N9/N10 Kilcullen to Waterford Scheme:
Waterford to Knocktopher – Phase 2
Archaeological Resolution
Dunkitt to Knocktopher townlands, Co. Kilkenny

FINAL REPORT
Ministerial Direction: A032/000
Registration Number: E3007

Site AR033, Earlsrath Townland
Co Kilkenny

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Date:	June 2010

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SUMMARY

This report comprises the final results of the archaeological excavation of Site AR033, in the Townland of Earlsrath, Co. Kilkenny. This excavation was undertaken as part of the archaeological programme for the N9/N10 Waterford to Powerstown road scheme. The excavation was conducted by Liam McKinstry under Ministerial Direction for Valerie J Keeley Ltd, from Monday the 26th of June to Thursday the 1st of September, 2006.

Site AR033 consisted of a number of linear and curvilinear ditches in the northern part of the site. All of the ditches were very shallow and narrow and they all seemed to have different orientations though it seems probable that they represented agricultural activity or boundaries. The curvilinear ditch identified contained some medieval pottery fragments (Leinster cooking ware) which would suggest that the activity was of that date. Close to this curvilinear ditch was a shallow pit which contained large quantities of charcoal which was most likely a refuse pit. To the south three spreads were identified, within these spreads large amounts of medieval pottery (Leinster cooking ware and Kilkenny type ware) were recovered. A radiocarbon date was recovered from a sample of alder charcoal from one of these spreads [c10] which produced a result of 1287-1394 cal. AD. Burnt organic remains that included oats, wheat and barley were also recovered from this spread which would strongly suggest that these spreads may have represented refuse from domestic activities from a nearby moated enclosure (KK036-032) approximately 100m southeast of site AR033.

CONTENTS

List of Figures

List of Plates

List of Tables

List of Charts

List of Illustrations

1.0 INTRODUCTION

1.1 Project Background

The proposed N9/N10 which consists of a high quality dual-carriageway/ motorway extends from Dunkitt townland on the outskirts of Waterford city to Kilcullen in Co. Kildare. Phase 2 of this development consists of the construction of 24 km of high quality dual carriageway, which will link into the proposed Waterford bypass road at Dunkitt, County Kilkenny, and to the R699 at Sheepstown, near Knocktopher in County Kilkenny. This phase of the development will run through a rural greenfield landscape. Construction work commenced in May 2007, following the completion of archaeological excavations

An Environmental Impact Statement (EIS) for the development was carried out in February 2005 by Valerie J Keeley Ltd. The studies confirmed the presence of a number of potential archaeological features along the route. Following this desk-based study archaeological test excavations were carried out by Margaret Gowen & Co Ltd in 2006 under licence issued by the authorities. The testing took the form of archaeologically directed centre-line testing along the entire route of the development. This testing determined the extent and nature of archaeological remains in areas highlighted as having archaeological potential in the EIS, and areas where no known archaeological features were present. A total of 53 areas of archaeological potential were highlighted by the testing as requiring further archaeological investigation.

Full excavation of the sites began in May 2006, and was carried out by Valerie J Keeley Ltd on behalf of Kilkenny County Council.

1.2 Aims & Objectives

Valerie J. Keeley Ltd. was appointed by Kilkenny County Council to excavate archaeological sites first identified during a programme of centreline testing carried out by Margaret Gowen & Co. Ltd., Scheme No./ Works No. A0032/000 (McQuade *et al* 2006). The scope of the archaeological measures were:

- To strip the topsoil from an area measuring 1200m^2 along the road corridor and locate the previously identified archaeological features and any other archaeological features that may be present in this area.
- Photograph and plan any archaeological features or potential archaeological features.
- Excavate all archaeological features identified, record their contexts and sections; retaining samples where necessary, in order to resolve them by means of preservation by record.
- Reinstatement of excavated areas where required.

The goal of this project being to preserve by record the archaeological site/s exposed within the take of the proposed route, and to further assess areas previously unavailable for testing (McQuade *et al* 2006).

These works took place in accordance with the Directions issued by the Minister for Environment, Heritage and Local Government under Section 14A(2) of the National Monuments Acts (1930 – 2004), in accordance with the terms of the Contract between Kilkenny County Council and Valerie J Keeley Ltd and according to the terms of the *Code of Practice* agreed between the National Roads Authority and the Minister of Arts, Heritage, Gaeltacht and the Islands. The excavations also complied with the Policy and Guidelines on Archaeological Excavation (Govt of Ireland 1999) and were overseen by the Project Archaeologist.

1.3 Site Location & Access

Sites AR030-033 was located within the townland of Earlsrath in County Kilkenny. The sites followed the line of the proposed road in an approximate NNE-SSW direction over a low hill. The hill was just to the East of the present road. The northernmost site, site AR033, lay on the north eastern slope of the low hill bordering a wetland area with the subsoil to the southwest being very thin with natural bedrock protruding through the subsoil. The bedrock which was present within sites AR032-033 was a type of light grey/purple slate which was very brittle and broke easily along natural fissures. These fissures contained subsoil and topsoil material which seemed to have been either washed in by water action or pushed in by vegetation. The 1st Ordnance Survey map (fig 4) from showed a possible lane or road with an approximate northeast southwest orientation running through what was site AR032 and terminating in a small field at or close to site AR033.

1.4 Project Timescale

Topsoil was stripped from this site on 21st May 2006. Excavation commenced on the 26th June 2006 with the site being resolved on 1st September 2006. The site was backfilled by machine shortly after the work was carried out and the ground reinstated.

1.5 Summary of Archaeological Significance

AR033 / E3007 consisted of shallow linear and curvilinear ditches as well as refuse spreads/pits all of which date to the medieval period. The dating evidence consists of medieval pottery, of Leinster cooking ware and Kilkenny type ware, which was recovered from the three spreads [c10, 11 and 25] within area 2 and from within the curvilinear ditch [c5] in area 1. A radiocarbon date was also recovered from spread [c10] of 1287-1394 cal. AD. The recovery from one of the spreads [c10] of the remains of oats, wheat and barley seeds indicate the presence of nearby domestic occupation. The most likely origin for these refuse spreads/pits in area 2 and the probable agricultural activity/boundaries represented by the shallow ditches in area 1 would be the moated site (KK036-032) located to the immediate east of area 2.

2.0 BACKGROUND

2.1 Geology and Topography

County Kilkenny comprises three distinct topographical zones (Smyth 1990, 127-8): the upland area to the north, with the Slieveardagh hills and the Castlecomer plateau, the central limestone plain, and the southern upland area, where the Black Water valley cuts through the Walsh Mountains, hills which never rise higher than 294m (970 feet). These form part of the Slieveneman ridge. This zone may be subdivided further, as there is a second lowland area between the Walsh mountains and the Suir. To the east are the deeper valleys of the Nore and the Barrow, which drain the central limestone plain. To the west is the Lingaun, a smaller river, which rises on the slopes of Slievenaman. The lower reaches of the Lingaun form the boundary between Counties Kilkenny and Tipperary.

The principal geological feature in South Kilkenny is the meeting of the Caledonian and Armorican structural elements. The Black Water valley and the hills on either side are still Armorican – the east-west trend of the geology of south Munster. To the west of this are the slates, shales and granites continuing down from the north-east (Whittow 1974, 239, 255).

2.2 Historical Overview

The County of Kilkenny is based on the Kingdom of Ossory, and originally was coterminous with it, as was the diocese of Ossory. The northernmost part of the county, known as Upper Ossory, was lost when Queen's County was founded in 1556. A number of parishes west of the river Barrow were transferred from Carlow to Kilkenny. The southern half of the county, however, retains its original boundaries, apart from the small area of Tibbraghny in the south-west.

The name Ossory is derived from the Osraige, who were the earliest recorded inhabitants. The territory of the Osraige originally extended further to the south-west, into what is now County Tipperary, but in the 5th century AD they were driven out of this area by the Deisi. It is said that the Osraige 'fled like wild deer, and they were followed till they reached a place called Luininn, where the close of the day put an end to the pursuit; And this place became the boundary ever after between Munster and Leinster'. (Carrigan 1905, I, 29) This is not entirely true, because although the Lingaun river became the boundary of Ossory and remains the boundary of County Kilkenny, Ossory did not become unambiguously a part of Leinster until some centuries later.

The mention of wild deer is probably an attempt to explain the name of the Osraige, which means 'deer-people'. The more usual explanation among the Osraige themselves, however, was that they were called after one Aengus Osraithe, said to have been their ancestor and the first King of Ossory, living in the second century AD. Osraithe or Osfrithe meant 'the deer-found', and it was said that he had been found among the wild deer, although Carrigan interprets it more prosaically as meaning that he was 'born or brought up in a place where deer abounded' (Carrigan 1905, II, 27).

The 'deer-found' explanation seems to be an explanation of a Christian society familiar with the Biblical tale of Moses and the classical story of Romulus and Remus. This would have been more palatable than what we now realise is the more likely explanation. Some of the earliest peoples mentioned in the Irish written sources had similar names – Artraige 'bear people', Dartraige' calf people. These names are likely to be totemic, the animal representing a divinity worshipped by the people in question (MacNiocall 1972, 3).

Despite their defeat and their subjugation by the Corco Loígde, the Osraige were one of the few early population groups to retain their identity and importance in later times when dynastic identity became more important. This was because of the position of their territory.

In ancient times, Munster was largely cut off from the rest of Ireland by natural barriers such as the Slieve Bloom and the midland bogs, and indeed the Shannon, until the Vikings showed the military advantages of water transport. To the east, rivers and hills separated Munster from Leinster, with Ossory as a buffer zone. It was through Ossory that a northern army had to pass to invade Munster, across by *Belach Gabhráin* at Gowran through the central plain of the county (Byrne 1973, 169)

An attempt to map the road network of Ireland at that time was made by O' Lochlainn in 1940. He did this by first mapping all placenames incorporating relevant words such as *droichead* (bridge) and *bealach* (passage) and, more importantly, by mapping journeys described in ancient accounts such as saints' lives. He also mapped the Five Great Roads or *Slíte* which were said to radiate from Tara. The former suggested that a route led south-westwards from Castledermot via Sleaty to Dind Rig, a royal residence near the present Leighlinbridge, and from there via Gowran to Kilkenny. However, he shows the Sli Chualann, one of the Five Great Roads, running alongside the Barrow as far south as the site of New Ross, where it crosses the Barrow to follow what would be the line of the present R704 to Mullinavat, and turning southwards down the Black Water valley to Waterford (O Lochlainn 1940).

By the 11th century the Kings of Ossory had shaken off the overlordship of the Kings of Cashel (i.e. Munster) and associated themselves with Leinster. (Byrne 1973 131). They had ambitions to rule Leinster, and had their genealogists concoct a Leinster pedigree (*ibid* 163).

The most powerful of the kings of Ossory was Cerball Mac Dúnlainge, who reigned from 847 until 889. By now there was a new force in Irish politics: the Vikings. He played off rival bands of Vikings against one another and took some into his own service. Furthermore, his daughters married Norsemen, and he is recorded in Icelandic pedigrees as Kjarvalr Irakonung – Kjarval the Irish king (Byrne 1973, 162). Cerball failed to gain recognition as ruler of Leinster by the High King. His successors continued to contest the kingship of Leinster over the next one and a half centuries, but the first to succeed, Donnchad Mac Gilla Pátraic in 1036, was also the last. Nonetheless, Ossory remained a powerful kingdom within Leinster. It was now ruled by the Mac Gilla Pátraic family, who were to remain kings of Ossory until the late 12th century, and remained powerful in Upper Ossory until the sixteenth century.

When territorial dioceses were set up at the Synod of Rath Bressail in 1111, the Bishop of Ossory was granted the territory lying between the Slieve Blooms and the meeting of the three rivers, and between Grane Hill , in the parish of Urlingford, and Slieve Mairge.

Meanwhile in 1103, after the death in battle of Gillapatrick Ruadh, King of Ossory, the kingdom was broken up into three divisions. Deisceart Osraighe was the southern part. It probably consisted of the baronies of Ida and Iverk and the southern extremity of the Barony of Knocktopher. By the middle of the century there was considerable friction between Ossory and Leinster. In the 1140s Dermot McMurrough, King of Leinster, deposed Cearbhall King of South Ossory and gave his kingdom to Donnchadh, King of Tuaisceart Osraighe. In 1151, however, he imprisoned Donnchadh and reinstated Cearbhall as king over almost all of Ossory until Donnchadh's release, when the two were restored to their original kingdoms. Subsequently, however, Dermot McMurrough expelled Cearbhall and extended Donnchadh's rule over most of Ossory.

The king of Ossory was among the Leinster chiefs who refused to acknowledge Dermot MacMurrough as King of Leinster in 1166. After the Norman invasion, MacMurrough invaded Ossory. The king of Ossory 'advanced with 3000 men to oppose them, near the eastern confines of Ossory, where he made deep cuttings and trenches, and plashed the pass' (the latter evidently means 'pleached', i.e. interwove the branches of trees and bushes to form a barrier). After a day's fighting, the Leinster army succeeded in breaking through, and wasted Ossory. This, and other subsequent incursions, seem to have been in the northern half of Ossory, entering via Old Leighlin (Carrigan 1905, 60-62).

After Dermot's death, Domhnall acknowledged Strongbow as his feudal lord and submitted to Henry II. He was left in possession of Tuaisceart Osraige, the more important northern part, while South Ossory (Deisceart Osraighe) was granted to Milo FitzDavid. It became known as 'Overk in Ossory'

The Liberty of Kilkenny, as Ossory now became (Dudley Edwards 1973, 84-5), was divided into manors. These in south and central Kilkenny were unusually large compared to other areas, comprising an entire cantred or barony, such as Iverk and Knocktopher. These were subdivided into dependent fiefs. (Empey 1990, 75)

The Walsh family acquired extensive territories across the southern half of County Kilkenny, giving their names to the rough upland area known as the Walsh mountains. They held this land, with an 'interweaving of Gaelic and feudal strategies of land management and social control' (Smyth 1990, 139) until the seventeenth century. Their feudal overlords were the Butler families who, from the middle of the 14th century, came to dominate counties Kilkenny and Tipperary (Smyth 1990, 137).

2.3 Archaeological Background

In the history of the diocese of Ossory (Carrigan 1905) Earlsrath is described as having a very large fort which was "oblong, and surrounded by a deep fosse, formerly filled with water, with a bank about 20 ft high". The bank of this fort is described as having been "fenced with square stone, which have been taken away to build a house". These descriptions most likely refer to the moated site (KK036-032) listed on the sites and monuments

register which was located to the north northeast of the Earlsrath farm buildings. Though it is possible that this is a reference to the sub-circular shape of the field boundaries which enclosed the farm buildings (and seen in the early OS maps), which may hint at some form of earlier enclosure which was partially destroyed by the construction of the farm buildings only future work will show definitely one way or another which is the 'fort' described by Carrigan.

2.4 Earlsrath Townland

The townland name is a literal derivation of *Ráth an Iarla* and was first recorded in the mid-seventeenth century as *Earlesrath* (www.logainm.ie). The Townland of Earlsrath is mentioned within the *General Alphabetical Index to the Townlands and Towns, parishes and Baronies of Ireland* (1851) which was based on the census for 1851 as being within the parish of Kilbeacon and the Barony of Knocktopher. It was not however mentioned within the 1659 census which suggests that the townland was too small or unimportant to be listed or more likely did not exist under that name.

3.0 THE EXCAVATION

3.1 Site Description and Topography

The site was divided into three areas within three separate fields (used at the time of excavation as pasture) which lay on the north eastern slope of a low hill. This slope was steepest within area 2 where the topsoil was thinner and there were outcrops of natural bedrock. To the immediate east of area 2 was a medieval moated enclosure (KK036-032) which lay at the top of the low hill.

