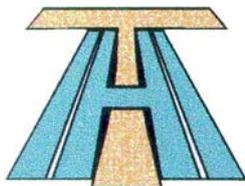
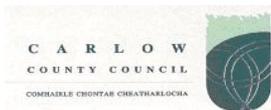


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N9/N10 KILCULLEN TO WATERFORD SCHEME, PHASE 4 – KNOCKTOPHER TO POWERSTOWN



Ministerial Scheme Reference No.	Direction	A032
Registration No.		E3459
Site Name		AR087, Danesfort 10
Townland		Danesfort
County		Kilkenny
Excavation Director		Richard Jennings
NGR		253228 148402
Chainage		37040

FINAL REPORT

ON BEHALF OF KILKENNY COUNTY COUNCIL

MARCH 2011

IAC Irish Archaeological
Consultancy

PROJECT DETAILS

Project	N9/N10 Kilcullen to Waterford Scheme, Phase 4 – Knocktopher to Powerstown
Ministerial Direction Reference No.	A032
Excavation Registration Number	E3459
Excavation Director	Richard Jennings
Senior Archaeologist	Tim Coughlan
Consultant	Irish Archaeological Consultancy Ltd, 120b Greenpark Road, Bray, Co. Wicklow
Client	Kilkenny County Council
Site Name	AR087, Danesfort 10
Site Type	Prehistoric / Post-medieval
Townland(s)	Danesfort
Parish	Danesfort
County	Kilkenny
NGR (easting)	253228
NGR (northing)	148402
Chainage	37040
Height OD (m)	60
RMP No.	N/A
Excavation Dates	28 May–22 June 2007
Project Duration	20 March 2007–18 April 2008
Report Type	Final
Report Date	March 2011
Report By	Richard Jennings and Tim Coughlan
Report Reference	Jennings, R. and Coughlan, T. 2011 E3459 Danesfort 10 Final Report. Unpublished Final Report. National Monuments Service, Department of the Environment, Heritage and Local Government

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This final report has been prepared by Irish Archaeological Consultancy Ltd in compliance with the directions issued to Kilkenny County Council by the Minister for Environment, Heritage and Local Government under Section 14A (2) of the National Monuments Acts 1930–2004 and the terms of the Contract between Kilkenny County Council and Irish Archaeological Consultancy Ltd.

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ABSTRACT

Irish Archaeological Consultancy Ltd (IAC), funded by the National Roads Authority (NRA) through Kilkenny County Council, undertook an excavation at the site of AR087, Danesfort 10 along the proposed N9/N10 Kilcullen to Waterford Scheme, Phase 4 – Knocktopher to Powerstown (Figure 1). The following report describes the results of archaeological excavation at that site. The area was fully excavated by Richard Jennings under Ministerial Direction A032 and Excavation Registration Number E3459 issued by the DOEHLG in consultation with the National Museum of Ireland for IAC. The fieldwork took place between 28 May and 27 June 2007.

Four probable cereal-drying kilns were discovered in the vicinity of a 10m² pond. The pond was 2m deep and although silted up was possibly open in prehistory as a small patch of burnt stone was discovered near its base. The kilns all showed evidence of intense burning *in situ*, and were either circular or oval in plan. Two postholes were found near the kilns but their precise function is uncertain.

A phase of probable post-medieval activity was recorded at the site in the form of an approximately linear field ditch (90m long) with a stone retaining wall cut into the lower part of its fill. It is not shown on the 1st edition OS Map but is of a similar construction and alignment to a nearby field boundary.

A sample of charred Barley seed from kiln fill C12 was sent for radiocarbon dating and returned a 2 sigma calibrated date of 184BC–AD56 (UBA 15559).

The site consisted of Iron Age cereal-drying kilns which represent the first evidence of Iron Age activity in the immediate area. The site is important locally as in conjunction with similar evidence from Danesfort 5, 1km away, could indicate that a larger permanent settlement site/farmstead dating to the Iron Age was located nearby.

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(Danesfort 11 visible in the right background)

1 INTRODUCTION

1.1 General

This report presents the results of the archaeological excavation of Danesfort 10, AR087 (Figure 1), in the townland of Danesfort undertaken by Richard Jennings of IAC, on behalf of Kilkenny County Council and the NRA, in accordance with the Code of Practice between the NRA and the Minister for Arts, Heritage, Gaeltacht and the Islands. It was carried out as part of the archaeological mitigation programme of the N9/N10 Kilcullen to Waterford Road Scheme, Phase 4, which extends between Knocktopher in Co. Kilkenny to Powerstown in Co. Carlow. The excavation was undertaken to offset the adverse impact of road construction on known and potential subsoil archaeological remains in order to preserve the site by record.

The site measured 736m² and was first identified during testing carried out between 30 January and 3 March 2006 by Melanie McQuade (E3882) for Margaret Gowen & Co. Ltd. on behalf of the National Roads Authority. Danesfort 10 was excavated between 28 May and 27 June 2007 with a team of one director, one supervisor and seven assistant archaeologists.

1.2 The Development

For the purposes of construction, the N9/N10 Kilcullen to Waterford Road Scheme has been divided into separate sections, known as Phases 1–4. Phase 2 of the scheme extends from the tie-in to the Waterford City Bypass at Dunkitt, to Knocktopher in Co. Kilkenny (Ch. 2+000–Ch. 25+400). Phase 4 continues from Knocktopher to Powerstown in Co. Carlow (Ch. 25+400–Ch. 76+000) and includes the Kilkenny Link Road.

The roadway of the entire scheme includes approximately 64km of mainline high quality dual carriageway and 6.2km of the Kilkenny Link Road, which will connect the road development to the Kilkenny Ring Road Extension. The road development requires the realignment and modification of existing national, regional and local roads where the mainline intersects them. It requires the acquisition of 305 hectares of land for its construction. A further link road will connect the scheme to Paulstown in County Kilkenny, while six new grade separated junctions and three roundabouts are part of the road development.

