NUMBER	MATERIAL TYPE	OBJECT TYPE	DATE	CONDITION	LENGTH (MM)	BREADTH (MM)	THICKNESS (MM)
E4512:1:1	Chert	Sub-circular Convex Scraper	Neolithic	Good	24	27	12

APPENDIX 1.3 CATALOGUE OF SAMPLES

One sample was taken from a fill of the pit and it was processed by flotation and sieving through a 250µm mesh.

SAMPLE	CONTEXT	FEATURE	CHARCOAL FLOT WEIGHT	SEEDS	BURNT BONE
1	C6	Pit fill	52g	-	-

APPENDIX 1.4 ARCHIVE REGISTER

Project Name: N59 Moycullen Bypass, Co. Galway
Site Name: Killarainy 1
Registration Number: E4575
Site Director: Shane Delaney
Date: December 2014

IAC Irish Archaeological Consultancy

FIELD RECORDS	ITEMS (QUANTITY)	COMMENTS
Site drawings (plans)	1	Digitised
Site sections, profiles, elevations	1	Digitised
Other plans, sketches, etc.	0	
Timber drawings	0	
Stone structural drawings	0	
Site diary/note books	0	
Site registers (folders)	1	
Survey/levels data (origin information)	Electronic	Site Survey
Context sheets	7	
Wood Sheets	0	
Skeleton Sheets	0	
Worked stone sheets	0	
Digital photographs	39	
Photographs (print)	0	
Photographs (slide)	0	
Security copy of archive	IAC Ltd	Digital archive

APPENDIX 2 SPECIALIST REPORTS

Appendix 2.1 Charcoal and Wood Report – Ellen O Carroll

Appendix 2.2 Lithics Report – Sol Mallía-Guest

APPENDIX 2.1 CHARCOAL AND WOOD REPORT – ELLEN O CARROLL

Background and Introduction

Killarainy 1 was a large irregular pit or post-hole. It was backfilled with clay and stones and contained some evidence that the stones were scorched probably before they were dumped in the pit. There was no obvious function for the pit. It may have been a quarry pit that was backfilled or possibly a large cut for the erection of a post associated with the nearby prehistoric activity represented by the burnt mounds of Killarainy 3 and Killarainy 4 (Delaney 2015).

An Environmental Remains Assessment report was completed by the Project Environmental Specialist for the scheme and one sample was recommended for charcoal analysis (O Carroll 2015a). Fifty charcoal fragments, weighing 3.3g, were analysed for woodland resource usage during the use phase of the excavated pit/post-hole.

Wood and its by-product, charcoal, was a vital and widely used material from prehistoric to medieval times, although its importance is rarely reflected in the analysis of archaeological assemblages mainly due to its perishable nature. It is important to note that people in prehistoric, early medieval and medieval communities were mainly dependant on woodland resources for the construction of buildings, for the manufacture of most implements and for fuel for wood–burning and metalworking activities (O'Sullivan 1987). The woods in a surrounding catchment area were exploited and often managed to provide an essential raw material for the community. A study of the range of species on an archaeological site offers an indication of the composition of local woodland in its period of use and any selection practices for particular species at any given time and place.

Methodology

The process for identifying wood, whether it is charred, dried or waterlogged is carried out by comparing the anatomical structure of wood samples with known comparative material or keys (Schweingruber 1990). A wood reference collection from the Botanical Gardens in Glasnevin, Dublin was also used.

Charcoal

The soil samples were processed by means of the flotation technique. The flots were sieved through a 250 micron or a 1 mm sieve, while the retent was put through a 2 mm or 4 mm sieve. All of the charcoal remains from the soil samples were then bagged and labelled.

The identification of charcoal material involves breaking the charcoal piece along its three sections (transverse, tangential and radial) so clean sections of the wood pieces can be obtained. This charcoal is then identified to species under a universal compound microscope reflected and transmitted light sources at magnifications x 10–400. By close examination of the micro anatomical features of the samples, the charcoal species are determined.