3.2 Previous Archaeological Assessment

An EIS report was compiled by Valerie J. Keeley Ltd in 2005, with regard to the Archaeological, Architectural and Cultural Heritage of the entire route of the proposed scheme. Archaeological testing by Melanie McQuade for Margaret Gowen and Co. Ltd. was carried out in September/October 2005 (A0032/01A).

3.3 Excavation Methodology

Topsoil was removed from the main cutting utilising a hydraulic excavator under the direction, supervision and monitoring of a qualified archaeologist. Once the topsoil had been removed, the entirety of the site area was cleaned back to reveal the features identified during the previous testing (*ibid*) and to try to identify any new features which may have been exposed.

Upon location all archaeological materials were cleaned and excavated by hand using methods appropriate to their composition, nature and date. All archaeological contexts were photographed and planned (in relation to the site grid) prior to excavation. Sections were excavated through all features to obtain profiles and to expose the stratigraphic sequences and then fully excavated. All sections and cut features were photographed and

drawn. The position of all finds and samples were recorded in three-dimensions (where appropriate) in relation to the site-grid. The composition, stratigraphic position and interpretation of all contexts were recorded on a context sheet prior to excavation. Contexts have been sampled for palaeobotanical material, radiocarbon dating, micromorphology, petrology and wood identification, where appropriate. Features that proved to be of modern origin were fully investigated and characterised.

3.4 STRATIGRAPHIC SUMMARY

3.4.1 Natural

The natural subsoil was mixture of sands and silts, possibly the result of hill-wash with infrequent inclusions of limestone of varying sizes. The topsoil/subsoil covering over area 2 in particular was very thin and directly overlying natural outcrops of bedrock.

3.4.2 AR33 / E3007

An area approximately 100m by 95m was opened up for AR033 and divided into three areas. A number of shallow ditches with associated features were identified within area 1 (Fig. 6, Pl. 1), within area 2 (Fig. 7, Pl. 2) a number of rubbish spreads were identified and nothing of archaeological significance was identified within area 3. Most of the features within the site were dated to the medieval period though the presence of an early medieval spindle whorl/pendant (E3007:1:4) found within the topsoil may indicate nearby early medieval sites or activity possibly associated with at Earlsrath AR30 and AR31 where early medieval features were identified.

Area 1

Three main ditches were identified within this area. [c7] was linear shaped in plan and was orientated in an approximate east west direction (Fig. 7). The ditch measured 7.8m by 0.59m and 0.05m in depth (Fig. 9) and was filled by mid brownish grey peaty clay [c6]. Close to the western end of [c7] another ditch, [c9], ran almost at a right angle in an approximate north-south direction (Fig. 6; Pl. 6). This ditch measured 18.8m by 0.77m and had a depth of 0.11m (Fig. 9) and was filled by mid brownish grey peaty clay [c8]. Two thirds of the way along the ditch it branched out towards the northeast, [c17]. This part of the ditch projected out for 3.8m. It was 0.9m wide and 0.07m deep, and was filled by mid brownish grey peaty clay [c16]. The only the fill which contained any artefacts was [c8] which was a possible worked stone (Find E3007:8:1) which upon analysis proved to be natural.

At the north western end of [c9] another curvilinear ditch was identified, [c5], (Fig. 6, Pl. 5). This ditch ran in an approximate north eastern direction for 7.5m where it curved towards the southeast for 9.7m. At this point the ditch bulged and changed sharply towards a north south orientation, this part of the ditch measured 6.2m. The minimum width of the ditch was 1m. The maximum width was 2m. The depth was 0.2m. The ditch's fill [c4] was mid-brown grey peaty clay with moderate charcoal inclusions. There were also a few pottery sherds recovered

from the fill, (Finds E3007:4:1-8) which was identified as Leinster cooking ware which is known to date from the late twelfth century to the middle of the fourteenth century. Located at [c5's] south western terminus and [c9's] north western terminus was pit [c13]. [c13] was sub-circular shaped and had a diameter of 1.3m wide and 0.2m deep (Figs. 5 & 8). The pit was filled by sandy clay [c12] of loose compaction with heavy inclusions of charcoal with some stone. The south western terminus of [c5] and north western terminus of [c9] were also truncated by a modern field drain and test trench.

Area 2

Area 2 was located to the south east of area 1 (Fig. 3). Four features (Fig. 7) were identified within the area and they all proved upon excavation to be rubbish spreads. [c11] was located in the south eastern part of the site (Figs. 6, 7 & 8) and measured 1.5m by 1.2m 0.15m deep. The hollow was sub-circular in shape. The spread consisted of black to brown sandy silt with heavy inclusions of charcoal. The spread also contained significant amounts of coarse orange/buff coloured pottery throughout identified as Leinster cooking ware, (Finds E3007:11:1-63; Pl. 9-11). [c25] was also located in the south eastern part of the site and measured 1.56m by 0.6m and 0.4m deep. The hollow was sub circular in shape and filled with black mid brown loosely compacted sandy silt with moderate inclusions of charcoal and occasional small stones. [c25] also contained significant quantities of coarse pottery which was also identified as Leinster cooking ware (E3007:25:2, 3, 5, 12, 19 and 23) and Kilkenny type ware (E3007:25:1, 4, 7, 8, 10, 11, 13-18 and 20-22) both medieval pottery types. Spread [c23] measured 1.5m by 1.2m and was 0.15m deep. All of the these spreads lay over a thin deposit of subsoil [c2] and protruding bedrock [c3], much of the spread material was located within cracks and fissures within the bedrock. The last spread, [c10], (Pl. 8) was located in the central part of the site. The spread, which was sub-circular in shape, measured 0.83m by 0.63m and 0.1m deep. The spread consisted of black to brown sandy silt with loose compaction. The spread also contained heavy inclusions of charcoal and coarse dark brown grey pottery, which again was identified as medieval Leinster cooking ware (Finds E3007:10:1-82; Pl. 12).

Area 3

No archaeology was identified within area 3. There was only a thin layer of subsoil through which natural bedrock protruded.

4.0 THE FINDS

4.1 Overview

A total of 177 sherds of pottery were recovered from four features within areas 1 and 2 which after analysis and reconstruction was adjusted to 153 (See Pottery Report 4.3; Illustrations B-G). The majority of the pottery found was Leinster cooking ware which was located in area 2 within spreads [c10] (Finds E3007:10:1-82; Pl. 12), [c11] (Finds E3007:11:1-63; Pl. 9-11) and [c25] (E3007:25:2, 3, 5, 12, 19 and 23). A small amount was also recovered within the shallow curvilinear ditch [c5] (Finds E3007:4:1-8). A smaller amount of Kilkenny type ware

(E3007:25:1, 4, 7, 8, 10, 11, 13-18 and 20-22) was also recovered from spread [c25]. Both of these pottery types were made in Ireland during the medieval period. Leinster cooking ware dates from the late 12th to mid 14th centuries. The forms found within the site were platters or plates and jugs. Kilkenny type wares were dated to the 13th century and were of jug form and often glazed. These pottery types are indicators of domestic activities most probably from the nearby moated site.

The only other find type recovered from site was a stone decorated spindle whorl/pendant (E3007:1:4; Illustration A) located in the topsoil levels within the site. This spindle whorl was dated to the early medieval period (See Lithics Report 4.2) and though not within secure context may indicate nearby early medieval sites or activities such as at Earlsrath AR30 and AR31. The spindle whorl is also an indicator that this early medieval activity was domestic in nature with the processing of wools, fabrics etc.

4.2 Lithic report by Dermot Moore

4.2.1 Abstract

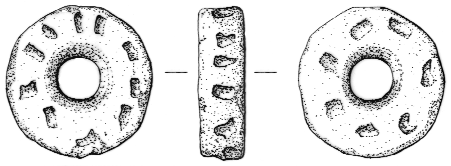
Two pieces of lithic material (one of which was natural) were recovered from the excavation of Site AR030 (E3007) in Earlsrath townland, county Kilkenny. The diagnostic piece comprised a small perforated disc forming a spindle whorl and likely represents domestic activity associated with weaving and indicates a broad date in the Early Medieval period.

4.2.2 Introduction

The two pieces of lithic material recovered from the excavations at Earlsrath (AR033) E3007 were retrieved a curvi-linear ditch feature and a topsoil deposit.

4.2.3 The Lithic Assemblage

The lithic material comprised two pieces one of which was natural. The first piece was a single small perforated and decorated stone disc (E3007:1:4) of a buff-coloured sandstone, which measured 35mm x 34mm x 10mm and weighed 11gms, recovered from a topsoil deposit. The perforation measured 15mm in diameter and appears to have been drilled from both faces although it may have been threaded by a thick cord. The outer flat side displayed 16 impressions (cuts) around its perimeter with 7 cuts/impressions on one face and 10 on the other (Fig. 00.00). The second piece consisted of a large natural rectangular lump of weathered limestone.



E3007:1:4

Illustration A: Spindle whorl/pendant (E3007:1:4) (*Illustration by Lisa Wilson, VJK Ltd.*)

4.2.4 Summary

The spindle whorl (or possibly a pendant) recovered from a topsoil deposit at Site AR033 Earlsrath would suggest that the activity occurring was primarily domestic in nature and likely related to weaving. As this piece was recovered from a topsoil deposit overlying a series of curvilinear features, its specific date attribution is conjectural. Spindle-whorls are common artefacts recovered from sites of Early Christian/Early Medieval date and have been manufactured from stone, fired clay, bone and antler. Sites which have produced spindle whorls include the Early Medieval site of Killickweeny (Walsh and Harrison 2003; Moore 2004), Site 21 in Raystown

excavated on the N2 Finglas – Ashbourne Bypass (Moore 2005) and Site 13 in Moneylawn townland on the N11 Gorey – Arklow road-scheme (Moore 2006).

Decorated spindle whorls are much rarer and none with this specific type of decoration have been noted by the author. However, other decorated examples have been recovered from a few sites such as the Early Christian midden site at Oughtymore near Magilligan in county Derry (Mallory and Woodman 1984) where a portion of a decorated antler spindle whorl was recovered and from Castle Skreen in county Down (Dickinson and Waterman 1960) where a small sandstone spindle whorl decorated with radial incised lines was retrieved. Another sandstone example, decorated with a circle of conical holes and radial and concentric grooves all on one side was recovered from Clea Lakes crannog in county Down (Collins and Proudfoot 1959)

In conclusion, the spindle whorl recovered from Earlsrath (AR033), while recovered from a topsoil context, would tend to indicate an Early Christian/Early Medieval date for its period of manufacture and use.

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4.4 Medieval pottery by Clare McCutcheon MA MIAI

4.4.1 Introduction

A total of 177 sherds of medieval pottery were presented for study. Following identification and reassembly this was reduced to 153 sherds of which 138 (77.96%) are of Leinster Cooking Ware. The contexts from which the pottery was recovered are described as spreads, possibly representing refuse from a nearby moated enclosure to the east of the site. Apart from ten sherds recovered from the topsoil and a shallow ditch, all of the material was recovered from these three spreads (C10, C11, C25), although the small quantity of glazed ware was only recovered from one of these (C25).

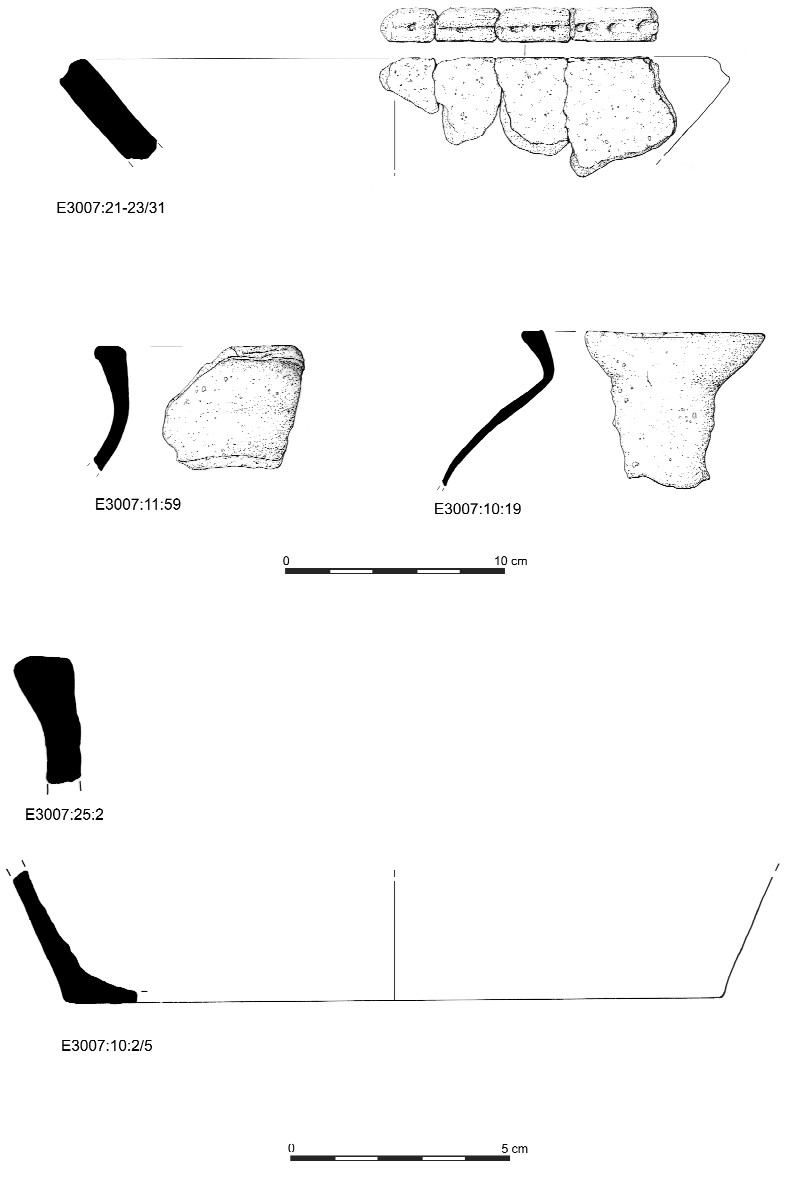

Illustration B: Reconstructed Portions of Leinster cooking ware and Kilkenny type ware vessels (*Illustrations by Lisa Wilson, VJK Ltd.)*

4.4.2 Methodology

The sherds were identified visually and the information is presented in Table 1. This shows the quantity of sherds in each fabric type, the minimum number of vessels (MNV) present and the minimum vessels represented (MVR). The first is an objective number based primarily on the rim/handle junctions while the second is a subjective number based on the variety of sherds present. The form of vessel represented is also listed along with the date range of distribution of the particular fabric types.

The identification of each sherd has been entered on a database (Access format) as per the requirements of the National Museum of Ireland, the body responsible for the material remains from excavations within the state. The database shows the *licence*, *context* and *finds* number; the *links* of reassembled sherds within and between contexts; the *category* and *type* of material i.e. ceramic and pottery; the *identification* of the fabric type and the diagnostic *description* i.e. rim, handle etc. The final two fields contain *habitat* numbers, firstly the box number where each sherd is stored and secondly the location of the box within the storage system of the National Museum of Ireland. The database is easily searchable for particular types of pottery, vessels parts etc and is also appropriate for all other small finds recovered from the site. The two fields showing links and description are not specifically required by the National Museum of Ireland but have been inserted by this researcher in the course of considerable work on small finds from urban excavations, including pottery. They fulfil the necessity of indicating the diagnostic part of the vessel recovered but can also be useful to indicate stick pin type, nail type etc. in the case of metal artefacts.