1.3 Archaeological Requirements

The archaeological requirements for the N9/N10 Kilcullen to Waterford Road Scheme, Phase 4: Knocktopher to Powerstown, are outlined in the Archaeological Directions issued to Kilkenny County Council by the Minister for Environment, Heritage and Local Government under Section 14A (2) of the National Monuments Acts 1930–2004 and in the terms of the contract between Kilkenny County Council and Irish Archaeological Consultancy Ltd. These instructions form the basis of all archaeological works undertaken for this development. The archaeological excavation works under this contract are located between the townlands of Knocktopher, Co. Kilkenny, and Powerstown, Co. Carlow.

The proposed N9/N10 was subjected to an Environmental Impact Assessment, the archaeology and cultural history section of which was carried out by Valerie J. Keeley Ltd and published in February 2005. The Record of Monuments and Places, the Site Monument Record, Topographical files, aerial photography, the Kilkenny and Carlow County Archaeological Urban Survey, and literary sources were all consulted. Two phases of geophysical survey were also conducted by Target (post-EIS geophysics carried out by ArchaeoPhysica) and an aerial survey was carried out by Margaret Gowen & Co. Ltd. As a result of the paper survey, field inspections and geophysical

survey, 35 sites were recorded in proximity to this section of the overall route alignment.

A previous archaeological assessment of Phase 2 of the scheme (test trenching conducted by Margaret Gowen & Co. Ltd. in 2006) extended into the lands acquired for Phase 4 to a point at Ch. 37+100 in the townland of Rathclogh, Co. Kilkenny. Thirty-four archaeological sites were identified within this area between Knocktopher and Rathclogh and subsequently excavated by Irish Archaeological Consultancy Ltd. as part of this archaeological contract.

Advance archaeological testing of the area between Rathclogh (Ch. 37+100) and Powerstown (Ch. 76+000) was completed by IAC during March–May 2007 and excavation of the sites identified during this process was also conducted by IAC between August 2007 and April 2008.

1.4 Methodology

The methodology adopted was in accordance with the approved Method Statement. The topsoil was removed to the interface between natural and topsoil using a 20 tonne mechanical excavator equipped with a flat toothless bucket under strict archaeological supervision. The remaining topsoil was removed by the archaeological team with the use of shovels, hoes and trowels in order to expose and identify the archaeological remains. A site grid was set up at 10m intervals and was subsequently calibrated to the national grid using GPS survey equipment.

All archaeological features were fully excavated by hand and recorded on *pro forma* record sheets using a single context recording system best suited to rural environment, with multi context plans and sections being recorded at a scale of 1:50, 1:20 or 1:10 as appropriate.

A complete photographic record was maintained throughout the excavation. Digital photographs were taken of all features and of work in progress. These photographs were supplemented by specialist aerial photography.

An environmental strategy was devised at the beginning of the excavation based on IAC in-house post-excavation and site methodologies and guidelines. Features exhibiting large amounts of carbonised material were the primary targets.

All artefacts uncovered on site were dealt with in accordance with the guidelines as issued by the NMI and where warranted in consultation with the relevant specialists. All archive is currently stored in IAC's facility in Lismore, Co Waterford and will ultimately be deposited with the National Museum of Ireland.

All dating of samples from the site was carried out by means of AMS (Accelerator Mass Spectrometry) Radiocarbon Dating of identified and recommended charred plant remains samples. All calibrated radiocarbon dates in this report are quoted to two Sigma. Dating of the site also involved pottery analysis through typological study.

All excavation and post excavation works were carried out in accordance with the relevant approvals and in consultation and agreement with the National Roads Authority (NRA) Project Archaeologist, the National Monuments Section of the DoEHLG and the National Museum of Ireland. Where necessary licences to alter and export archaeological objects were sought from the National Museum of Ireland.

References to other sites excavated as part of the N9/N10 Phase 4: Knocktopher to Powerstown are referenced throughout this report only by their site name e.g.

Paulstown 1. A list of these sites and details including director's name and National Monuments Excavation Reference Number can be referenced in Appendix 4.

Final Report Date Ranges

The following date ranges for Irish prehistory and medieval periods are used for all final reports for the N9/N10 Phase 4: Knocktopher to Powerstown excavations.

Mesolithic: 7000–4000BC

Neolithic: 4000–2500BC

Early Bronze Age: 2500–1700BC

Middle Bronze Age: 1700–1200BC

Late Bronze Age: 1200–800BC

Iron Age: 800BC–AD500

Early medieval period: AD500–1100

Medieval period: AD1100–1600

Post-medieval: AD1600–1800

Source:

Carlin, N., Clarke, L. & Walsh, F. 2008 *The M4 Kinnegad-Enfield-Kilcock Motorway: The Archaeology of Life and Death on the Boyne Floodplain*. NRA Monograph Series No. 2, Wordwell, Bray.

2 EXCAVATION RESULTS

The site was located in a low-lying basin within a flat to gently undulating wider landscape. It was located 2.2km west of the River Nore. Mount Leinster was visible 30km to the east and Slievenamon 30km to the south-west. The field was pastureland and was susceptible to winter flooding. Occasional rushes grew among the grass. Two archaeological phases were recorded at the site: prehistoric and post-medieval. The site was 130m north-east of a prehistoric structure at Danesfort 9, 230m north-east of a prehistoric field system at Danesfort 8, 450m north-east of a group of Bronze Age pits at Danesfort 7, 650m north-east of a late Bronze Age pit at Danesfort 6 and 900m north-east of a middle Bronze Age settlement at Danesfort 5. It was also adjacent to RMP site KK023-062/3, an enclosure (Figure 2). Danesfort 11, containing early Bronze Age activity, was located to the immediate north-east of Danesfort 10.

2.1 Phase 1 Natural Drift Geology

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C2	N/A				Mid-yellow sands and clays	Subsoil
C53	N/A	15.0	10.8	1.4	Sub-oval shaped depression	Natural depression

A large, naturally formed pond was discovered within the boulder clay. At some point in the past it had been filled in, as the pond was not visible prior to excavation. The north, west and south sides of the pond were too gently sloping to have been dug by hand. The eastern side was eroded and vertical and had conceivably formed as a result of human modification given that it was to this side that the archaeological evidence was located.