The purpose of the charcoal identifications was two-fold. In some cases the identifications were carried out prior to C14 dating in order to select specific species for dating. In other cases the charcoal was analysed to determine fuel selection policies and selection of wood types for structural use. Each species was identified, bagged together and then weighed. Insect channels were noted on the charcoal fragments identified, as this may indicate the use of dead or rotting wood used for fuel or other such functions. The distinction can sometimes be made between trunks, branches and twigs if the charcoal samples are large enough. This was noted where possible. When charcoal samples showed indications of fast or slow growth this was also recorded. The samples identified for environmental reconstruction and wood usage were counted per fragment and then weighed. The smaller sample amounts with less than 50 fragments were all identified while 50 fragments were identified from the larger samples.

Results & Analysis

Charcoal for analysis was recovered from C6/S1. Hazel was the only species present. Some of the hazel was brushwood in nature and contained between 2 and 7 annual tree rings. The size of the hazel charcoal identified was between 3 – 15 mm.

SAMPLE	CONTEXT	CONTEXT DESCRIPTION	IDENTIFICATIONS	SIZE OF FRAGMENTS	AGE	COMMENT	DATE
1	C6	Pit/Posthole	Hazel (3.3g*, 50*)	3 – 15mm	2 – 7 rings	Some brushwood fragments present	Undated

Table 1 Wood taxa present in the charcoal assemblage
*g = weight in grammes *f = fragment counts

Discussion of the charcoal assemblage

Aims of the study

- To determine the types of wood selected for use either as fuel or as structural wood.
- To re-construct the environment that the charcoal and wood was selected from.
- To determine use and function of the excavated feature and its associated charcoal through the identification of taxa types.

Fifty charcoal fragments relating to the remains of burnt wood associated with a pit were analysed. The feature remains undated and its function is undetermined. The charcoal assemblage may represent the fuel collection policy at the site or structural wood associated with a posthole. Hazel (*Corylus avellana*) was the only taxa identified from the feature.

Hazel is likely to have been deliberately selected as part of the fuel collection policy at the site as it has a high calorific value and burns quickly. Hazel is a native species and

was very common up to the end of the 17th century. McCracken (1971, 19) points out that 'it was once widespread to a degree that is hard to imagine today'. With the introduction of brick, steel and slate the crafts associated with hazel became obsolete and today the woods that supplied hazel have diminished rapidly. Hazel wood has been used for making furniture, fencing and wickerwork. It is normally only about 3–5 m in height and is often found as an understory tree in broadleaf woods dominated by oak. It also occurs as pure copses on shallow soils over limestone, as seen today in The Burren in Co. Clare and survives for 30 to 50 years. Its main advantage is seen in the production of long flexible straight rods through the process known as coppicing. In early Irish law, hazel was considered one of the *airig fedo* or 'nobles of the wood'. It also played a central role in Irish mythology and was associated with wisdom, truth and kingship (MacCoitir 2006, 72–81). In folklore, it was used as a protection against evil (ibid.).

The hazel identified may be taken as an indication of aspects of the local landscape during the time the feature was in use. The area surrounding Killarainy supported hazel woodlands.

Comparative Material

As the date and function of the feature remains unknown it is not possible to compare the results with similar site types in the surrounding area. Hazel wood may have been chosen for firewood at the site for their calorific value. Conversely hazel wood may have also been selected as post material if the feature is indeed a post hole.

Hazel wood was also identified from Killarainy 3 (Burnt mound, Late Bronze Age), Killarainy 4 (Burnt mound, Early Bronze Age), Killarainy 5 (occupation, medieval) and Ballyquirke East 1, Neolithic) on the same road scheme (O Carroll 2015b, c, d and e).

Summary and conclusions on the charcoal assemblage

Charcoal for analysis was recovered from C6/S1 excavated from a pit at Killarainy 1, Co Galway. The date of the feature is unknown. Hazel was the only species present. Some of the hazel was brushwood in nature and contained between 2 and 7 annual tree rings.

Recommendations for retention

It is recommended that this sample be retained as it remains undated. This sample may benefit some future research.