Fabric type	Sherds	MNV	MVR	Form	Date range
Leinster Cooking Ware	138	-	4	Platter, cooking jars	L12th-M14th
Kilkenny-type ware	15	-	1	Jug	13th
Total	**153**	**-**	**5**		

Table 1: Pottery identification: Earlsrath E3007.

Leinster Cooking Ware:

'Leinster Cooking Ware is the single most widespread medieval pottery type in Leinster' (Ó Floinn 1988, 340). The ware is distinguished by the presence of large flakes of mica and much quartz but the most distinctive characteristic of the Leinster Cooking Ware is the sand marked base, which 'suggests that unfired vessels were deliberately placed on a bed of sand to dry before firing' (*ibid*, 327). The dating of Leinster Cooking Ware from the late twelfth century is based on extensive excavations in Waterford with a trustworthy dendrochronological sequence (Gahan & McCutcheon 1997).

Two forms of vessel are present, standard cooking jars and platters. The majority of the sherds are from cooking jars with everted rims, ovoid bodies and a slightly sagging base. The minimum vessels represented are indicated by the various pieces of rim present. The difficulty with Leinster Cooking Ware rims is that some can be partially or intermittently pinched or thumbed with other parts undecorated.

Fifty-two of the sherds are parts of an oval platter or flat dish that may have been used as a serving plate or possibly an individual plate. A number of these have been recovered in the south-east, most notably at Jerpointchurch townland (Foley 1989) and at Kilferagh (Hurley 1987, 94, fig.17.6), both in Co. Kilkenny and at Ferns Castle, Co. Wexford (Sweetman 1979, 232-33). Most recently, further platters in very coarse clay encrusted with quartz chips, were recovered from a ditch fill at Moneycross Upper, Co. Wexford (McCutcheon forthcoming).

Illustration C: Rim sherd of Leinster cooking ware vessel (E3007:10:19) (*Photography by StudioLab*)

Illustration D: Sherds of Leinster cooking ware from spreads [c10 and c11] (*Photography by StudioLab*)

Illustration E: Reconstructed Portion of Leinster cooking ware vessel (E3007:11:2 and 13) (*Photography by StudioLab.)*

Kilkenny-type wares:

The use of the suffix *-type* is recommended in pottery studies to indicate that while a fabric has been found regularly in a particular area, as yet no production site has been located (Blake & Davey 1983, 39-40). In the excavations at Kells Priory, the thin-section report describes a number of different medieval fabrics (McCorry forthcoming) and these were described as Kells-type A-G (McCutcheon forthcoming (b)), although the consistency in manufacture, form and decoration make these a closely linked group. The recent excavation of a kiln at MacDonagh Station, Kilkenny may make it possible to identify particular fabrics and firings against the prototypes from the kiln (McCutcheon in prep). With the last firing of this kiln in the mid- to later fourteenth century, however, it is likely that only one or two 'types' found in the area can be identified as coming from this specific kiln. 'In areas where the underlying geology is bland, pottery from widely separated sources can have a very similar appearance, while excavations at kilns sites of all dates have shown that a wide variation in colour, texture and inclusions can be expected within the products of a single source' (Vince 1987, 203).

Kilkenny-type:

Fifteen sherds of glazed ware were recovered. Similar material, also described as Kilkenny-type ware, has been recovered at excavations at 29-33 Patrick Street and at Pudding Lane (McCutcheon forthcoming (c & d)). The fabrics range from lightly micaceous, hard fired finish to a more calcareous, softer finished fabric. A complete jug was found at Castleinch, about two miles south-west of Kilkenny city (Prendergast 1977) and the principal glazed ware recovered at Kilkenny Castle has been described as 'Castleinch ware' (B. Murtagh pers.comm.).

The form and design of the jug represented in this assemblage are typical of later thirteenth century locally made jugs in the area (Foley 1989; McCutcheon forthcoming (b-d)). The designs are also characteristic of locally made pottery in Ireland and are a testament to the apparent lack of regional variation (McCutcheon 2006). A feature of Kilkenny-type wares has been the fracture of the handle from the rim, leaving only a scar rather than a stump to indicate the presence of a handle, making it difficult to be certain of minimum numbers present. The spouts are generally pulled rather than bridge, again typical of Irish-made wares of the period, while the bases show a mixture of both English (thumbed) and French (splayed) influence.

Illustration F: Sherds of Kilkenny type ware from spread [c25] (*Photography by StudioLab.)*

Illustration G: Reconstructed Kilkenny type ware vessel from spread [c25] (*Photography by StudioLab.)*

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5.0 DISCUSSION

5.1 AREA 1

The shallow ditches and other features within area 1 seem to represent refuse deposition or agricultural activity/boundaries. There was no identifiable stratigraphic relationship between the shallow ditches and other features within area 1 except where a modern drain cut through ditch [c9] and it was difficult to ascertain an overall pattern to the plan of the ditches and see if there was any relationship between them, though ditch [c7] did seem to be perpendicular to the southern terminus of ditch [c9] which may indicate a corner of a possible field or paddock. Also the similar fills excavated within ditches [c9] and [c7] would be a further indication that they were both part of the same field boundary system. The gap left between the southern end of ditch [c9] and the eastern end of ditch [c7] may also indicate a possible entrance, though the shallow nature of the ditches may mean that parts of the ditches have been destroyed over time giving the impression that there was an entrance. Ditch [c9] appears to have been altered almost immediately as it forked off in different directions to the northwest and to the north as [c17] as there was no discernable difference between the fills or the stratigraphy in either of these ditches. The dating of the ditches is reliant on the recovery of sherds of Leinster cooking ware, a type of medieval pottery which dates to the late 12th century AD to the mid 14th century AD (See medieval pottery report 4.3), from the fill [c4] of the curvilinear ditch [c5].

It seems probable that the ditches within area 1 were the remains of medieval boundaries most likely associated with the moated enclosure located approximately 100m southeast. The features within the site would most likely have been part of an organised and hierarchical medieval landscape with the moated site being the local administrative centre, the lords at the top rung of society's ladder and the *betagh* (a lower caste of society which could be literally sold by their lords almost as slaves) at the bottom (O'Keefe 2000). Most of the farming would be carried out within small parcels of land by free tenants or the other lower ranks of society. Mostly this farming was conducted within open fields and using a crop rotation system (O'Connor, 1998). There is evidence however for the deliberate enclosure of land during the later medieval period such as in the Dublin area where there are manorial records which show the enclosing of unproductive land for use as pasture (Otway-Ruthven, 1964-68). This may well be the case in area 1, where due to the marginal waterlogged nature of the underlying subsoil the field in which area 1 was located was enclosed off as rough pasture.

5.2 AREA 2

All of the four features excavated within area 2 proved to be spreads or dumps of refuse and apart from the odd flake of charcoal contained mostly medieval pottery (See medieval pottery report 4.3). Spread [c10] contained 82 sherds of Leinster cooking ware and spread [c11] contained 63 sherds of Leinster cooking ware. Within spread [c25] 6 sherds of Leinster cooking ware and 17 sherds of Kilkenny type ware were recovered. The other spread [c23] contained no pottery. Environmental evidence was recovered from two of the spreads [c10 and c11]. Within spread [c10] there were burnt organic remains such as oats, wheat, barley, a hazelnut fragment and weed seed

(See Specialist Appendix 9.2). The cereal remains recovered are most probably domestic waste from the nearby moated site or some other medieval dwelling place. The cereal grains are also evidence of the use of crop rotation within the medieval landscape. Wood charcoal was recovered from spreads [c10 and c110]. The majority of the charcoal remains was from oak followed by haze with a few fragments of both alder and willow (See Specialist Appendix 9.1). Though the most likely reason for the wood charcoals presence within the spreads was from use as cooking or industrial firewood their presence also shows the range of woods which may have been used for building purposes or use in everyday objects such as tool handles, fencing, baskets, stave built vessels etc. It seems probable that the unproductive and poor quality of the soil within area 2 would have made it unsuitable for arable farming and would probably have only been used for rough pasture. This of course would have made it ideal for use as a dumping ground for domestic organic and ceramic scraps. This refuse may well have been deposited from the nearby moated site (RMP KK036-032) and may even have been an attempt to improve the field using the refuse as composting.

6.0 CONCLUSION

The spreads and ditches within the site AR33 / E3007 are peripheral evidence for nearby domestic occupation possibly from the nearby moated enclosure or from some other unidentified medieval settlement. As part of an organised medieval landscape moated sites were often located on the edge of areas colonised by Anglo-Norman settlers in counties like Kilkenny or as evidence of secondary colonization around the early 12th century AD to the start of the 13th century AD (Empey, 1982-3, Barry, 1977). Around these sites would mainly open field systems though some areas, such at AR33, would see the beginnings of enclosed fields possibly as a move towards pastoral from arable farming (O'Connor, 1998). This seems to have been the case at Earlsrath AR33.

7.0 ACKNOWLEDGEMENTS

The author would like to thank the National Roads Authority who funded the excavation and post-excavation analysis, James Eogan the Project Archaeologist and Bernice Kelly the Assistant Project Archaeologist. Thanks are also due to the staff of Valerie J Keeley Ltd. and in particular John Lehane, Maeve Grant and Colum Hardy the Senior Archaeologists on the project. Particular thanks are given to the site supervisor Mathilde Jourdan and all the excavation team. Off site Special thanks are also due to Dermot Moore, Clare McCutcheon, Ellen O'Carroll, Meriel McClatchie and Leigh Barker for their specialist input.

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CARTOGRAPHIC SOURCES

1834-1842 1st edition OS 6" map

1887-1913 2nd edition OS 6" map

9.0 SPECIALIST APPENDICES

9.1 Charcoal Identification report by Ellen O' Carroll

9.1.1 Background and Introduction

Archaeological excavation of AR033/E3007 Earlsrath townland, Co. Kilkenny was carried out as part of archaeological resolution of the N9/N10 Kilcullen to Waterford Road Scheme. AR033 was excavated by Liam McKinstry on behalf of Valerie J. Keeley Ltd., from 26th June-1st September 2006 (McKinstry 2007, 1).

Excavation of this site uncovered the remains of a series of shallow linear and curvilinear ditches with associated features (Area 1), as well as a series of spreads associated with a large quantity of pottery and charcoal (Area 2; *ibid.,* 3-4).

A total of 57 charcoal fragments, weighing 8.71g, were analysed to species. Charcoal for analysis was recovered from two contexts; **C10**/S4/spread of loosely-compacted, charcoal-rich, sandy silt containing fragments of a coarse grey-brown pottery and **C11**/S4/spread of domestic waste material, containing fragments of an orange/buff coloured coarse ware. A restricted variety of native taxa was identified, comprising oak, hazel, willow and alder.

A date of 1287 - 1394 AD has been returned for sample no. 2, C10 which is a spread of loosely-compacted, charcoal-rich, sandy silt containing fragments of a coarse grey-brown pottery. The features are thought to be associated with a nearby moated site (RMP KK036-032). The charcoal assemblage is likely to represent fuel collection policies from domestic activity. Given the nature of the features identified during excavation, there is also a possibility that the charcoal could derive from domestic wooden implements or tools.

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 Christian 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. 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 policies for particular species at any given time and place.

In medieval Ireland, as elsewhere at that time, wood was an essential raw material (Muhr 2002). This, combined with the small range of species available, led to certain trees being accorded special status in the laws. The 8th century law tract *Bretha Comaithchesca* or 'Laws of the Neighbourhood' regulated the use and graduated fines

for damaging or cutting down trees without permission. The laws recognised a hierarchy among tree species, with four classes of tree or bush: the *airig fedo* or nobles of the wood; *aithig fedo* or commoners of the wood; *fodla fedo* or lower divisions of the wood; and *losa fedo* or bushes of the wood (MacCoitir 2006). The species included and their rank varies from text to text to a small degree (though mainly among the lesser species). In the oldest extant listing, oak, hazel, holly, yew, ash, pine and apple are regarded as *airig fedo*: oak for its acorns and nobility, hazel for nuts, apple for fruit and bark, yew for buildings, holly for chariot-axles, and ash for weapons (Muhr 2002). Alder, willow, hawthorn, rowan, birch, elm and cherry were counted as *aithig fedo* and blackthorn, elder, spindle, aspen, juniper, whitebeam and arbutus were less valuable again and labeled *fodla fedo* or the 'lesser divisions of the wood'.

The analysis of charcoal can provide information on two different levels. Charcoal analysis is an important component of any post-excavation environmental work, as it can help in re-constructing an environment hitherto lost. However, this must be done with caution, as sufficient sample numbers are required for a complete and full understanding of the immediate environment. Keepax (1988) suggests 50 samples in a European temperate climate. Charcoal is also analysed and identified to determine what species are used and selected for particular functions on site *i.e.* postholes, wall-posts, burnt remains of wattle and so on. In summary, charcoals are excellent indicators of exploited environments and the vegetation that developed within them. This area of work is especially important in Ireland where there are very little written records up to the 18th century relating to the amount and type of woodland in Ireland (McCracken 1971, 15).

The analysis presented here concentrates on species identification, species selection and the composition of the local woodland during the medieval period in the townland of Earlsrath, Co. Kilkenny.

9.1.2 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 on-site. The flots were sieved through a 250 micron or a 1mm sieve, while the retent was put through a 2mm or 4mm sieve. All of the charcoal remains from the soil samples were then bagged and labeled.

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 microanatomical 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 ^{14}C 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. 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 and tabulated. All fragments from the samples submitted for analysis were identified.

A number of wood taxa cannot be identified to species or sub-species level anatomically. In the case of AR033, charcoal identified as oak could be either sessile oak *(Quercus petraea)* or pedunculate oak *(Quercus robur)*, as the wood of these species cannot be differentiated on the basis of their anatomic characteristics. Similarly, willow charcoal present in the assemblage may belong to one of at least four native species of willow (Goat willow/*Salix caprea*, Grey willow/*Salix atrocinerea*, Bay willow/*Salix pentandra* and Eared willow/*Salix aurita*).

9.1.3 Description of feature type and receiving environment

AR033 was located in Earlsrath townland, Co. Kilkenny (parish of Kilbeacon, Knocktopher barony; Ch; 13000-13100; NGR 256305E/127233N and NGR 256335E, 127189N; 117m OD). The site was located on the upper eastern slope of a low valley, east of the Blackwater River and the existing road. The Derrylacky River is located to the north of the site. A low north-south-orientated ridge rose to the east, whilst wetland bordering the Blackwater lay to the west. The subsoil to the southwest was very thin with natural bedrock protruding through the subsoil. The underlying geology comprised a light grey/purple slate which was very brittle and broke easily along natural fissures. These fissures contained subsoil and topsoil material which seemed to have been either washed in by water action or pushed in by vegetation. The first edition Ordnance Survey map showed a possible lane or road with an approximate northeast southwest orientation terminating in a small field at or close to AR033 (McKinstry 2007, 2-4). The townland name is a literal derivation of *Ráth an Iarla*, and was first recorded in 1655 as 'Earlesrath' (www.logainm.ie).

Site AR033 represented the remains of a series of linear and curvilinear ditches, with associated features and spreads of domestic waste. They have been interpreted as evidence for domestic/agricultural activity associated with an adjacent moated site and a date of 1287 - 1394 AD from a spread of loosely-compacted, charcoal-rich, sandy silt containing fragments of a coarse grey-brown pottery has been returned for the site.

Charcoal for analysis was recovered from two contexts, which provided evidence for a restricted variety of native taxa.