2.2 Phase 2 Prehistoric Activity

2.2.1 Cereal-Drying Kilns

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C9	C11	1.69	1.48	0.09	Medium brown silty sand	Fill of pit
C10	C11	1.69	1.48	0.06	Brownish red silty clay	Fill of pit
C11	N/A	1.69	1.48	0.18	Circular cut	Cut of pit
C12	C11	1.69	1.48	0.11	Dark brown silty clay	Fill of pit
C14	C16	1.60	1.10	0.08	Yellowish brown sandy silt	Upper fill of pit
C15	C16	1.60	1.10	0.07	Brownish red silty clay	Bottom fill of pit
C16	N/A	1.60	1.10	0.15	Oval shaped cut	Cut of pit
C26	N/A	2.10	1.60	0.26	Oval shaped cut	Cut of pit
C27	C26	1.80	1.25	0.27	Brownish sandy silt	Upper fill of pit
C28	N/A	1.70	1.35	0.25	Oval shaped cut	Cut of pit
C29	C28	1.40	1.35	0.15	Brownish sandy silt	Fill of pit
C49	C26	1.60	0.80	0.17	Dark black soil	Fill of pit
C50	C26	1.30	0.80	0.06	Reddish clayey silt	Fill of pit
C50	C28	1.25	0.37	0.08	Reddish clayey silt	Fill of pit
C51	C28	0.95	0.60	0.10	Dark black soil	Fill of pit

Finds: None

Two of the possible kilns appeared as a circular and oval shaped pit, C11 and C16 respectively. The base of the cuts of these features was scorched suggesting that they have been subjected to intensive heat and possibly served as the hearth for an overlying cereal-drying kiln. They were located immediately to the east of the pond, C53.

The other two features, C26 and C28, were slightly larger but also represented locations of *in situ* burning. Initially it was interpreted that the clay layer at their base may have been deliberately deposited, possibly in an attempt to make the pits watertight due to their proximity to the pond. However, it is now interpreted that this is a change to the subsoil layer caused by the intense heat directly above, and is not specifically a deposit. These resembled charcoal production pits in their appearance however the subsequent identification of seeds within the fills suggests that they were associated with cereal-drying kilns.

Charcoal was retrieved from the fills C10, C12 and C49 during post-excavation soil flotation. This was subsequently identified to species. These were mostly identified as being fragments of hazel charcoal (*Corylus avellana*) with small amounts of pomaceous fruitwoods charcoal (*Pomoideae spp.*), wild/bird cherry charcoal (*Prunus avium/padus* sp), oak charcoal (*Quercus* sp.) and willow charcoal (*Salix* spp.) (O'Donnell, Appendix 2.3). Hazel is a very tolerant tree, it can grow from wet to dry conditions (but not waterlogged ones) and the pomaceous fruitwoods could include crab apple, rowan/whitebeam or hawthorn (*ibid.*).

Seeds were identified from the kiln fills C9, C12 and C51 following post-excavation soil flotation. These were subsequently identified to species: barley (*Hordeum vulgare* L.) grains and indeterminate cereal grains (Johnston Appendix 2.4)

A small fragment (0.04g) of charred barley seed was chosen for AMS dating from C9 and returned a result of 2048±49 (UBA 15559). The 2 Sigma calibrated result for this was 184BC–AD56 (QUB, Appendix 2.6) dating this feature to the Iron Age.

2.2.3 Postholes

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C3	C4	0.35	0.07	0.21	Black/brown sand	Fill of posthole
C4	N/A	0.35	0.17	0.22	Oval shaped cut	Cut of posthole
C5	C4	0.35	0.04	0.21	Yellowish brown sand	Fill of posthole
C6	C7	0.50	0.34	0.21	Yellowish brown sand	Fill of posthole
C7	N/A	0.50	0.34	0.21	Oval shaped cut	Cut of posthole

Finds: None

Postholes C4 and C7 could not be structurally related to any of the other features as they were relatively isolated and located approximately 5m to the south of the pond, C53.

2.2.4 Charcoal and burnt stone patches

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C33	N/A	1.55	0.47	0.15	Black/brownish/yellowish clayey silt	Pocket of material
C35	N/A	0.13	0.10	0.05	Black soil	Pocket of material
C37	N/A	0.21	0.15	0.10	Black soil	Pocket of material
C39	N/A	0.35	0.17	0.22	Light black and brown soil	Pocket of material
C54	C53	5.4	5.0	0.46	Yellow clay	Pocket of material
C55	C53	0.18	0.16	0.10	Dark grey-black clayey silt, small burnt stones	Pocket of material

Finds: None

Two of these deposits, C54 and C55, were located at the base of the pond. The remaining deposits, C33, C35, C37, and C39 scattered across the area of activity.

2.2.5 Discussion

The pond-related activity recorded at this site is almost certainly prehistoric although no finds were recovered in the features to confirm this. The four main archaeological features of the site – cereal-drying kilns - have as their focal point the naturally formed pond (Plates 1 and 2, Figure 4). The patches of charcoal and burnt stone at the base of pond indicate that it was probably open at the time of occupation. These may be associated with burnt mound activity identified at the adjacent site of Danesfort 11, 50m to the north-east.

2.3 Phase 3 Post-medieval Activity

2.3.1 Field Boundary Ditch

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C24	C25	95.3	2.38	1.26	Orange brown clayey sand	Fill of linear ditch
C25	N/A	95.3	2.38	1.26	Linear cut	Cut of ditch

Finds

Context	Find Number	Material	Period	Description
C24	E3459:024:1	Metal		Metal object

The construction of a southwest–northeast-aligned field ditch 5m to the south of the pond suggests that there was a change in landscape use in this region at some point after the prehistoric period. The field boundary ditch was also seen at Danesfort 11 (Plate 3, Figure 4). Given the low-lying nature of the area, the field boundary might have been dug for drainage purposes. Although the ditch is not recorded on the first edition Ordnance Survey map its linear alignment and proximate agreement with existing field boundaries suggests that it is probably post-medieval in date.

2.3.2 Pond infilling

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C13	C53	13.3	7.30	0.65	Mid orangey brown sandy silt	Fill of pond

Finds: None

It is possible that the infilling of the pond took place when the field boundary ditch was excavated. Perhaps the material excavated from the ditch was used to fill up the pond. The stony nature of the material of the main infill of the pond does not resemble an episode of natural silting. With the land drained and the pond deliberately infilled it would have been possible to use the land again for agricultural purposes. Part of the pond fill overlay the subsoil and was covered in topsoil.