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APPENDIX 2.2 LITHICS REPORT – SOL MALLÍA–GUEST

Introduction

This report presents the results of a techno-typological analysis on a single knapped find recovered from the topsoil at Killarainy 1, Co. Galway (E4512) during archaeological testing in advance of the N59 Moycullen Bypass. The site comprised a single irregular pit with associated boulders and a number of agricultural furrows (Ryan 2014).

Methodology

A macroscopic, techno-typological analysis was carried out following categories developed by Inizan et al. (1999) with further contextual background on Irish lithic technology provided by Woodman et al. (2006). The artefact was visually examined with the aid of an 8x hand lens, recorded and catalogued using Microsoft Excel 2011. The find presented for study was subject to analysis with no minimum size criterion applied. The basic variables recorded include: overall metric attributes (length, width and thickness); a macroscopic raw material id; overall artefact condition and fragmentation to determine the degree of post-depositional damage.

Results

Secondary Technology

The single find (E4152:1:1; Table 1) recovered at Killarainy 1 consists of a retouched artefact classified as a sub-circular convex scraper. It measures less than 30 mm and it is made of a rather fine black chert. The artefact is in relatively good condition exhibiting some lustre. It was made from a tertiary flake, presenting a crude dihedral striking platform. It is further modified by uni-facial semi-invasive direct retouch which covers about 50% of its perimeter.

The working edge appears quite fresh and sharp, showing very little splintering and blunting, except towards the left on its distal end. The relatively intermediate working angle (62°) and the occasional micro-scarring visible also suggest that this scraper had not reached the end of its use-life and/or was probably used to work soft-medium materials such as hide or fresh wood.

Discussion

Chert is a compact and micro or cryptocrystalline siliceous rock widely distributed in the Irish Midlands, the west and the northwest (Woodman et al. 2006). It can be found in the widespread Carboniferous limestone deposits and outcrops in these areas and available as discrete inter-bedded banding but also as eroded cobbles/pebbles in glacial till. Chert is fairly variable in colour and knapping quality. Fine darker grey and black examples are a common occurrence in the region and are readily available from the widely distributed outcrops of the Dartry limestone formation which have been recently identified less than 10 km north of Moycullen, on both shores of Lough Corrib (Driscoll 2013, 2014).

Chert-dominated assemblages are known from the midlands as well as the west and northwest of the island, including those from Neolithic sites like Tullahedy, Co. Tipperary (Sternke 2011), Poulnabrone, Co. Clare (Sternke 2014), Knocknarea, Co. Sligo (Bengtsson and Bergh 1984) or Glenulra on the Céide Fields, Co.Mayo (Driscoll 2013).

Dating the activity at Killarainy 1 on the basis of a single artefact type is problematic, however, this find would not be at odds in a Neolithic or Early Bronze Age context. Convex scrapers are traditionally considered to have been involved in manufacturing/craft processing activities in a domestic context. Unlike the convex end of blade scraper, usually found in Irish early Neolithic toolkits, there is a tendency for small disc-like flake scrapers like the one here discussed to be associated with Beaker/Early Bronze Age assemblages (Woodman et al 2006) at a time when these artefacts also seem to become more standardised forms (O'Hare 2005). Nonetheless, this association is not straightforward and there are stylistic choices as well as technological and functional processes in place that may condition an artefact's form. In this regard, partly due to continuous resharpening episodes, small sub-circular convex scrapers are also found in Early Neolithic rectangular houses (e.g. Tankardstown, Co, Limerick; Woodman et al 2006 or Corbally, Co. Kildare, Mallía-Guest 2011).

Further Recommendations

No further work is suggested for this assemblage.