9.1.4 Results & Analysis

Four taxa were identified from the charcoal assemblage retrieved from the features excavated at AR033/E3007 Earlsrath townland, Co. Kilkenny. Fifty seven charcoal fragments, weighing a total of 8.71g, were identified from two contexts; **C10**/S2 and **C11**/S4. The level of preservation within the charcoal assemblage was good and all fragments were identified. Taphonomic alteration, such as repeated saturation, had not affected the quality of the charcoal. There was no evidence to suggest that the charcoal had become coated with any calcareous concretions that would compromise future radiocarbon dating submissions.

Oak (*Quercus spp*) was the dominant taxa in the assemblage (43 fragments out of a total of 57), followed by hazel (*Corylus avellana*; 8 fragments), with equal fragment counts of alder (*Alnus glutinosa*; 3 fragments) and willow (*Salix spp*; 3 fragments). The weight and fragment count identified from each taxon type at each site is represented below in **Figure 1** and **Table 1**.

Chart 1 All taxa identified from AR033/E3007 Earlsrath townland, Co. Kilkenny

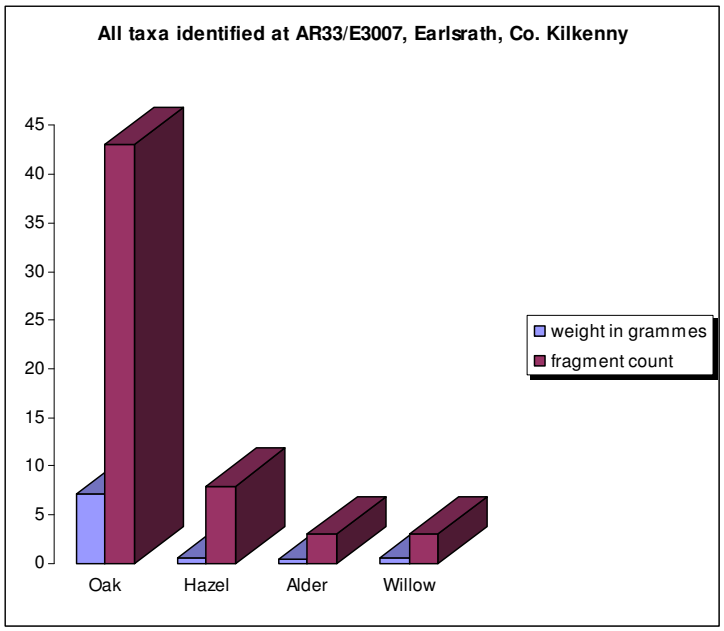

Table 2: Results from charcoal identifications

Sample number	Feature/ Context	Feature Description	Identifications	Comment	Date

2	**C10**	Spread of loosely-compacted, charcoal-rich, sandy silt containing fragments of a coarse grey-brown pottery.	Oak (7.1g*, 41f*); Hazel (0.5g, 6f); Alder (0.4g, 3f); Willow twigs (0.6g, 3f).	Oak is fast growing.	Alder charcoal 1287 - 1394 AD
4	**C11**	From spread with medieval pottery. Environmental analysis may inform on activity?	Hazel (0.1g, 2f); Oak (0.01g, 2f).	Minute charcoal fragments. Seeds and organics also present. All fragments identified	N/A

*g = weight in grammes *f = fragment counts

9.1.5 Discussion of the charcoal assemblage

Aims of the study

1. To determine the types of wood selected for use either as fuel or as structural wood.
2. To re-construct the environment that the charcoal and wood was selected from.
3. To determine use and function of particular features and their associated charcoal through the identification of taxa types

Wood types identified from charcoal and wood assemblages

Table 3 Taxa types identified from the charcoal and wood assemblage from AR033/E3007, Earlsrath, Co. Kilkenny.

Botanical Name	**Species**
Quercus spp	Oak
Corylus avellana	Hazel
Alnus glutinosa	Alder
Salix spp	Willow

Fifty seven charcoal fragments from four contexts relating to a series of linear and curvilinear ditches, with associated features including spreads of material containing numerous sherds of pottery, were analysed from excavations at AR033/E3007, Earlsrath townland, Co. Kilkenny, as part of the N9/N10 Kilcullen to Waterford Road Scheme. Charcoal was identified from two contexts; **C10**/S2 and **C11**/S4. A Medieval date of 1287 - 1394

AD was returned for one of the alder charcoal fragments from C10. Oak (*Quercus spp*) was the dominant taxa in the assemblage, followed by hazel, alder and willow. The charcoal is most likely representative of fuel collection policies, although the possibility that some of the charcoal may derive from discarded wooden implements or tools cannot be discounted, given the domestic nature of the material identified during excavation. During archaeological work carried out on the Kilcullen to Powerstown phase of this scheme, for example, an alder shovel was recovered during excavations adjacent to a moated site at Ballybar Lower, Co. Carlow (www.nra.ie/brochure/archaeological discoveries/N9N10 Kilcullen to Waterford Scheme/Kilcullen to Powerstown). Coppiced willow and hazel was frequently used in basketry (MacCoitir 2003). Wood was an absolutely indispensible material in medieval life and was also used for furniture-making, making carts and wheels, for fencing and fuel (Cantor 1987, 13). Oak, ash and apple wood were most frequently used as structural wood, whereas species such as hazel and willow were used in fencing (*ibid.*, 14). The quantity of charcoal sampled from the assemblage was sufficiently low so as to exclude the possibility of the remains of any structures being present.

As the dominant taxa identified in the samples submitted for analysis, accounting for 75.4% of the total sample, oak charcoal was collected and used for activities associated with the domestic/agricultural activities at AR033/E3007 Earlsrath townland, Co. Kilkenny, during the medieval period. Charcoal was an important fuel as it could be obtained locally and it gave off a much better heat than wood. Of particular importance was oak charcoal, as it burned hotter and cleaner than wood and was considered superior to wood. Oak was present in both contexts sampled, with the highest concentration (41 fragments) present in **C10**/S2/a spread of loosely-compacted, charcoal-rich, sandy silt containing fragments of a coarse grey-brown pottery. Oak woods were valued for their natural resource of timber for many requirements including raw material for metalworking activities. Oak is a dense wood and is very suitable for charcoal production and metal working activities. It can burn for a considerable period of time and can reach extremely high temperatures necessary for the production of metal objects and smelting activities. It also makes good firewood when dried and will grow in wetter areas when other variable conditions are present. Oak has excellent properties of great durability and strength and was frequently used throughout the medieval period for the production of large timbers, for charcoal production and for activities associated with metal working activities.

Eight fragments of hazel (*Corylus avellana*) charcoal were identified from the samples analysed at AR033. It was present in both samples. 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 3-5m 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. Hazel also makes good fuel. 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 (Mac Coitir 2006, 72-81). In folklore, it was used as a protection against evil (*ibid.*).

Willow (*Salix spp*) charcoal was also identified, albeit in smaller quantities (3 fragments), from the assemblage at AR033 (in **C10** only). Willow is a very strong wood in tree form and is excellent for the use as posts. It is also a very flexible wood and was commonly used for the construction and weaving of baskets. It is a native species in Ireland and can be found in a tree and shrub form. According to Webb (1971, 160-2) thirteen species of willow are found growing wild in Ireland, of which eight are certainly native. The wood of *Salix* trees and shrubs cannot be differentiated on the basis of anatomical features.

Identical quantities of alder charcoal were also present in **C10**. It is a widespread native tree and occupies wet habitats along stream and river banks. Though it flourishes best where its main roots are just above the water, the alder is also tolerant of stagnant water. The wood of the tree is white when growing, but when it is cut, turns red. It is soft, with short fibres, giving it a homogeneous texture and of moderate density. It is a very durable wood and was specially selected for boat-making and for dug-out canoes, as it is an easily worked and split timber and therefore quite commonly manufactured into planks. Alder was used by the Romans for water-pipes, bridges and as a revetting timber for riverbanks. The city of Ravenna, in northeastern Italy, was founded on piles of alder wood. It loses about a third of its weight and a twelfth of its bulk in drying, but does not warp subsequently, so that it is suitable for wood-turning and is a common timber in barrel- and wheel-making. As fuel the alder is inferior in heating power to other woods, but for this reason, it is useful where a slow heat is required.

The taxa identified at AR033 reflect aspects of the local landscape during the medieval period. The area surrounding Earlsrath may have supported mixed woodlands, where oak and hazel may have predominated, with alder and willow, both of which prefer a wetter environment, growing in the marshier areas. Although not within the remit of this report, the identification of possible cereal grain/seeds in S4/**C11** may indicate that cultivation was taking place in the immediate area.

The results from AR033 reflect a fuel collection policy at the site, though the likelihood that some of the charcoal is derived from domestic or agricultural implements, given the nature of the site, cannot be discounted. Although a restricted variety of taxa was identified, which is not likely to represent the available species, none of the taxa was present in sufficient quantities in the samples analysed to suggest that they had been used as a structural wood.

Comparative Material

The analysis completed for the Earlsrath area of Co. Kilkenny adds to the growing amount of information obtained from the analysis of wood and charcoal from features dated to the medieval period excavated in Ireland and in particular in Co. Kilkenny. The author has carried out a large number of charcoal identifications from similar excavated sites and a range of species are generally identified, although oak was almost invariably indentified as the dominant taxa from medieval assemblages. Analysis of material from AR12/E2365, Moycarky townland, Co. Tipperary showed that oak was the only taxon present in a sample taken from a medieval pit, dated to 1020-1155 AD (cal. QUB 2 Sigma; O Carroll 2009a). At AR15/E2367, in the same townland, oak was also the only taxon identified from a roasting pit and hearth dated to 1302-1433 AD (cal. QUB 2 Sigma; O Carroll 2009b). Hazel and oak were present in the assemblage analysed from AR13/E2366 (Moycarky townland). Samples were taken from two pits, one of which returned a radiocarbon date of -1154 AD (cal. QUB 2 Sigma; O Carroll 2009c).

Charcoal analysis from samples recovered from the excavation at AR030/E2510, located to the south of AR033, showed that oak and hazel charcoal were the only two taxa identified from the fill of a ditch dated to the early medieval period. Although earlier than AR033, the results from AR030 show some evidence for continuity in terms of landscape, during the medieval period.

9.1.6 Summary and conclusions on the charcoal assemblage

Four taxa were identified from the charcoal assemblage retrieved from excavations at AR033, in the townland of Earlsrath, Co. Kilkenny. The charcoal is most likely representative of fuel collection policies at the *site,* although given the nature of the features identified during excavation, there is also a possibility that the charcoal could derive from discarded domestic wooden implements or tools. The taxa identified may be taken as an indicator of the wood selected at the site and as a reflection of the local environment during the later medieval period. Oak was the dominant taxa in the assemblage, followed by hazel with smaller fragment counts of alder and willow. Oak and hazel are more indicative of dryland woods. Both willow and alder prefer wetter ground. The primary woodland trees (oak) and scrub type trees (hazel) would most likely have grown in woods on the nearby dryland margins and willow and alder in the marshier areas, perhaps adjacent to the Blackwater River to the west or the Derrylacky to the north.

The results from AR033 may reflect a general pattern, where a variety of wood types were collected, reflecting a fuel collection policy at the site. Although oak was the dominant taxa at AR033, it was not present in sufficient quantities in the samples analysed to suggest that it had been used as a structural wood. The charcoal identifications are broadly comparable with assemblages analysed from comparative dated sites excavated as part of this road scheme, where oak charcoal generally produced the highest fragment count.

9.1.7 Acknowledgements

The author would like to thank Fiona Maguire for assistance in the analysis of the data and assistance and editing of the report.

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9.2 Analysis of non-wood plant macro-remains by Dr. Meriel McClatchie

9.2.1 Non Technical Summary

Two samples from four possible medieval deposits were presented for archaeobotanical analysis. Only one of the deposits contained charred non-wood plant macro-remains. A small number of oat, barley and wheat grains were recorded, representing crop types that are frequently recovered from medieval archaeological sites in Ireland. Two hazelnut fragments were also present, as well as a weed seed.

9.2.2 Introduction

An archaeological excavation was carried out at Site AR33 under the direction of Liam McKinstry of Valerie J. Keeley Ltd (Licence number E3007). The site was excavated as part of works associated with the N9/N10 Kilcullen to Waterford road scheme (Waterford–Powerstown, Phase 2). Two deposits from four localized spreads associated with medieval pottery were presented for archaeobotanical analysis (Appendix 1).

9.2.3 Methodology

Processing of soil samples

The soil samples had previously been processed under the supervision of Valerie J. Keeley Ltd staff following consultation with the author. The samples were processed using conventional flotation methods, with the smallest sieve mesh-aperture measuring 250µm. The flots and retents were then presented to the author for analysis.

Extraction and identification of remains

Examination of the flots was carried out using a stereo-microscope, with magnifications ranging from x6.3 to x50. The retents were examined without the use of magnification. The flots and retents were scanned in order to confirm the presence of archaeobotanical material, which was then extracted. The archaeobotanical material was identified by comparison to reference material in McClatchie's collection of modern diaspores and the drawings from various seed keys (Anderberg 1994; Beijerinck 1947; Berggren 1969; 1981; Katz *et al.* 1965). Botanical names follow the nomenclature of *Flora Europaea* (Tutin *et al.* 1964–83), and common names follow those provided in *New flora of the British Isles* (Stace 1991).

9.2.4 Non Wood Plant Macro-Remains Recorded

One of the two examined deposits contained charred plant macro-remains. A spread [C.10] produced a small number of cereal grains. *Avena* spp. (oat) was predominant, with grains of *Triticum* sp. (wheat) and *Hordeum* sp. (barley) also being recorded. Two shell fragments of *Corylus avellana* L. (hazelnut) were present in this deposit, as well as one weed seed. The other examined spread [C.11] did not produce any non-wood plant macro-remains.

Oat appears to have been the predominant cereal in many areas of Medieval Ireland, with regular evidence for barley and wheat also being recorded (McClatchie 2003). Hazelnuts may have been collected by the site's inhabitants in order to provide a nutritious foodstuff. Hazelnut collection is more regularly associated with prehistoric sites in Ireland (McComb and Simpson 1999), but documentary evidence also exists to demonstrate the continued collection of hazelnuts throughout the historic period (for example, Kelly 1997, 306). Alternatively, hazelnuts may have been inadvertently introduced to the site along with hazel wood, which could have been used in structures or as fuel.

9.2.5 Material Extracted For C14 Dating

Cereal grains were extracted for AMS radiocarbon dating (Table 4).

9.2.6 References

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Context	Cut	Sample	Interpretation	Material recorded	Material selected for C14 dating
10	…	2	One of four localized spreads associated with Medieval pottery	<10 grains of *Avena* spp. (oat), *Triticum* sp. (wheat) and *Hordeum* sp. (barley) 2 shell fragments of *Corylus avellana* L. (hazelnut) 1 weed seed	3 grains of *Avena* spp. (oat)
11	…	4	One of four localized spreads associated with Medieval pottery	…	…

Table 4: Non-wood plant macro-remains recorded at Site AR33

9.4 Radiocarbon Dating by The Chrono Centre, Queens University Belfast

9.4.1 Results

One sample was taken from a spread of charcoal and pottery [c10] for radiocarbon dating. The results from calibration of radiocarbon dates are given in Table 9. Calibration was carried out by The Chrono Centre Radiocarbon Laboratory at Queens University Belfast. Given are intervals of calendar age, where the true ages of the samples encompass with the probability of c.68% and c.95%. The calibration was made with the Ox Cal software.