2.3.3 Retaining wall

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C8	C23	0.95	0.30	0.28	Orange brown sandy soil	Upper fill of retaining wall
C23	N/A	95.3	0.80	1.14	Irregular cut	Cut of stone wall
C40	C23	95.3	0.80	1.14	Stone blocks	Stone wall

Finds

Context	Find Number	Material	Period	Description
C8	E3549:008:2	Pottery	Post-medieval	1 brownware rim sherd
C8	E3459:008:3	Metal		Possible nail

A stone wall embankment was constructed on the eastern side of the field boundary ditch a short time after it was created (Figure 5). The main excavated ditch segment showed that the ditch had already begun to silt up when the foundation stones were

set (Figure 6). In other segments the stones were placed directly on the base of the ditch.

A rim sherd of glazed red earthenware called 'brownware' was retrieved from the top fill C8 of the stone embankment wall (McCutcheon Appendix 2.1). This type of post-medieval pottery was made widely in Britain and Ireland from the later 17th century to the 19th century (*ibid*).

Animal bone retrieved from retaining wall fill C8 was sent for faunal remains analysis. The assemblage was identified as three poorly preserved long bone (possibly femur) fragments and a rib of a pig (*Sus*). None of the four bone fragments recovered displayed evidence of butchery, burning/exposure to heat or gnawing (McCarthy, Appendix 2.5).

2.3.4 Drain

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C17	C18	0.53	0.40	0.16	Orange brown silty clay	Fill of drain
C18	N/A	17.5	0.40	0.16	Linear cut	Cut of modern drain

Finds

Context	Find Number	Material	Period	Description
C17	E3459:017:1	Flint	Late Neolithic or early Bronze Age	1 piece flint debitage

This land drain was probably of recent age as it cuts across the infilled pond. The piece of flint recovered from the drain is residual.

One piece of flint debitage was recovered from the modern drain fill C17 and probably dates to the late Neolithic or early Bronze Age period (Sternke Appendix 2.2).

2.4 Phase 4 Topsoil and Plough soil

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C1					Mid-brown clayey-silt	Topsoil and ploughsoil

3 SYNTHESIS

The synthesis presents the combined results of all of the archaeological analysis carried out at Danesfort 10. This includes the analysis of the physical and archaeological landscape, the compilation of information gathered during research into the site type, date, and function, and the results of the excavation and specialist analysis of samples taken during the course of on-site works.

3.1 Landscape Setting – compiled by Michelle Brick

3.1.1 The General Landscape

The topography of the region through which the route passes is generally flat with an average height of 70m O.D. The southern periphery of the route is bordered by Kilmacoliver (261m) and Carricktriss Gorse (314m), with Slevenamon (721m) further west. The Slieveardagh hills (340m) are visible on the western horizon in the south of the route and with the exception of Knockadrina Hill (140m), the enclosed landscape is made up of minor undulations. In the centre of the route Freestone Hill (130m) and Knocknagappoge (334m) further north are the significant uplands. A number of hills and mountains are visible in the distance to the east and west of this area of the landscape but the topography remains generally flat. To the north the Castlecomer Plateau influences a rise in the overall topography of the region. This expanse of terrain stretches along the north-east margins of Kilkenny, crosses the county border into Carlow and stretches northwards into Laois. This plateau consists of a variety of hills and peaks including Mounthugent Upper (334m), Baunreagh (310m), Knockbaun (296m), Brennan's Hill (326m) and Fossy Mountain (330m). These hills contain seams of anthracite coal as a result of millions of years of compression, and consequently Shales and Sandstones were formed which are evident throughout the plateau. Mining in the region began in the 17th century, continued for over 300 years and it is for what Castlecomer is best known. According to the Environmental Protection Agency soil maps of Ireland, the underlying bedrock of the entire region primarily consists of Carboniferous Limestone. However there is also a small amount of surface bedrock, sands, gravels, shales and sandstone Tills present along the route. The soil cover of the region is primarily composed of Grey Brown Podzolics, Renzinas and Lithosols. Additional soil types also present along the route include Brown Earths, surface Water Gleys and Ground Water Gleys.

The prevailing water courses within the landscape of the N9/N10 Phase 4 are the Rivers Nore and Barrow. The River Nore rises on the east slopes of the Devil's Bit in Co. Tipperary and flows eastwards through Borris-in-Ossory and then south through Co. Kilkenny, passing through the towns of Durrrow (Laois), Ballyragget, Kilkenny, Bennettsbridge and Thomastown to join the River Barrow upstream of New Ross, Co. Wexford. It is 140 kilometres long and drains a total catchment of 1572 square kilometers and runs through the central and southern sections of the route. In the south of the route three main tributaries of the River Nore are evident. The Kings River flows east through Callan and Kells. It is joined by the River Glory which meanders on a north-south axis towards the western margins of the route landscape and the Little Arrigle River flows along the southern fringes. These rivers are flanked by low-lying valleys that are characterised by wet, marshy land. The condition of the soil improves further north beyond the King's River where the influence of these waterways declines. In the northern area of the route the River Dinin is a tributary of the River Nore flowing south-west from Brennan's Hill through the Castlecomer Plateau. The Plateau is the tableland that is the watershed between the Rivers Nore and Barrow (Lyng 1984). The River Barrow is the second longest river (193 kilometres) in Ireland after the River Shannon. It rises in the Slieve Bloom Mountains in Co Laois and flows east across bogs and lowlands and then turns south into the lowland immediately east of the Castlecomer Plateau. It passes through

Portarlinton, Athy, Carlow, and Graiguenamanagh and runs through northern section of the route. It is joined by the River Nore at New Ross. The Maudlin River is the notable tributary of the River Barrow within the landscape of the route and flows east from Old Leighlin, with minor tributaries of it flowing through Banagagole. There are also streams and minor watercourses present throughout the entire landscape and these waterways would have been a valuable resource to past communities and would also have had a major influence on settlement and the surrounding land use.