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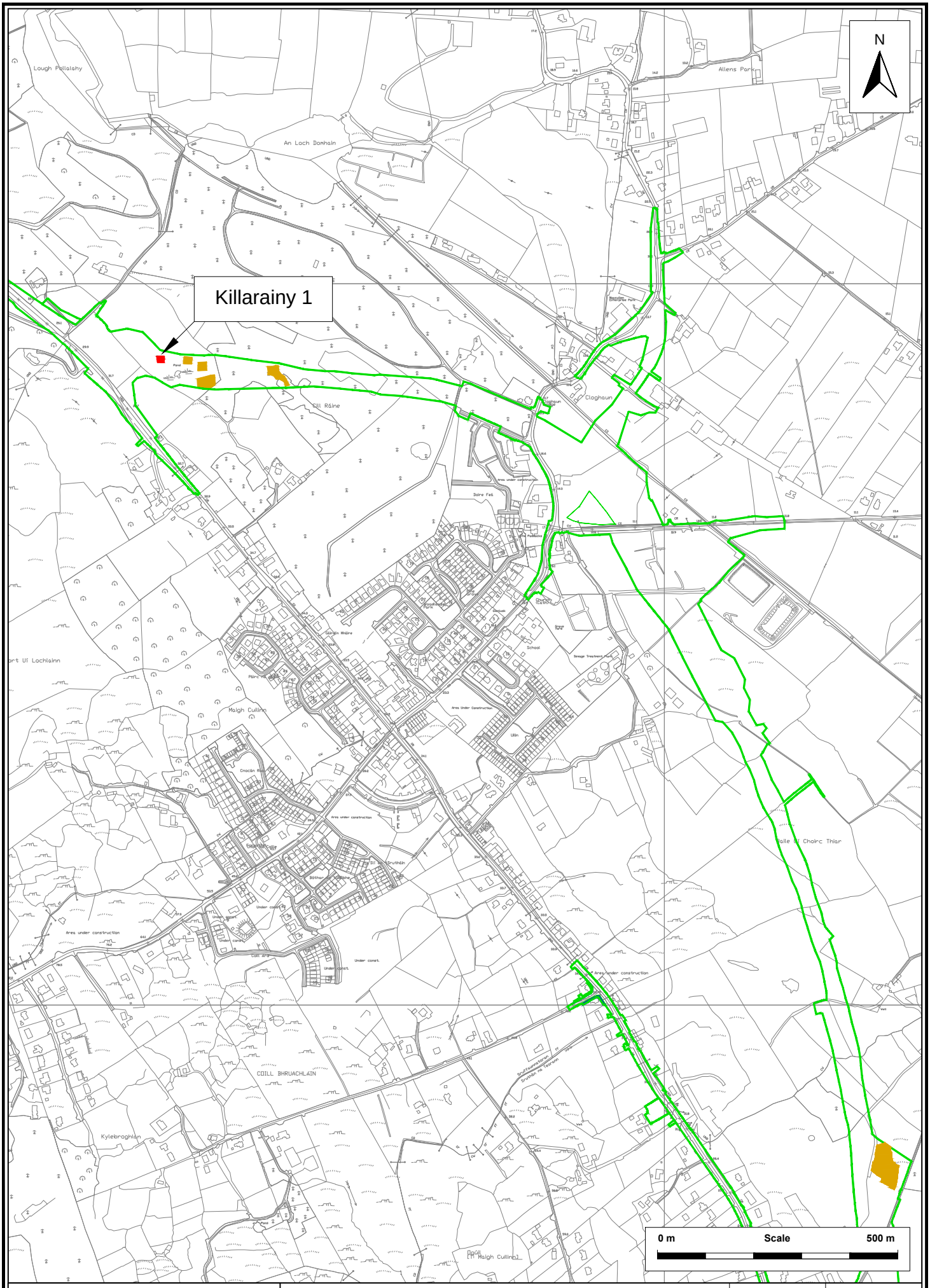
NMI_ID	Raw Material	Class	Type	Length (mm)	Width (mm)	Thickness (mm)	Weight (g)	State	Condition I	Condition II	Cortex	Blank	Platform Type	Type of Rtch	Rtch Extent	Rtch Position	Colour
E4512:001:001	Chert	Retouched Artefact	Convex sub-circular scraper (thumbnail)	24.4	27.7	12.2	7.5	C	G	Ltd	No	Inner flake	Di	SA	SI	DU	Black