AR31							
Lab Code	**Sample No**	**Context No**	**Description**	**Material Dated**	**Radiocarbon Age**	**Calibrated Age** 69.2% probability	**Calibrated Age** 95.4% probability
UBA-13481	2	[c10]	Spread containing medieval pottery	Alder charcoal	637±23BP	1295-1387 cal AD	1287-1394 cal AD

Table 5: Calibrated Radiocarbon Determinations for AR33, (after Reimer et al 2004; OxCal v3.10 Bronk Ramsey (2001); cub r:5 sd:12 prob usp(chron))

9.4.2 References

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10.0 EXCAVATION RECORD

APPENDIX A: LIST OF CONTEXTS

C #	Type	Interpretation	Description	Dimensions
001	Deposit	Topsoil in areas 1 & 2	Dark brown clayey silt	N/A
002	Deposit	Natural in areas 1 & 2	Light grey clay	N/A
003	Deposit	Bedrock in areas 1 & 2	Grey purple slate	N/A
004	Fill	Fill of ditch [c5]	Mid brown grey peaty clay. Loose compaction. With moderate charcoal inclusions.	20m long, 1m wide and 0.2m in depth.
005	Cut	Ditch	Curvilinear ditch. Running E-W along the middle of the site then curving towards the SE. Concave sides and base.	20m long, 1m wide and 0.2m in depth.
006	Fill	Fill of ditch [c7]	Mid brown grey peaty clay. Loose compaction	7.8m by 0.59m and 0.05m deep.
007	Cut	Ditch	linear shaped feature. Approx. E-W orientation. 7.8m by 0.59m and 0.05m deep.	7.8m by 0.59m and 0.05m deep.
008	Fill	Fill of ditch [c9]	Mid brown grey peaty clay. Loose compaction. Terminates at the S end of the site	0.77m wide and 0.1m deep.
009	Cut	Ditch. Ditch [c17] ran off it	Linear/irregular feature which had a N-S orientation.	0.77m wide and 0.1m deep
010	Deposit	Spread containing pottery.	Black to brown sandy silt with loose compaction. Heavy inclusions of charcoal also contained charcoal. Hollow was sub circular shaped. Gradually sloped and flat base.	0.83m by 0.63m and 0.1m deep
011	Deposit	Spread containing pottery	Mid brown sandy silt of loose compaction with moderate compaction of stone and charcoal. Hollow was sub circular shaped. Gradual and irregular sides and base.	1.5m by 1.2m 0.15m deep
012	Fill	Fill of pit [c13]	Brown grey sandy clay of loose compaction. Heavy inclusions of charcoal with some stone.	1.3m wide and 0.2m deep.
013	Cut	Possible rubbish pit	Circular shaped. Concave sides and base.	1.3m wide and 0.2m deep.
014	N/A	N/A	Cancelled	N/A
015	N/A	N/A	Cancelled	N/A
016	Fill	Fill of ditch [c17]	Mid brown grey peaty clay. Loose compaction.	3.8m by 0.9m and 0.07m deep
017	Cut	Ditch running off [c9]	Projects out of the northern end of [c9].	3.8m by 0.9m and 0.07m deep
018	Fill	Fill of pit [c19]	Black grey sandy silt with soft compaction. Moderate inclusions of stone and charcoal.	0.8m by 0.6m and 0.1m deep
019	Cut	Small rubbish pit	Sub circular shaped. Gradually sloped and flat base.	0.8m by 0.6m and 0.1m deep
020		Cancelled	Cut # cancelled	N/A
021		Cancelled	Cut # cancelled	N/A
022		Cancelled	Cut # cancelled	N/A

C #	Type	Interpretation	Description	Dimensions
023	Fill	Charcoal spread	Sub rectangular shaped. Gradual and irregular sides and base. Hollow was sub-circular shaped. Gradual and irregular sides and base.	1.5m by 1.2m 0.15m deep
024		Cancelled	Cancelled	N/A
025	Fill	Spread within natural hollow	Black mid brown loosely compacted sandy silt. Moderate compaction of charcoal and occasional small stones. Hollow was sub rectangular shaped. Gradual and irregular sides and base.	1.56m by 0.6m and 0.4m deep

APPENDIX B: LIST OF ARTEFACTS

Artefact No.	Area	Context	Cut No.	Material	Type	Description
E3007:1:1	N/A	1	N/A	Ceramic	Pottery	Sherd of thick coarse unglazed pottery.
E3007:1:2	N/A	1	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery with traces of burning.
E3007:1:3	N/A	1	N/A	Ceramic	Pottery	Sherd of thick coarse unglazed pottery.
E3007:1:4	N/A	1	N/A	Lithic	Sandstone	Flat circular sandstone with central perforation and carved simple decoration on both sides and around the edge. Diam 33-35mm, thick 10mm. Hole diam 10mm. Possible spindle whorl.
E3007:4:1	N/A	4	5	Ceramic	Pottery	Sherd of coarse unglazed pottery.
E3007:4:2	N/A	4	5	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:4:3	N/A	4	5	Ceramic	Pottery	Sherd of coarse pottery, sooted.
E3007:4:4	N/A	4	5	Ceramic	Pottery	Sherd of coarse pottery, traces of soot on one side.
E3007:4:5	N/A	4	5	Ceramic	Pottery	Sherd of coarse pottery, traces of soot on one side.
E3007:4:6	N/A	4	5	Ceramic	Pottery	Sherd of coarse pottery, traces of soot on one side.
E3007:4:7	N/A	4	5	Ceramic	Pottery	Sherd of coarse pottery, traces of soot on one side..
E3007:4:8	N/A	4	5	Ceramic	Pottery	Sherd of coarse pottery, traces of soot on one side.
E3007:8:1	N/A	8	9	Lithic	Limestone?	Possible worked stone tool.
E3007:10:1	N/A	10	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery, part of base?
E3007:10:2	N/A	10	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery, part of base.
E3007:10:3	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:4	N/A	10	N/A	Ceramic	Pottery	Sherd of thick flat coarse baking dish with traces of burning on one side.
E3007:10:5	N/A	10	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery, part of base?
E3007:10:6	N/A	10	N/A	Ceramic	Pottery	Sherd of coarse unglazed thin pottery.
E3007:10:7	N/A	10	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery.
E3007:10:8	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:9	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.

Artefact No.	Area	Context	Cut No.	Material	Type	Description
E3007:10:10	N/A	10	N/A	Ceramic	Pottery	Rim of unglazed coarse pottery.
E3007:10:11	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:12	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:13	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:14	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:15	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:16	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:17	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:18	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:19	N/A	10	20	Ceramic	Pottery	Thin large rim and shoulder sherd of everted rim possible cooking pot.
E3007:10:20	N/A	10	N/A	Ceramic	Pottery	Sherd of thick coarse unglazed pottery.
E3007:10:21	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:22	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:23	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:24	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:25	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:26	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery, accretions of charcoal.
E3007:10:27	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery, charcoal stained.
E3007:10:28	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery. Charred accretions.
E3007:10:29	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:30	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:31	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery. Sooted on interior.
E3007:10:32	N/A	10	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery, sooted interior.
E3007:10:33	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:34	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:35	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery, possible incised wavy decoration?
E3007:10:36	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:37	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:38	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:39	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:40	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:41	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:42	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:43	N/A	10	N/A	Ceramic	Pottery	Sherd of thin coarse unglazed pottery.
E3007:10:44	N/A	10	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery, sooted.
E3007:10:45	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:46	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:47	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:48	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:49	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:50	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:51	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:52	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:53	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery, affected by heat.
E3007:10:54	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.

Artefact No.	Area	Context	Cut No.	Material	Type	Description
E3007:10:55	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:56	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:57	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:58	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:59	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:60	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:61	N/A	10	N/A	Ceramic	Pottery	Sherd of unglazed coarse pottery.
E3007:10:62	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:63	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:64	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery, sooted
E3007:10:65	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:66	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:67	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:68	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:69	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:70	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:71	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:72	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:73	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:74	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:75	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:76	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:77	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:78	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:79	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:80	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:81	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:10:82	N/A	10	N/A	Ceramic	Pottery	Sherd of thin unglazed coarse pottery.
E3007:11:1	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed poss. Baking dish with trace of burning.
E3007:11:2	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed poss. baking dish with trace of burning on one side.
E3007:11:3	N/A	11	N/A	Ceramic	Pottery	Sherd of unglazed coarse pottery, part of baking dish?
E3007:11:4	N/A	11	N/A	Ceramic	Pottery	Sherd of unglazed coarse pottery.
E3007:11:5	N/A	11	N/A	Ceramic	Pottery	Sherd of unglazed coarse pottery.
E3007:11:6	N/A	11	21	Ceramic	Pottery	Sherd of thick flat coarse unglazed possible baking dish.
E3007:11:7	N/A	11	21	Ceramic	Pottery	Sherd of thick flat unglazed coarse baking dish with trace of burning on one side.
E3007:11:8	N/A	11	21	Ceramic	Pottery	Sherd of thick flat unglazed coarse possible baking dish.
E3007:11:9	N/A	11	21	Ceramic	Pottery	Sherd of thick flat unglazed coarse possible baking dish with one smooth side.
E3007:11:10	N/A	11	21	Ceramic	Pottery	Sherd of thick flat coarse unglazed possible baking dish with one smooth side.
E3007:11:11	N/A	11	N/A	Ceramic	Pottery	Sherds of thick coarse unglazed pottery with traces of burning.
E3007:11:12	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat unglazed coarse baking dish with traces of burning.

Artefact No.	Area	Context	Cut No.	Material	Type	Description
E3007:11:13	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed poss. baking dish sooted on one side.
E3007:11:14	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse possible baking dish.
E3007:11:15	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed poss. baking dish sooted on one side.
E3007:11:16	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed baking dish with traces of burning on one side.
E3007:11:17	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed baking dish with one smooth side.
E3007:11:18	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed possible baking dish with one smooth side.
E3007:11:19	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed baking dish with one smooth side.
E3007:11:20	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery with a crack.
E3007:11:21	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse baking dish with one smoother side, sooted especially on the edge.
E3007:11:22	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed baking baking dish sooted on one side and edge.
E3007:11:23	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed possible baking dish with sooted.
E3007:11:24	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed possible baking dish with one smooth side.
E3007:11:25	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed possible baking dish.
E3007:11:26	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed possible baking dish.
E3007:11:27	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed possible baking dish.
E3007:11:28	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed possible baking dish.
E3007:11:29	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:30	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:31	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed possible baking dish.
E3007:11:32	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery, possible baking dish.
E3007:11:33	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery, possible baking dish.
E3007:11:34	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:35	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery, sooted.
E3007:11:36	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery, poss. baking dish, sooted.
E3007:11:37	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed, sooted, possible baking dish.
E3007:11:38	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:39	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery, sooted.

Artefact No.	Area	Context	Cut No.	Material	Type	Description
E3007:11:40	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery, possible baking baking dish, sooted.
E3007:11:41	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:42	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:43	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:44	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:45	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:46	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:47	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:48	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:49	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:50	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:51	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:52	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:53	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:54	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:55	N/A	11	N/A	Ceramic	Pottery	Sherd of thick flat coarse unglazed pottery.
E3007:11:56	N/A	11	N/A	Ceramic	Pottery	Sherd of thick coarse unglazed pottery.
E3007:11:57	N/A	11	N/A	Ceramic	Pottery	Sherd of thick coarse unglazed pottery.
E3007:11:58	N/A	11	N/A	Ceramic	Pottery	Sherd of thick coarse unglazed pottery.
E3007:11:59	N/A	11	N/A	Ceramic	Pottery	Sherd of thick coarse unglazed pottery.
E3007:11:60	N/A	11	N/A	Ceramic	Pottery	Sherd of thick coarse unglazed pottery.
E3007:11:61	N/A	11	N/A	Ceramic	Pottery	Sherd of unglazed coarse pottery.
E3007:11:62	N/A	11	N/A	Ceramic	Pottery	Sherd of unglazed coarse pottery.
E3007:11:63	N/A	11	N/A	Ceramic	Pottery	Sherd of unglazed coarse pottery. Sooted.
E3007:25:1	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse pottery, unglazed with possible brown slip on exterior.
E3007:25:2	N/A	25	N/A	Ceramic	Pottery	Rim of coarse unglazed pottery.
E3007:25:3	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery.
E3007:25:4	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery.
E3007:25:5	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery, surface worn off on one side.
E3007:25:6	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery, base or rim?
E3007:25:7	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery.
E3007:25:8	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery.
E3007:25:9	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery.
E3007:25:10	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery.

Artefact No.	Area	Context	Cut No.	Material	Type	Description
E3007:25:11	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery.
E3007:25:12	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery, rim.
E3007:25:13	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse unglazed pottery.
E3007:25:14	N/A	25	N/A	Ceramic	Pottery	Sherd of brown glazed coarse pottery.
E3007:25:15	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse brown glazed pottery.
E3007:25:16	N/A	25	N/A	Ceramic	Pottery	Sherd of brown glazed coarse pottery.
E3007:25:17	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse pottery, traces of brown glaze.
E3007:25:18	N/A	25	N/A	Ceramic	Pottery	Sherd of brown glazed coarse pottery.
E3007:25:19	N/A	25	N/A	Ceramic	Pottery	Sherd of unglazed coarse pottery.
E3007:25:20	N/A	25	N/A	Ceramic	Pottery	Sherd of coarse pottery, traces of brown glaze.
E3007:25:21	N/A	25	N/A	Ceramic	Pottery	Sherd of brown glazed coarse pottery.
E3007:25:22	N/A	25	N/A	Ceramic	Pottery	Sherd of unglazed coarse pottery.
E3007:25:23	N/A	25	N/A	Ceramic	Pottery	Sherd of unglazed coarse pottery.

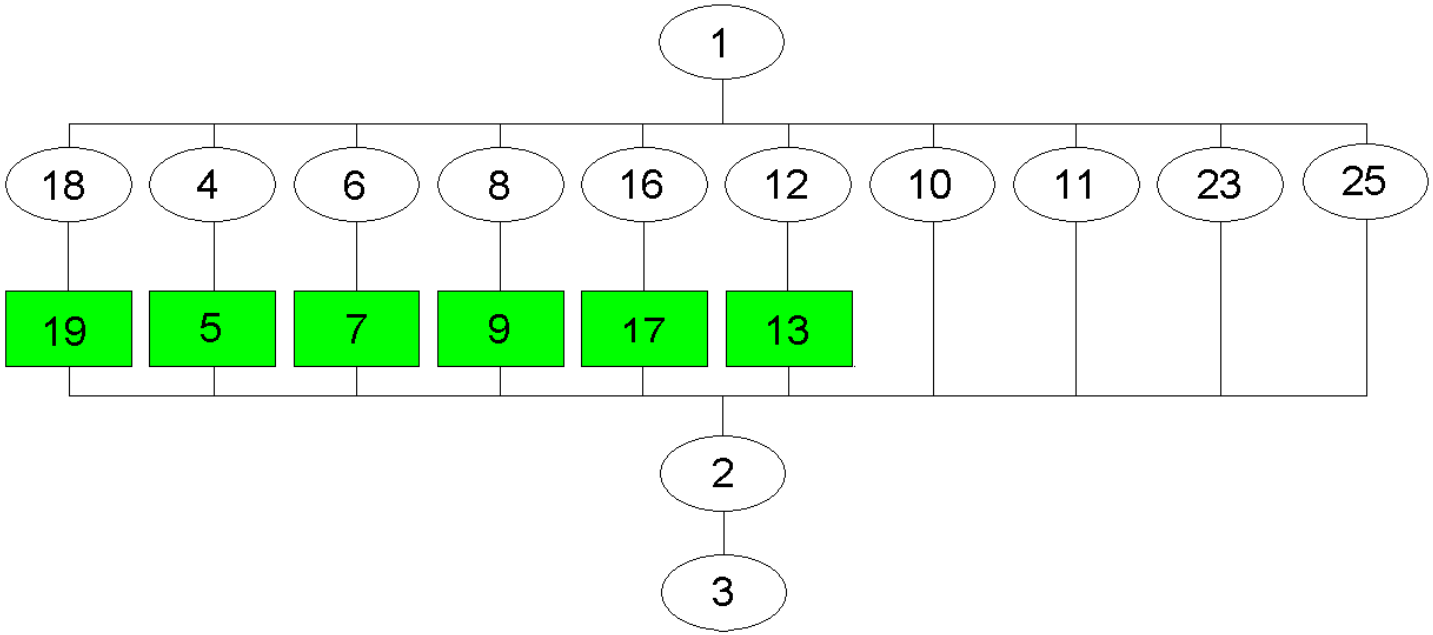
APPENDIX C: LIST OF SAMPLES

Sample	Context	Type/purpose	Specialist Analysis	No. of Bags	Feature Type	Cut
1	N/A	N/A	N/A	N/A	N/A	N/A
2	10	Soil/charcoal	C14/organic id/ finds id	1	Spread	N/A
3	N/A	N/A	N/A	N/A	N/A	N/A
4	11	Soil/charcoal	C14/organic id/ finds id	1	Spread	N/A
5	N/A	N/A	N/A	N/A	N/A	N/A

APPENDIX D: LIST OF QUANTITIES

Context Sheets	Drawings	Samples	Finds	Photos	Registers	Notebooks
25	27	5	181	57	5	1

Appendix E: Stratigraphic Matrix



PLATES

PLATE 1: POST EXCAVATION VIEW OF AR033, AREA 1. FACING TO THE SOUTH.