The physical landscape through which the N9/N10 Phase 4 passes can be divided into three principal areas defined by the main rivers and their catchments. The southern area is located in the undulating landscape on the western flanks of the Nore Valley. The central area is dominated by the fertile watershed between the Barrow and Nore systems in the hinterland of Kilkenny City. The northern area is located on the western flanks of the Barrow Valley overlooked by uplands to the north and west. Danesfort 10 is located in the central landscape area.

3.1.2 The Central Landscape

The central landscape of the route encompasses the environs of the Nore Valley and the hinterland of Kilkenny City. It includes 35 sites discovered during the Phase 4 excavations stretching from Danesfort 1 north-east to Dunbell Big 1 and along the Kilkenny Link Road from Rathgarvan or Clifden 1 west to Leggetsrath East 1. The underlying bedrock of the region is made up of Carboniferous Limestone sands and gravels, Carboniferous Limestone Tills, Shale's and Sandstone Tills. According to the EPA the natural soils of the region consist of Renzinas and Lithosols in areas dominated by underlying bedrock of Carboniferous Limestone sands and gravels. Soil cover consisting of Grey Brown Podzolics and Brown Earths is present in areas of underlying Carboniferous Limestone Tills and Surface Water Gleys and Ground Water Gleys are the soils present where the underlying bedrock is made up of Shale's and Sandstone Tills. This landscape is underlain not only by the Butlersgrove geological formation but also by the Ballyadams formation (thick-bedded calcarenitic wackestone on erosional surfaces). A large number of quarries in the area, some of which produced the distinctive blue 'Kilkenny limestone' that was used to construct the medieval and later city, occur around the city itself and extend southward into the dolomite formations along the Nore around Dunbell (Tietzsch-Tyler, 1994).

The glacial drift around the Kilkenny City hinterland, along the Kilkenny Link Road, comprises sandy (50–60%), gravely clay with a noticeably higher sand content than along the southern plain of the River Nore. As this section crosses existing watercourses, areas of granular deposits and several isolated sand and gravel lenses were noted. The floodplain of the Nore extends c. 80m on the western side and c. 50m on the eastern side, creating marsh and wet grassland within the immediate area. The nature of the glacial drift and geology, combined with the water sources and floodplains in the area, has resulted in the high quality of the local pastoral and arable agricultural landscape. The topography in this section remains between 50m and 80m OD creating open and expansive views over the confluence of the Nore and Kings Rivers. Mountains are visible on the horizon to the north, east and south-east. Freestone Hill (130m) is located directly to the North and Knocknaguppoge beyond this rises to 334m. Outside the parameters of this landscape lies Brandon Hill (513m) to the south-east and further to the east are the Blackstairs Mountains (735m) and Mount Leinster (795m). The River Nore is the prevailing water course of the region and the River Barrow flows along the margins to the east. The Kings River is located to the south and would have influenced activity in and around this area.

3.1.3 Site Specific Landscape

The site was located in a low-lying basin within a flat to gently undulating wider landscape. It was located 2.2km west of the River Nore. Mount Leinster was visible 30km to the east and Slievenamon 30km to the south-west. The field was pastureland and was susceptible to winter flooding. Occasional rushes grew among the grass. It was also adjacent to RMP site KK023-062/3, an enclosure (Figure 2).

3.2 The Archaeological Landscape

As part of the general research relating to sites along the scheme and the specific research relating to Danesfort 10, the known archaeology within the surrounding landscape was assessed in order to establish the level and type of activity in the surrounding area in the past. This included a review of information from the Record of Monuments and Places, previous excavations and other relevant documentary sources including mapping and other sites excavated as part of the N9/N10 Phase 4 scheme. The excavated archaeology at Danesfort 10 has been identified as being Iron Age in date.

3.2.1 General Iron Age landscape of the Scheme – compiled by Michelle Brick

As with wider settlement patterns in Ireland, direct evidence for Iron Age (800BC–AD500) domestic habitation was not identified, although several furnaces, kilns and ringditches date to this period and attest to an Iron Age presence in the area. It is possible that some smaller Iron Age ringditches were in fact structural, rather than funerary. Evidence for Iron Age domestic settlement activity remains indirect and peripheral in Kilkenny and Carlow, and in Ireland as a whole.

The Southern Landscape

Direct evidence of Iron Age activity in the southern landscape of the N9/N10 Phase 4 is limited. There is a marked absence of hillforts from south Kilkenny but this does not necessarily infer absence of settlement (Gibbons 1990, 20). A small number of features produced Iron Age dates in this landscape as a result of the N9/N10 Phase 4 excavations. A posthole dating to this period (165BC–AD16; UBA 10984) was excavated at Baysrath 2, and belongs to a possible structure indicating potential domestic settlement in the region. At Tinvaun 2 a possible hut structure was identified which consisted of four truncated slot-trench-like pits, a posthole and a shallow, roughly central pit in the interior of the area. Dates returned for this possible structure have indicated that it was in use during the Iron Age period (AD5–124; UBA 12169). There was also some metalworking activity on site and this structure may have been associated with it. Further to this, a posthole and a hearth excavated at Danganbeg 1 also dated to the Iron Age (762–416BC and 41BC–AD55; UBA 14025 and UBA 14024 respectively). No funerary features belonging to the Iron Age were excavated as part of the present Phase 4 in the southern landscape. However, some metal working activity in the form of slag pits/furnaces and funerary activity in the form of a ringditch has been excavated at Baysrath directly to the south of the present excavations and have been dated to the Iron Age period (Channing 2007). Three circular structures excavated at this site have also been dated to this period (AD60–131, AD25–128 and 88BC–AD53; UBA 10684, UBA 10685 and UBA 10691 respectively) indicating a strong Iron Age presence in this area (*ibid.*). A ditch dating to the Iron Age (39BC–AD74; UBA 10993) was excavated at Tinvaun 1; burnt mound activity associated with the Bronze Age was also excavated at this site and this ditch relates to a later phase of activity at the site. At Knockadrina 2 (51BC–AD78; UBA 12178) an Iron Age furnace was excavated and at Stonecarthy West 1 a possible trough also yielded an Iron Age date (771–539BC; UBA 12174), however other features associated with a burnt mound on the site returned Bronze Age dates.