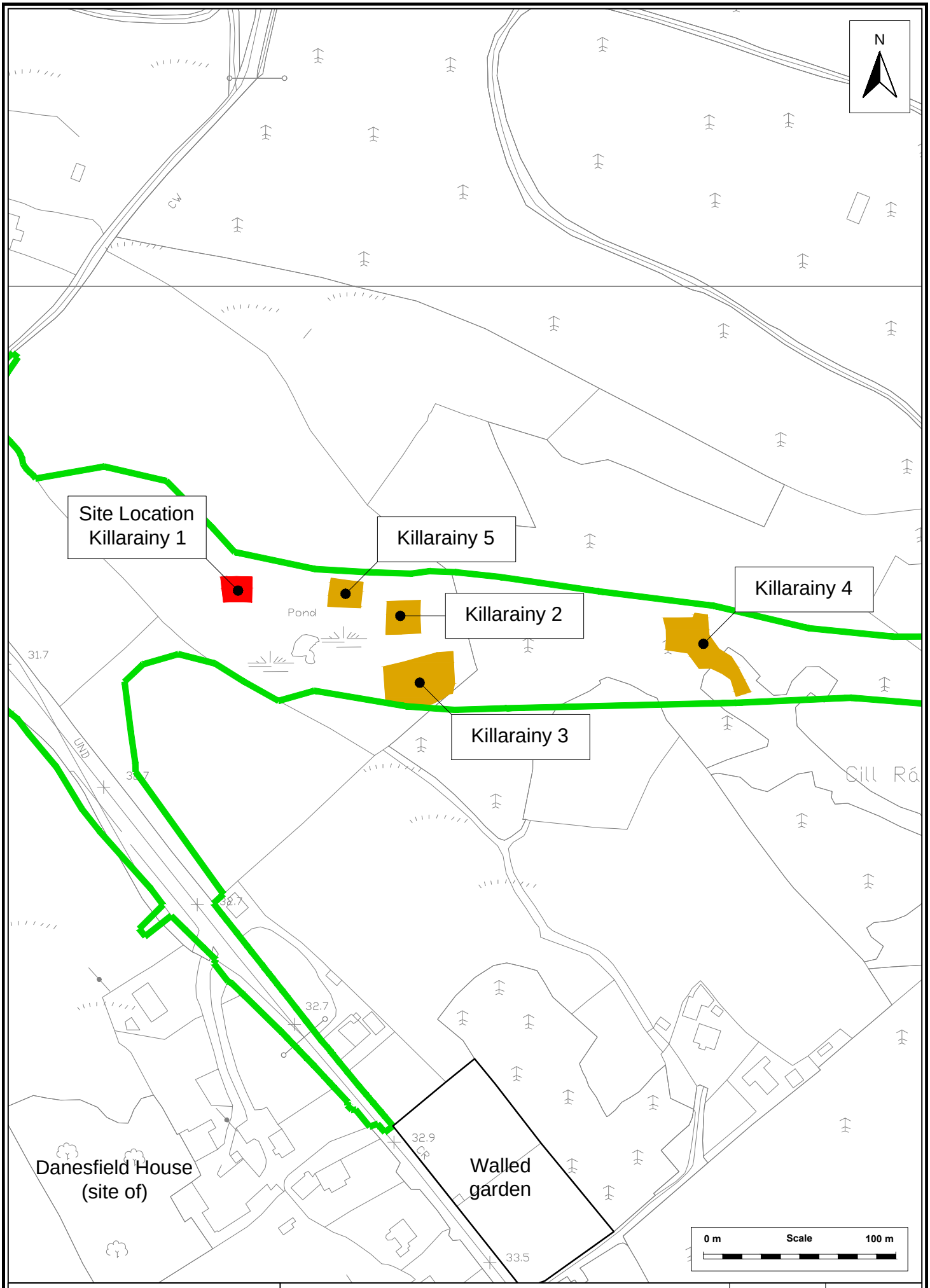
Table 1. The lithic assemblage from Killarainy 1, Co. Galway (E4512)

Key: C: Complete; G: Good; Ltd: lustred; Di: Dihedral; SA: Semi-abrupt; SI: Semi-invasive; DU: Direct Uni-facial