PLATE 2: POST EXCAVATION VIEW OF AR033, AREA 1. FACING TO THE EAST.

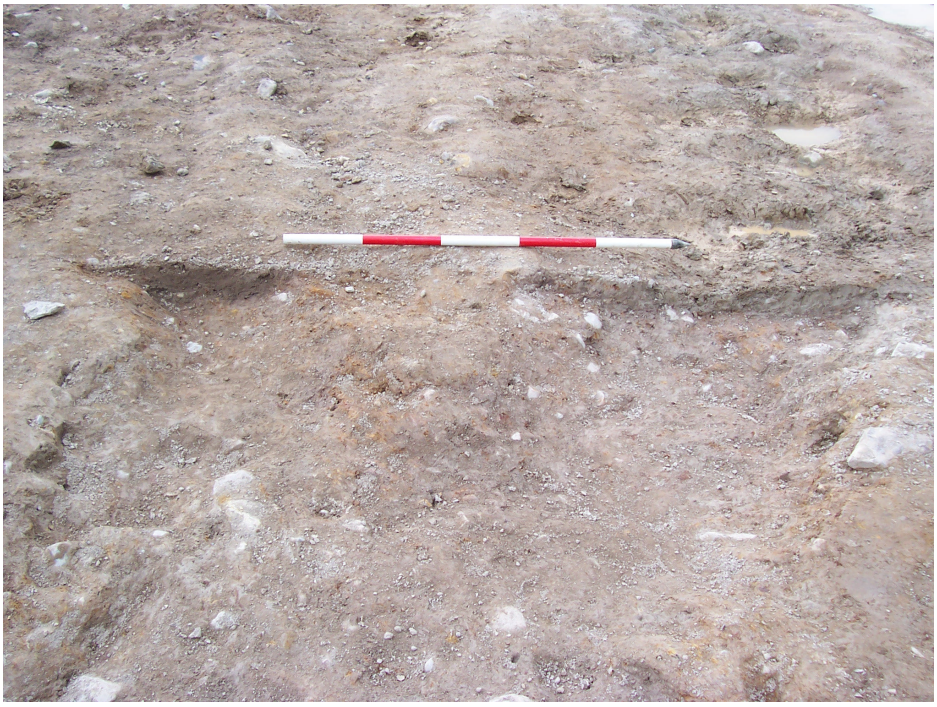


PLATE 3: MID EXCAVATION VIEW OF [C9] AND [C17]. FACING TO THE NORTH.

PLATE 4: VIEW OF WEST FACING SECTION THROUGH PIT [C12].

PLATE 5: POST EXCAVATION VIEW [C5] FACING TO THE WEST.

PLATE 6: POST EXCAVATION VIEW OF [C9] AND [C17] FACING TO THE SOUTH.

PLATE 7: VIEW OF AR033 AREA 2, FACING TO THE SOUTHEAST.

PLATE 8: VIEW OF SECTION THROUGH SPREAD [C10].

PLATE 9: VIEW OF POTTERY WITHIN SPREAD [C11]

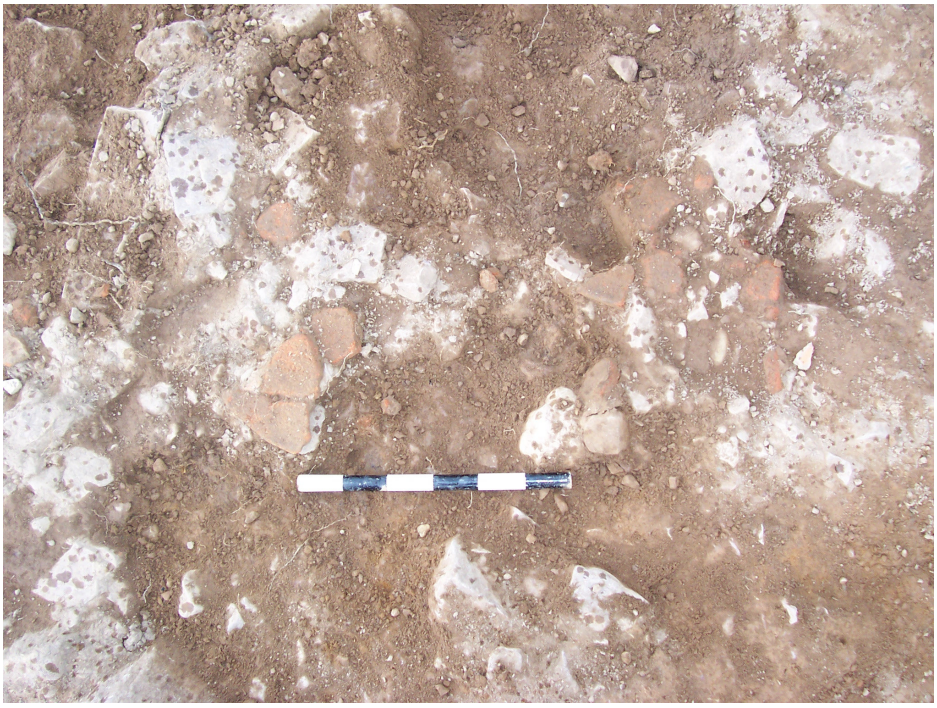
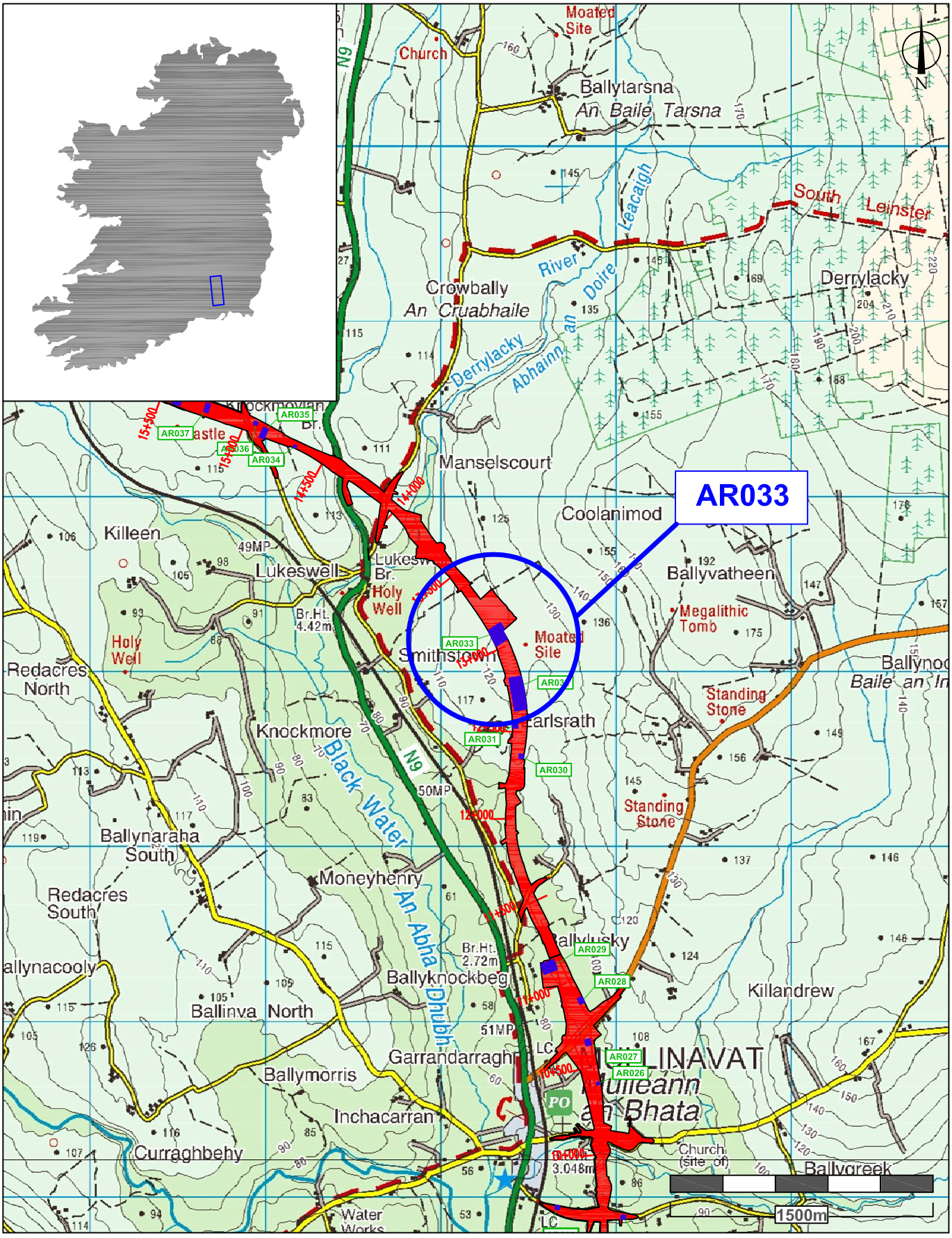
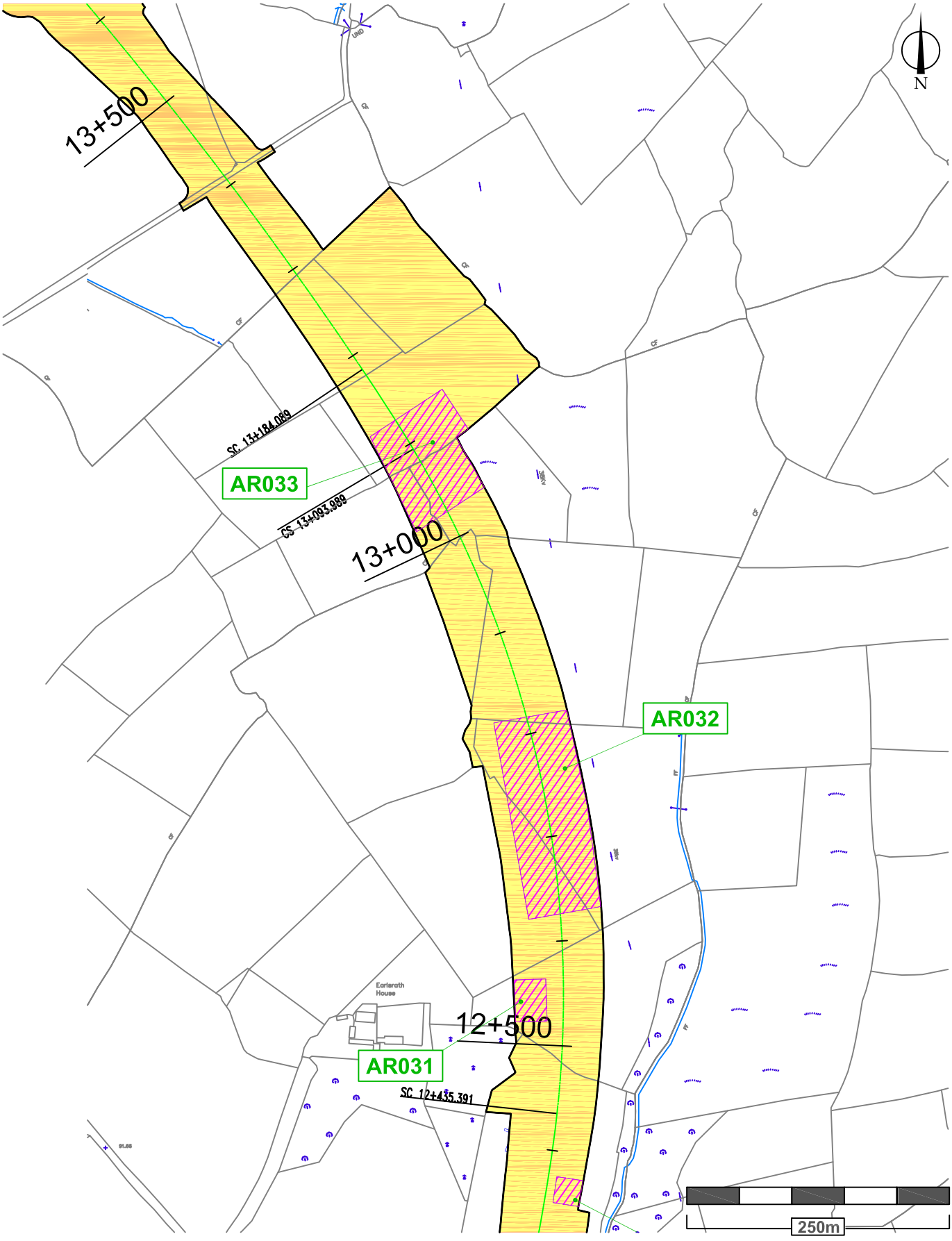


PLATE 10: VIEW OF POTTERY WITHIN SPREAD [C11]

Plate 11: View of pottery from spread [c11]



Title Location of AR033 on Discovery Series mapping.			**Notes**			VJK Valerie J. Keeley Ltd. ARCHAEOLOGICAL CONSULTANCY	Brehon House, Kilkenny Road, Castlecomer, Co. Kilkenny. Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 Email: vjk@vjk.ie Website: www.vjk.ie
						Client Kilkenny County Council	
Works No. A032/000 E3007	**Drawn by** BOF	**CAD reference** 1265-06-400/TERA3	**Date** June 10	**Scale** 1:30000	**Drawing No.** Figure 1	**Project** N9 / N10 Dunkitt to Sheepstown Resolution Contract	



Title
Location of AR033 on OS mapping.