The Central Landscape

As with the southern landscape there is no direct evidence for Iron Age settlement although there are many early medieval RMP sites in this area, the majority of which are ringforts and enclosure sites, such as the ringforts recorded at Woolengrange (KK024-079 and KK024-082) and the enclosures at Carran (KK024-021001, 2). Iron Age activity in the county is represented by the Hillfort at Freestone Hill where a defensive hillfort and inner enclosure (KK020-018002) was built encircling the hill-top (Gibbons 1990, 18), re-using the site of an earlier burial cairn (KK020-018001). The site was then re-occupied c. AD300 (Raftery 1969). Another possible Iron Age hillfort is located at Cotterallsrath located to the west of the southern end of this central landscape. Directly to the north-east of this site and located four miles south of Kilkenny City are the remains of a linear earthwork at Grevine West (Gibbons 1990, 20), also indicating an Iron Age presence in the region. Additionally, excavations were carried out at two ringforts in the townland of Dunbell; Dunbell 6 in 1972 and Dunbell 5 (KK024-010) in 1990 (Foley 1974; 2006; Cassidy 1991). The ringfort settlement at Dunbell 5 in particular produced dates from the Bronze Age to the eighth–10th centuries AD including evidence of Iron Age occupation.

Two clusters of Iron Age activity were noted from the N9/N10 excavations within the central landscape, at Danesfort and at Kilree and Holdenstown. These sites exhibited evidence for funerary activity and no evidence for domestic settlement was uncovered within this central landscape. At Danesfort 13 the primary fill of a ringditch returned a radiocarbon date of 503–384BC (UBA 10999) and was considered to be associated with two similar ringditches excavated at the neighbouring site of Danesfort 12. A fine glass bead found within a pit at Danesfort 13 also indicated that Iron Age activity continued in the Danesfort area, confirming the longevity of Danesfort as a focus for prehistoric funerary activity and although the area continued to be occupied in the early medieval period the focus then shifted towards settlement. Iron Age activity was excavated at Kilree 4, a site which contained a probable token cremation burial within a double ringditch (171BC–AD4, UBA 15563), which was located on flat, gravelly ground that overlooked the River Nore and its floodplain. At Holdenstown 1, three ringditches of Iron Age date were excavated. The largest was penannular in plan and had an undug, east-facing causeway. The two best preserved ringditches had evidence of re-cutting which may have been a symbolic act of redefining the burial monument. The primary phase has been interpreted as representing funerary feasting while the secondary phase consisted of burial possibly dating to the late Iron Age. Both ringditches were subsequently re-cut and were backfilled with material which included burnt bone, charcoal, seeds, and animal bone. The quantity of cremated bone is indicative of token cremation mixed with pyre debris. Although Ringditch 3 was heavily truncated, it also contained evidence of token cremation. The evidence thus far is indicative of burial potentially in the Iron Age and the site was later re-used as an inhumation cemetery known as a *ferta*, during the early medieval period. A shallow, northeast–southwest linear ditch spanned the entire width of the site at Holdenstown 1. The precise function of this ditch is unknown; however, its length and the fact that no return was identified suggest that it may have been a boundary ditch. It is possible that it is broadly contemporary with the burials within Ringditch 2, as these burials followed the same alignment of this ditch and there was no truncation. The ditch has been dated to the Iron Age period (168–3BC; UBA 13108). It is then possible that the burials associated with Ringditch 2 and with this ditch were placed either inside or outside the boundary; both of which suggests a significant symbolism.

In Danesfort 12 a furnace had evidence of reddened sides and a burnt and blackened rim but the base was not scorched. The fills contained large quantities of charcoal and slag. It is possible that this activity was contemporary with the Iron Age funerary

activity recorded on site. Metallurgical activity was also recorded at Danesfort 13 and included two smelting furnace pits, a metallised surface, three waste pits, and an occupation deposit. This activity may also have been contemporary with Iron Age funerary activity also recorded on site. At the multi-period site of Danesfort 5 a metalworking area was identified and included several pits and deposits. Of these pits one returned an Iron Age date of 786–543BC (UBA 12192). A kiln excavated at Danesfort 5 also produced Iron Age dates ranging between 169BC and AD50, (UBA 12189–91). Other features at this site were dated to the late Bronze Age period and the Iron Age activity may indicate a continuity of settlement at the site. At Holdenstown 2 a total of five kilns were identified with one dating to AD21–203 (UBA 13111). Both Danesfort 2 and Holdenstown 4 returned Iron Age dates from features associated with burnt mound activity (744–407BC UBA 11000; 765–420 BC; UBA 13114).

The Northern Landscape

The northern landscape of the N9/N10 Phase 4 also contained Iron Age evidence. The aforementioned Freestone Hill (KK020-018) is located directly to the south of this landscape and two additional hillforts can also be located in the north of the county. Clomantagh (KK008-124002) overlooks Johnstown in north-west Kilkenny and similar to Freestone Hill, the site was originally used in the Bronze Age as a funerary complex (Gibbons 1990, 18). A linear earthwork has also been recorded at Woodsgift (Gibbons 1990, 20) and is located directly to the south of this site. The other possible hillfort in the region is recorded at Tooremore or Carndubh to the east (*ibid.*). This hillfort which is not shown on the Ordnance Survey maps, is situated on Corrandhu Hill, two miles east of Ballyragget, straddling the townland boundary between Toore More and Donaghmore (Condit and Gibbons 1988, 49). Further to these, located along the Kilkenny-Carlow border is a linear earthwork known as the Rathduff Trench (KK026-006). It ran for over three miles from the River Barrow at Duninga, in a north westerly direction to the foothills of the Castlecomer plateau above Shankill (Gibbons 1990, 20). A portion of this linear earthwork was excavated at Shankill 1 and consisted of a U shaped ditch with a bank