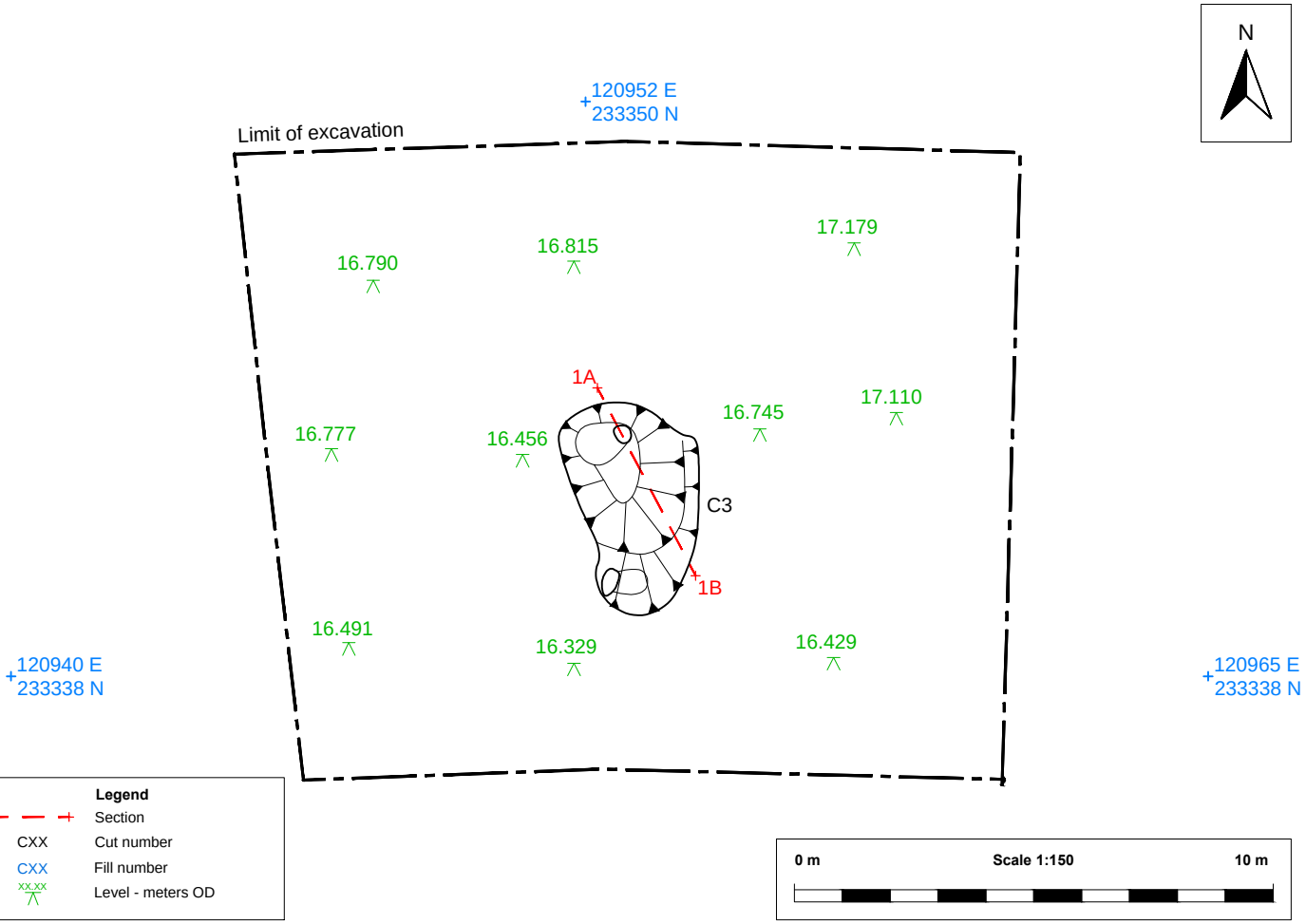
IAC Irish Archaeological Consultancy	**Title**	Killarainy 1 - Site Location	**Scale**	1:200000	**Drawn by** HK
	Project	N59 Moycullen Bypass	**Date**	030415	**Checked by** SD
	Client	Galway County Council	**Job no.**	J2842	**Fig.** 1 **Rev.** 3