Notes
Site Extents

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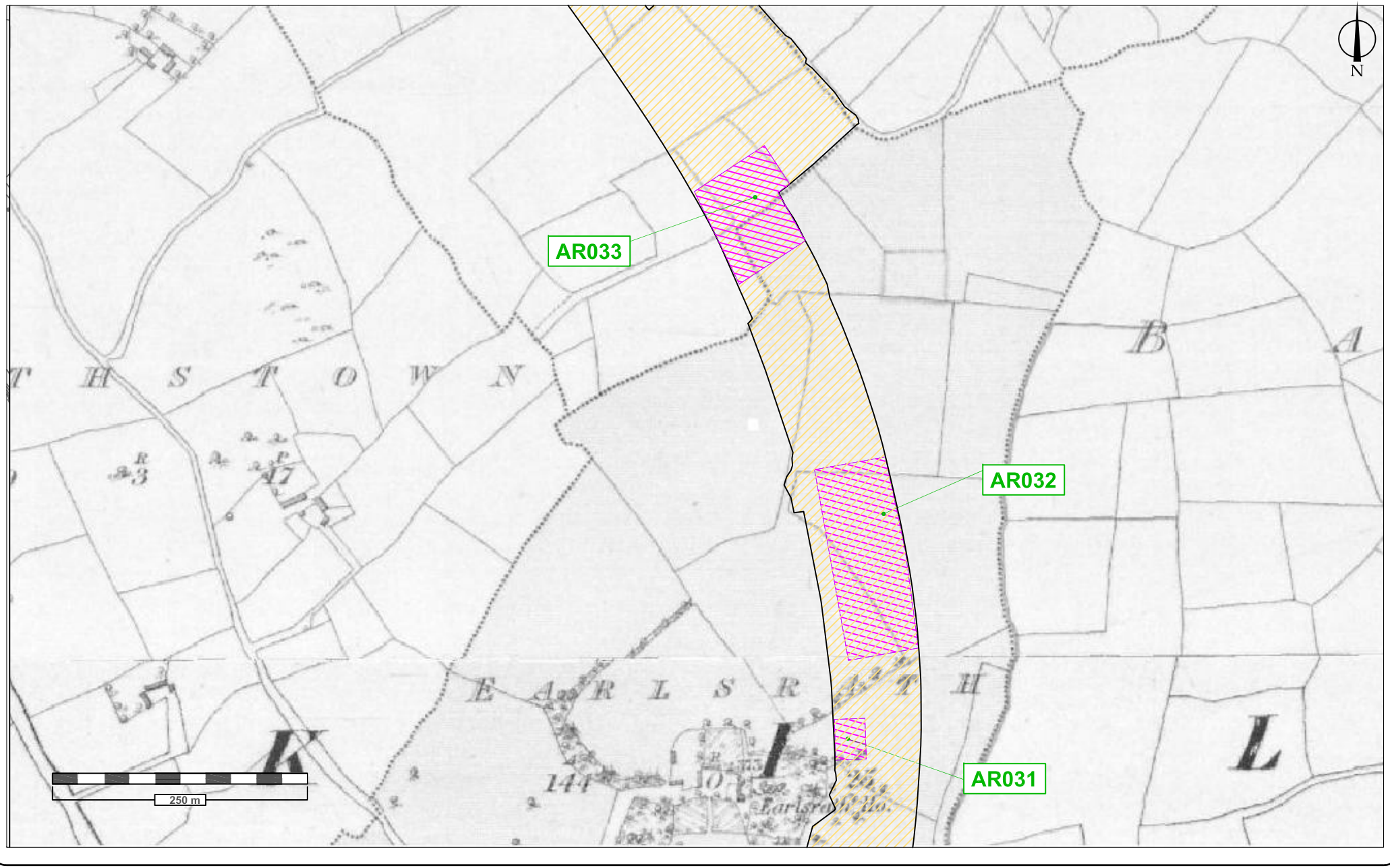
Works No.	Drawn by	CAD reference	Date	Scale	Drawing No.
A032/000 E3007	BOF	1265-06-400/TERA3	June 10	1:5000	Figure 2

Project
N9 / N10 Dunkitt to Sheepstown Resolution Contract



Title	Notes	Job/Exc No.	Compiled by	CAD reference	Client
1st edition Ordinance Survey map	Site Extents	A032/000 E3007	GW	1265-06-400/TERA3	Kilkenny County Council
		Date: June 10	Scale: 1:5000	Drawing No.: Figure 3	Project: N9/N10 Dunkitt to Sheepstown Resolution Contract

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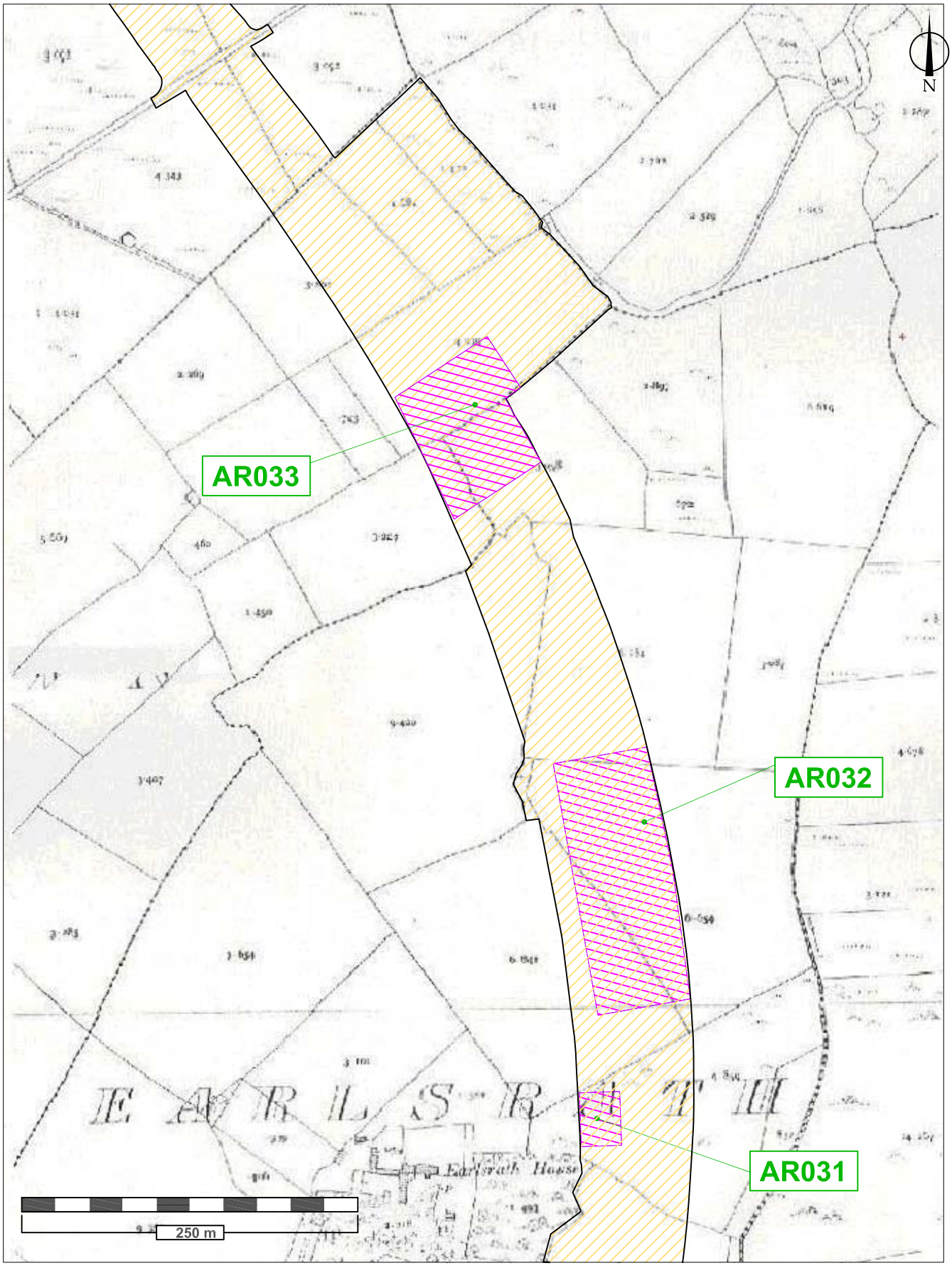

Title
2nd edition Ordinance Survey map

Notes
Site Extents

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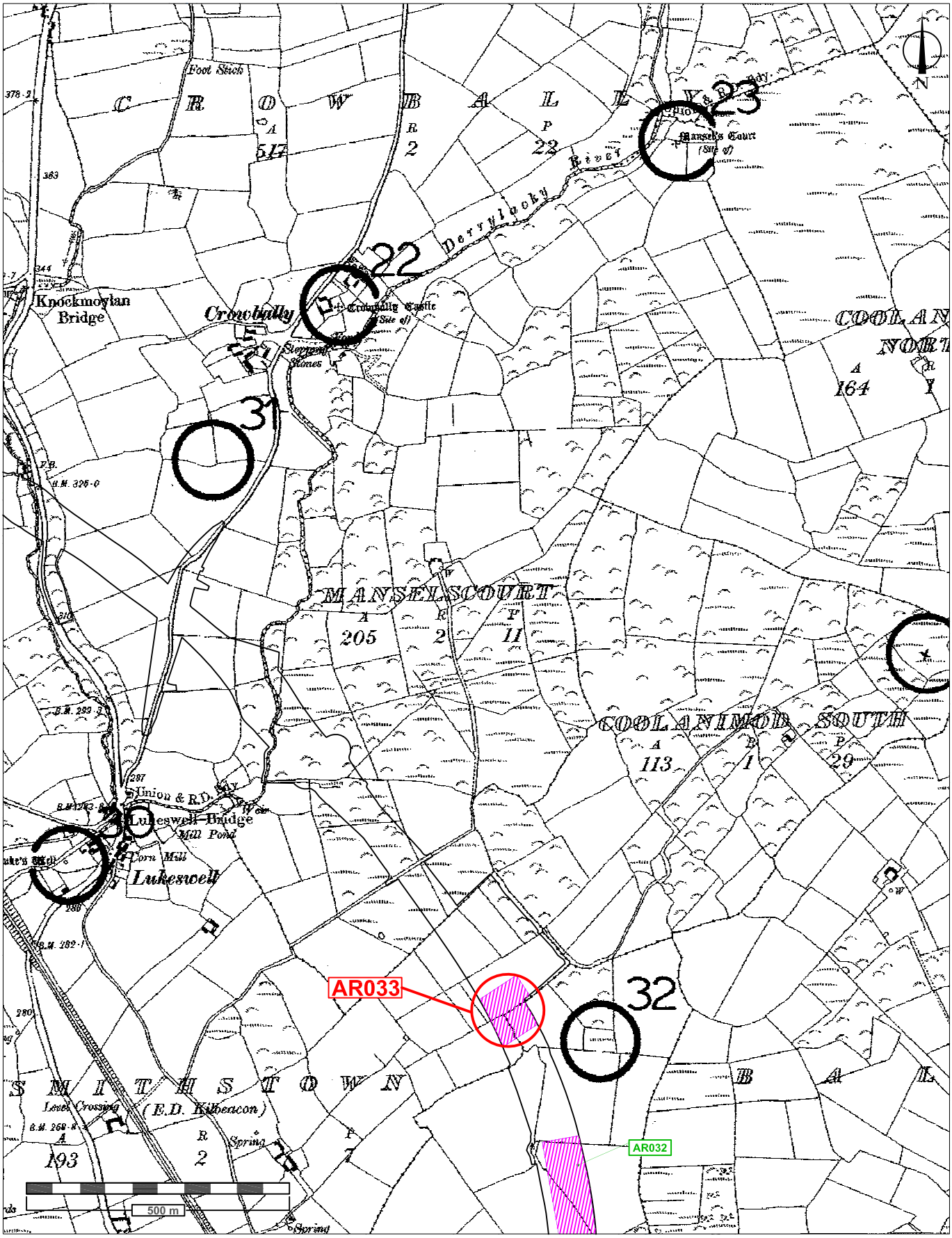
Job No.	Drawn by	CAD reference	Date	Scale	Drawing No.
A032/000 E3007	GW	1265-06-400/TERA3	June 10	1:4000	Figure 4

Project
N9/N10 Dunkitt to Sheepstown Resolution Contract



Title RMP map showing site location		**Notes** Site Extents				
						Client Kilkenny County Council
Job No. A032/000 E3007	**Drawn by** GW	**CAD reference** 1265-06-400/TERA3	**Date** June 10	**Scale** 1:10000	**Drawing No.** Figure 5	**Project** N9/N10 Dunkitt to Sheepstown Resolution Contract