Excavations in the northern landscape of the N9/N10 produced a small amount of domestic settlement evidence. The fill of a stakehole associated with a possible structure at Moanduff 1 produced an Iron Age date of AD215–376 (UBA 13124); the site also had evidence of occupation in the Bronze Age which implies that the site may have been used throughout both periods. Radiocarbon dating for Rathcash East 1 also indicates use of the site during the Iron Age period. The excavated features included a possible structure that may be inferred as a ringditch as a result of the middle Iron Age date retrieved from its fill (38BC–AD73; UBA 12221) and an associated rubbish pit (37BC–AD123; UBA 12220). Excavations in the northern landscape of the N9/N10 did not produce any evidence for Iron Age funerary activity. However ephemeral Iron Age activity was discovered at a number of sites in the form of metal working and burnt mound activity. At Rathcash East 3 a large keyhole-shaped furnace that dated to the Iron Age (160BC–AD0; UBA 14032), aligned northeast–southwest was excavated along with seven bowl furnaces, aligned north–south in two adjacent rows. The furnace had 18 fills, with the majority containing significant amounts of charcoal and frequent slag. Many of the bowl furnaces contained charcoal, burnt clay and slag. The smaller furnaces were arranged in two parallel lines; aligned north–south and one has been dated to 362–200BC (UBA 14033). A kiln and pit excavated at Cranavonane 3 have been dated to 104BC–AD50 (UBA 12251) and 341–54BC (UBA 12252) respectively. In addition to these features a pit excavated at Jordanstown 1 returned a date of 382–206BC (UBA 12233) and a pit at the multiperiod site of Moanduff 2 retrieved a date of AD140–385 (UBA 12260). Features associated with burnt mound activity dating to this period were excavated at

Rathcash 2 where the fill of a trough dated to 344–55BC (UBA 12219) and at Kellymount 2, where a waterhole has been dated to AD236–380 (UBA 14041). The fill of a trough at Kellymount 3 also returned a date of 751–409BC (UBA 14043).

Conclusion

The presence of the Iron Age ringditches along the N9/N10 Phase 4 and the number of sites displaying industrial activity dating to this period confirm the presence of an Iron Age community in the region. The possible structure at Rathcash East 1 may also be indicative of an Iron Age settlement site, further demonstrating Iron Age activity in the locality. The presence of three hillforts in north Kilkenny suggests that it was an area of considerable importance during this period (Condit and Gibbons 1988, 52). The lack of excavated domestic settlements along the route is not indicative of a sparse population at the time rather they were not located along the corridor of the N9/N10 route-way and have yet to be discovered.

3.2.2 The Site Specific Archaeological Landscape of Danesfort 10

The immediate landscape around the site contains a number of recorded monuments dating to the early medieval period but there is no previously recorded prehistoric activity. The nearest are the enclosure sites KK023-061 and KK023-062, approximately 250m to the north and east respectively.

Danesfort 10 forms part of a cluster of sites excavated as part of the N9/N10 phase 4: Knocktopher to Powerstown scheme. Danesfort 9 consisted of a temporary structure/campsite dated to the late Neolithic and was located 150m to the south. Danesfort 8, 250m (to the south) contained pits with Beaker pottery dated to the late Neolithic/early Bronze Age period. A field system may be broadly contemporary but is possibly later and unassociated. At Danesfort 7, 450m to the south-west, a series of Neolithic pits, some containing fragmentary pottery sherds were recorded. Danesfort 6, located 550–650m to the south west of Danesfort 10, was a multi-period site with evidence for Bronze Age cremation pits and medieval domestic settlement. A further substantial multi-period site was located 850–950m to the south-west at Danesfort 5. Here, a Bronze Age enclosure and associated Bronze Age round-houses with entrance porches were excavated. Iron Age kilns were also identified on the periphery of the site.

To the north of Danesfort 10, there was Danesfort 11, c. 50m to the north-east which had evidence of a small burnt mound and pits/troughs dated to the early Bronze Age. Rathclogh 2, although 600m to the north-west contained a series of pits that have produced calibrated radiocarbon dates ranging from 2850–2500BC.

The immediate landscape of the site is one that has been the focus of settlement from the middle Neolithic through to the early medieval period and medieval evidence was identified from outside the immediate environs of the site. This shows a strong continuity of settlement in the area.

3.3 Typological Background of Cereal-Drying Kilns

Cereal-drying kilns were used for a variety of purposes, but were mostly related to the drying of cereals and other crops, and in Ireland the two basic purposes for which they were constructed seem to have been to dry grain and to harden it prior to grinding (O'Sullivan and Downey 2005, 32). The Irish 'corn-drying kilns' are frequently keyhole or dumb-bell shaped (*ibid.* 33). The basic kiln would comprise four main structural components: a *bowl*; *flue*; *stoke-hole*; and *drying platform* (*ibid.*). A fire would have been set at the *stoke hole* (which was either a natural depression or cut) at the mouth of the *flue*. This would be where the fire was burned to effect the drying (*ibid.*). The *flue* extends from the *bowl/drying platform*. The *drying platform* overlay

the *bowl* and typically consisted of heavy timber supports overlain with wattles, carrying a layer of straw and/or straw mat, through which the heat was able to pass through from below to the grain/cereal (*ibid.*).

3.4 Summary of the Excavation Results

Four probable cereal-drying kilns were discovered in the vicinity of a 10m² pond. The pond was 2m deep and although silted up was possibly open in prehistory as a small patch of burnt stone was discovered near its base. The kilns all showed evidence of intense burning *in situ*, and were either circular or oval in plan. Two postholes were found near the kilns but their precise function is uncertain.

A phase of probable post-medieval activity was recorded at the site in the form of an approximately linear field ditch (90m long) with a stone retaining wall cut into the lower part of its fill. The stone wall / ditch ran north-east–south-west and its construction might be linked to the infilling of the pond. It is not shown on the 1st edition OS Map but is of a similar construction and alignment to a nearby field boundary. The stone wall was made of limestone blocks up to 0.8m in length with no bonding material present. It survived up to three courses in places but was robbed out to the north-west.

3.5 Summary of the Specialist Analysis

A number of specialists provided analysis of samples and artefacts recovered from the site as part of the post-excavation works. This work in part formed the basis for the dating evidence for the site. The detailed reports on the results of all analysis are in Appendix 2

Post-medieval pottery analysis

A single sherd of post-medieval pottery was presented for study. This is the rim of a Glazed red earthenware possible bowl from context C8.