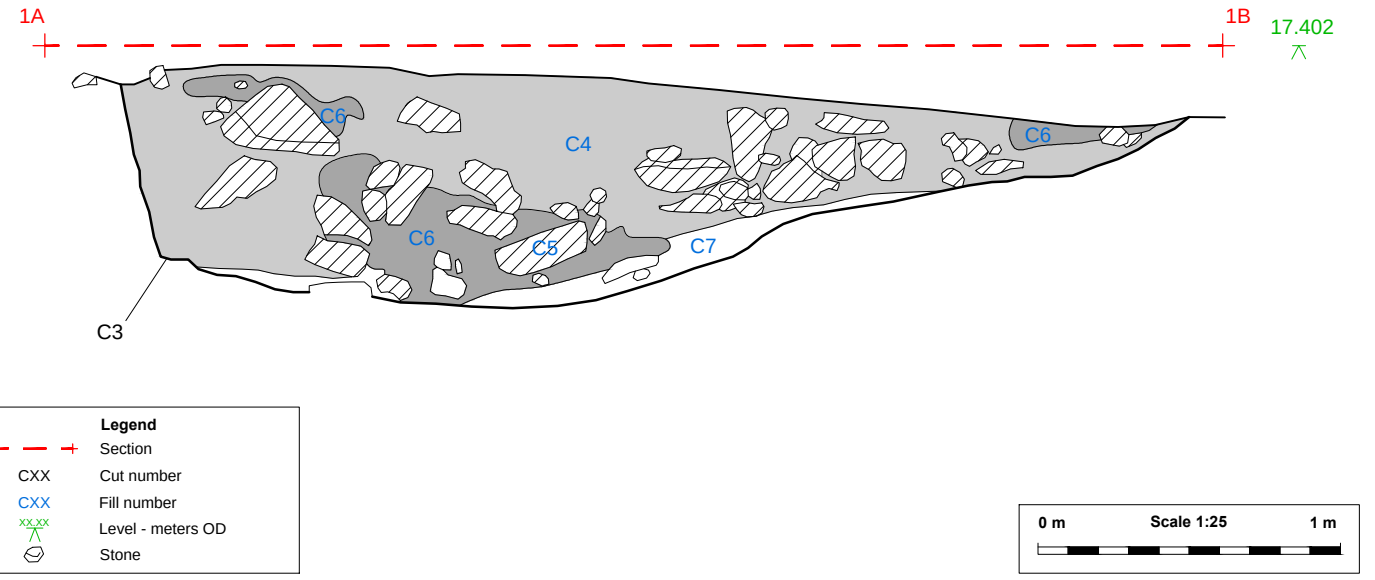


IAC Irish Archaeological Consultancy	**Title** Killarainy 1 - Site Location and Scheme		**Scale** 1:10000	**Drawn by** HK	
	Project N59 Moycullen Bypass		**Date** 030415	**Checked by** SD	
	Client Galway County Council		**Job no.** J2842	**Fig.** 2	**Rev.** 3



IAC Irish Archaeological Consultancy	**Title** Location of Sites Killarainy 1-5		**Scale** 1:2500	**Drawn by** HK	
	Project N59 Moycullen Bypass		**Date** 030415	**Checked by** SD	
	Client Galway County Council		**Job no.** J2842	**Fig.** 3	**Rev.** 3





IAC Irish Archaeological Consultancy	**Title** Killarainy 1 - Site Plan and Section		**Scale** As shown	**Drawn by** HK	
	Project N59 Moycullen Bypass		**Date** 030415	**Checked by** SD	
	Client Galway County Council		**Job no.** J2842	**Fig.** 4	**Rev.** 3

Plate 1: Killarainy 1, facing east prior to excavation

Plate 2: Killarainy 1, pre-excavation, facing west

Plate 3: Killarainy 1, mid-excavation

Plate 4: Killarainy 1, post-excavation, facing east