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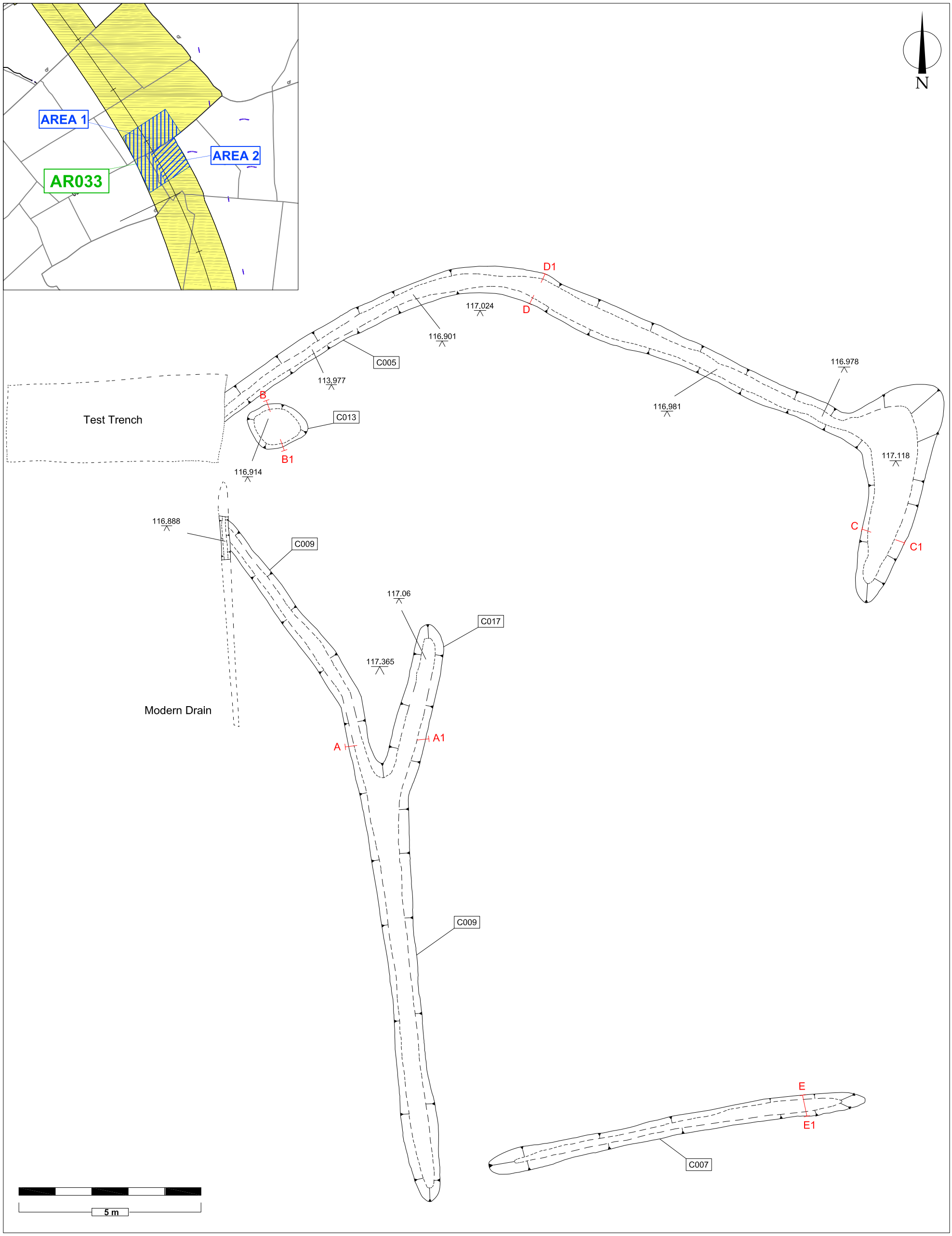
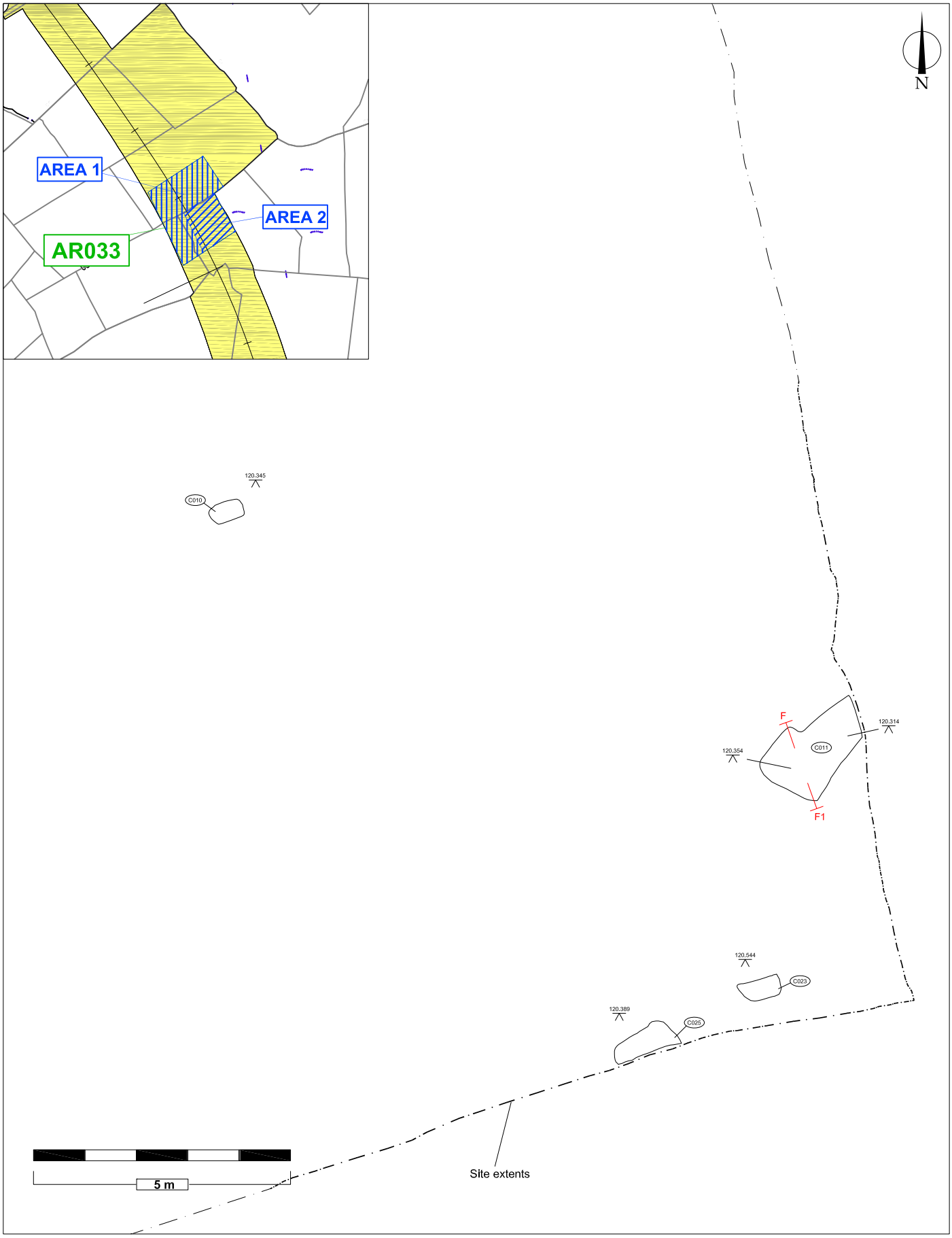


Title Post-excavation plan of AR033 Area 1.			**Notes**			Valerie J. Keeley Ltd. ARCHAEOLOGICAL CONSULTANCY Brehon House, Kilkenny Road, Castlecomer, Co. Kilkenny. Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 Email: vjk@vjk.ie Website: www.vjk.ie
						Client Kilkenny County Council
Works No. A032/000 E3007	**Drawn by** BOF	**CAD reference** 1265-06-400/TERA3	**Date** June 10	**Scale** 1:100	**Drawing No.** Figure 6	**Project** N9 / N10 Dunkitt to Sheepstown Resolution Contract



Title
Pre-excavation plan of AR033 Area 2.

Notes

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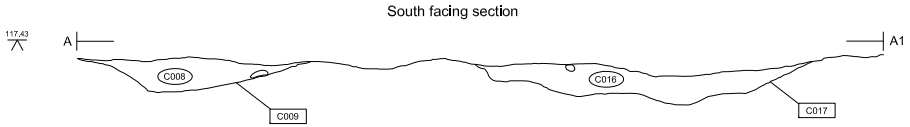
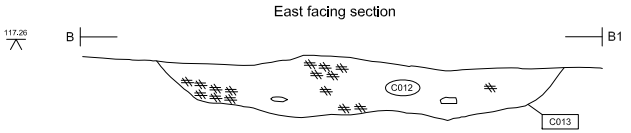
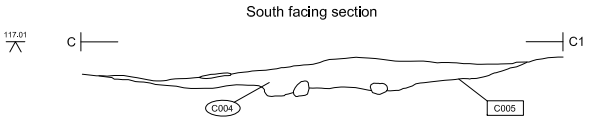
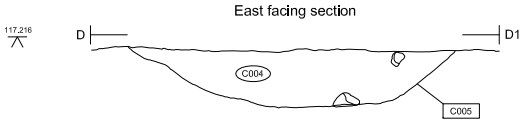
Works No.	Drawn by	CAD reference	Date	Scale	Drawing No.
A032/000 E3007	BOF	1265-06-400/TERA3	June 10	1:100	Figure 7

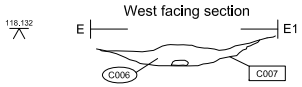
Project
N9 / N10 Dunkitt to Sheepstown Resolution Contract

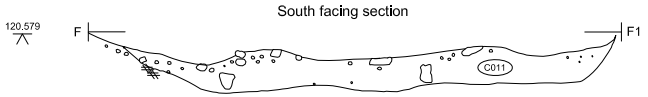


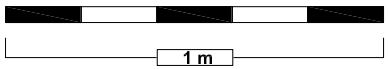




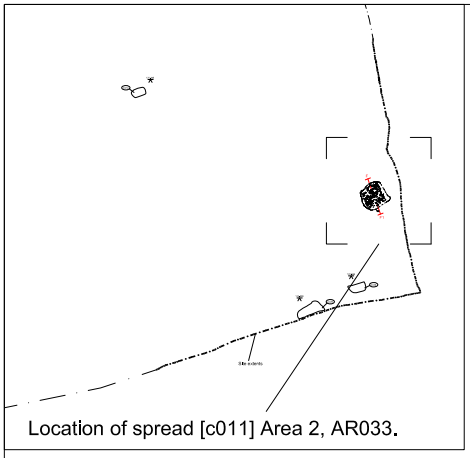




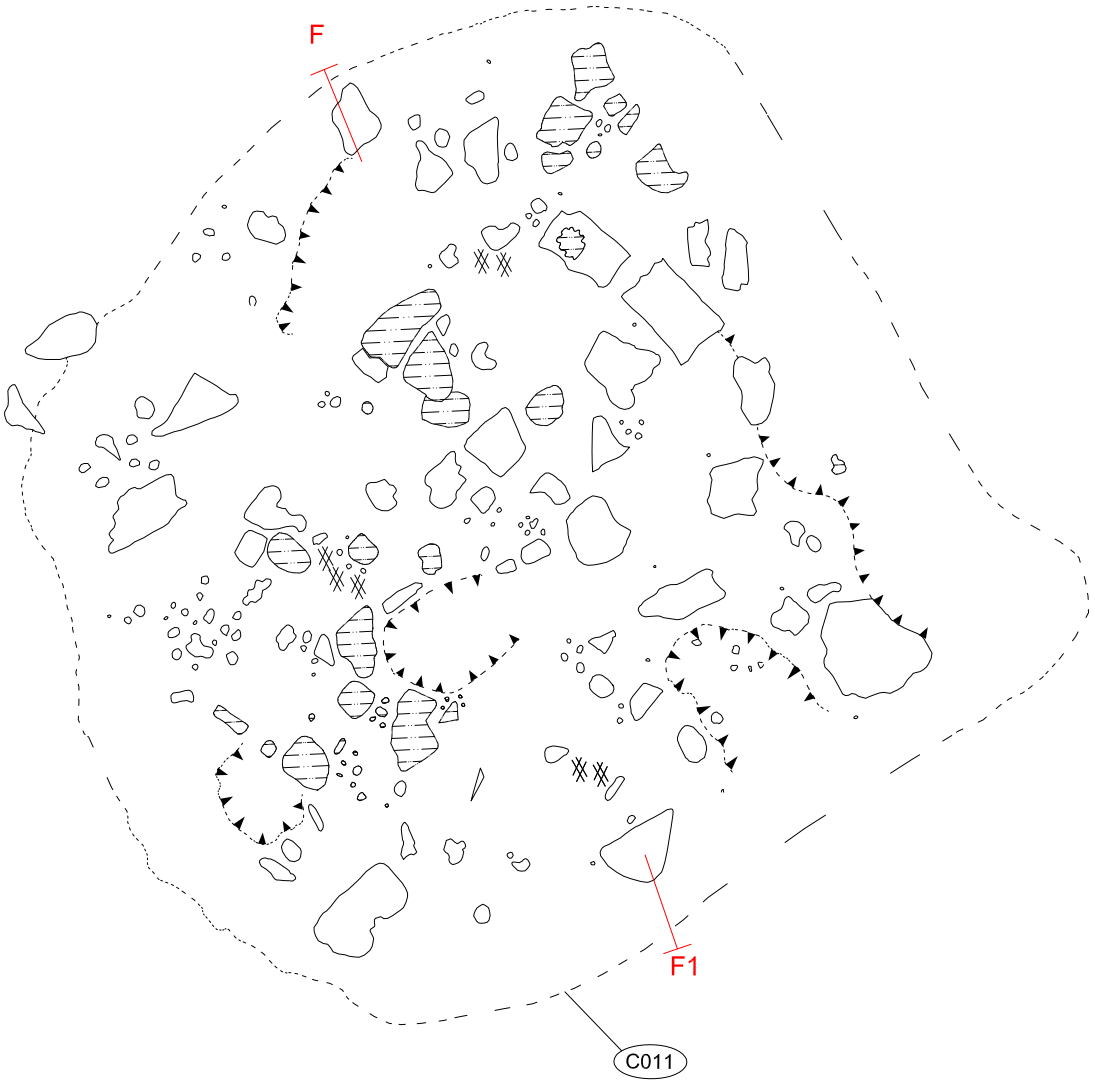




Title Sections through various features, AR033.	**Notes**	**Works No.** A032/000 E3007	**Compiled by** BOF	**CAD reference** 1265-06-400/TERA3	**Client** Kilkenny County Council	VJK Valerie J. Keeley Ltd. ARCHAEOLOGICAL CONSULTANCY	Brehon House Kilkenny Road Castlecomer Co. Kilkenny.
		Date June 10	**Scale** 1:20	**Drawing No.** Figure 8	**Project** N9 / N10 Dunkitt to Sheepstown Resolution Contract		Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 Email: vjk@vjk.ie Website: www.vjk.ie



Location of spread [c011] Area 2, AR033.



0.5 m

Title
Mid-excavation plan of spread [c011] Area 2, AR033.

Notes
Pottery

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Works No.	Drawn by	CAD reference	Date	Scale	Drawing No.
A032/000 E3007	BOF	1265-06-400/TERA3	June 10	1:10	Figure 9

Project
N9 / N10 Dunkitt to Sheepstown Resolution Contract

NRA DATABASE CONTENTS SHEET

Database entry	Comment
Excavation number	Ministerial Direction: A032/000 Registration No.: E3007
Townland	Earlsrath
Site name	AR 33
County	Kilkenny
Project reference	N9/N10 Kilcullen to Waterford Road Improvement Scheme: Waterford to Knocktopher – Phase 2
Year of excavation	2006
Grid reference (Easting)	256214E
Grid reference (Northing)	127210N
OD Height (m)	120 m OD
Landscape setting	Field formerly used for pasture at the base of a medium rise to the north
Project Archaeologist	James Eogan
Site Director	Liam McKinstry
Archaeological consultancy	Valerie J Keeley Ltd
Identification technique	Test Trenching (MGL 2005)
Site type	Medieval field boundaries and rubbish dumps
Site activity	Domestic refuse/field boundaries
Dating period	Medieval
Radiocarbon dates	A radio carbon date was recovered from a sample of alder charcoal from one of these spreads [c10] which produced a result of 1287-1394 cal. AD. (Lab Ref: UBA 13481)
Dendro-chronological dates	N/A
Descriptions	AR033 E3007 consisted of number of linear and curvilinear ditches in the northern part of the site. All of the ditches were very shallow and narrow and they all seemed to have different orientations though it seems probable that they represented agricultural activity or boundaries. The curvilinear ditch identified contained some medieval pottery fragments (Leinster cooking ware) which would suggest that the activity was of that date. Close to this curvilinear ditch was a shallow pit which contained large quantities of charcoal which was most likely a refuse pit. To the south three spreads were identified, within these spreads large amounts of medieval pottery (Leinster cooking ware and Kilkenny type ware) were recovered. Burnt organic remains that included oats, wheat and barley were also recovered from this spread which would strongly suggest that these spreads may have represented refuse from domestic activities from a nearby moated enclosure (KK036-032) approximately 100m to the southeast of site AR033.
Artefacts	A total of 177 sherds of pottery were recovered from four features within areas 1 and 2 which after analysis and reconstruction was adjusted to 153 (See Pottery Report

	4.3; Illustrations B-G). The majority of the pottery found was Leinster cooking ware which was located in area 2 within spreads [c10] (Finds E3007:10:1-82; Pl. 12), [c11] (Finds E3007:11:1-63; Pl. 9-11) and [c25] (E3007:25:2, 3, 5, 12, 19 and 23). A small amount was also recovered within the shallow curvilinear ditch [c5] (Finds E3007:4:1-8). A smaller amount of Kilkenny type ware (E3007:25:1, 4, 7, 8, 10, 11, 13-18 and 20-22) was also recovered from spread [c25]. Both of these pottery types were made in Ireland during the medieval period. Leinster cooking ware dates from the late 12th to mid 14th centuries. The forms found within the site were platters or plates and jugs. Kilkenny type wares were dated to the 13th century and were of jug form and often glazed. These pottery types are indicators of domestic activities most probably from the nearby moated site. The only other find type recovered from site was a stone decorated spindle whorl/pendant (E3007:1:4; Illustration A) located in the topsoil levels within the site. This spindle whorl was dated to the early medieval period (See Lithics Report 4.2) and though not within secure context may indicate nearby early medieval sites or activities such as at Earlsrath AR30 and AR31. The spindle whorl is also an indicator that this early medieval activity was domestic in nature with the processing of wools, fabrics etc.
Environmental evidence	Burnt organic remains that included oats, wheat and barley were recovered from the spreads within the site.
Additional information	None
Publication	Excavations Bulletin 2006