Lithics analysis

The lithic find is a piece of flint debitage. The artefact most likely dates to the late Neolithic or early Bronze Age.

Charcoal and Wood Species identification

Five wood taxa were identified from Danesfort 10, hazel (*Corylus avellana*), pomaceous fruitwood (Maloideae), wild/bird cherry (*Prunus avium/padus*), oak (*Quercus*) and willow (*Salix*). The results are dominated by pomaceous fruitwood and hazel.

Analysis of Plant Remains

All of the retrieved plant remains were cereal grains. All the identifiable remains were from barley. Barley grains are common from sites associated with prehistoric occupation, in particular the Bronze Age

Animal Bone Analysis

Four animal bone fragments recovered from a single archaeological context were submitted for examination. All four bone fragments were identified as pig. None of the four bone fragments recovered displayed evidence of butchery, burning/exposure to heat or gnawing.

Radiocarbon Dating

A single sample was sent for AMS radiocarbon dating.

A sample of charred Barley seed from pit fill C12 was sent for radiocarbon dating and returned a 2 sigma calibrated date of 184BC–AD56 (UBA 15559).

4 DISCUSSION AND CONCLUSIONS

4.1 Discussion

The site at Danesfort 10 has identified the remains of four possible cereal-drying kilns that have been dated to the middle Iron Age as well as a post-medieval field boundary and associated wall.

The dominant feature in the immediate landscape was a natural pond that was identified during the course of the excavation. The pond had silted up over time and may have been deliberately in-filled in the post-medieval period. Deposits of heat shattered stone and charcoal were identified near the base of the pond. These were undated but are potentially associated with prehistoric burnt mound type activity that may have been associated with an excavated burnt mound site 50m to the north-east at Danesfort 11. The deposits may also indicate that further burnt mound activity may exist in the immediate vicinity of the pond. The presence of the pond may have made this location an attractive place for settlement.

The main features identified during the excavation consisted of four areas that showed intensive *in situ* burning. Two of the features were originally interpreted as hearths and indeed they probably represent the hearth element of a larger kiln. The other two features resembled charcoal production pits in their shape and form. However, charcoal production pits are generally associated with large quantities of oak charcoal, which would subsequently be used as a fuel, possibly in metalworking, but there was little oak charcoal recorded from processed samples. Instead the charcoal consisted predominantly of hazel and pomaceous fruitwood, which suggests that this represents fuel being gathered from the immediate surrounding woodlands with no particular attempt to source individual species. The identification of cereal grains within the processed samples would suggest that all of the features were directly related with cereal-drying and represent the location of kilns.

The site has been dated to the middle Iron Age and there are no contemporary sites recorded in the immediate landscape. Contemporary activity in terms of date and function was identified at Danesfort 5 almost 1km to the south-west where middle Iron Age kilns were identified on the periphery of the excavation of Bronze Age settlement. Interestingly these kilns are also adjacent to a natural pool located in Croan townland.

The surrounding environment shows evidence of occupation from the Neolithic through the Bronze Age, with several recorded monuments potentially dating to the early medieval period. This indicates that the area was attractive for settlement throughout the ages and the identification of Iron Age kilns within this area could imply that there was an Iron Age settlement nearby.

The linear boundary and associated stone wall footing that were identified on the site have been dated to the post-medieval period on the basis of pottery sherds within the fills of the ditch. The masonry within the wall structure was similar to that identified in existing boundaries in the vicinity. The boundary is not evident on the 1st edition OS which implies that it had been in-filled by the early 1800's

4.2 Conclusions

The site consisted of Iron Age cereal-drying kilns which represent the first evidence of Iron Age activity in the immediate area. The site is important locally as in conjunction with similar evidence from Danesfort 5, 1km away, could indicate that a larger permanent settlement site/farmstead was located nearby.

5 BIBLIOGRAPHY

5.1 References

Cassidy, B. 1991 Digging at Dunbel, *Archaeology Ireland* **5**(2), 18–20

Condit, T. & Gibbons, M. 1988 Two Little-Known Hillforts in Co. Kilkenny. *Decies* **37**, 47–53. Old Waterford Society.

Dennehy, Frazer, McQuade, Molloy, & Slater 2006 *N9/N10 Kilcullen to Waterford Scheme: Waterford to Powerstown Investigations, Contract 2: Knockmoylan to Danesfort townlands, Co. Kilkenny Archaeological Assessment Report, A032/05–08.*

Foley, C. 1974 Pressé of excavation results, 1973, *National Monuments Files F94/1781/1*

Foley, C. 2006 Excavation of a ringfort at Dunbell Big, Co. Kilkenny, *Journal of the Royal Society of Antiquaries of Ireland* **136**, 5–22

Gibbons, M. 1990 The Archaeology of Early Settlement in County Kilkenny. In W. Nolan & K. Whelan (eds.) *Kilkenny: History and Society*, 1–32. Geography Publications.

GSB Prospection Ltd 2003 *Geophysical Survey Report 2003/39, N9/N10 Kilcullen to Waterford – South: Powerstown to Waterford.*

Keeley, V. J. Ltd 2005 *N9/N10 Kilcullen to Waterford Scheme: Waterford to Powerstown. Environmental Impact Statement. Chapter 17: Archaeology and Cultural Heritage, Chapter 18: Architectural Heritage.*

Lyng, T. 1984 *Castlecomer Connections: Exploring History, Geography and Social Evolution in North Kilkenny* *Environs* **217**, 387, 410–413

O'Sullivan, M. and Downey, L. 2005 Corn Drying Kilns. *Archaeology Ireland* **19**, 32–35.

Roseveare, M. and Roseveare A. (ArchaeoPhysica Ltd) 2005 *N9/N10 Kilcullen to Waterford Scheme: Waterford to Powerstown Geophysical Survey Report.*

Tietzsch-Tyler, D. 1994 *Building stones of St. Canice's Cathedral, Kilkenny.* Dublin.

5.2 Other Sources

Record of Monuments and Places (RMP), The Department of the Environment, Heritage and Local Government, 7 Ely Place Upper, Dublin 2.

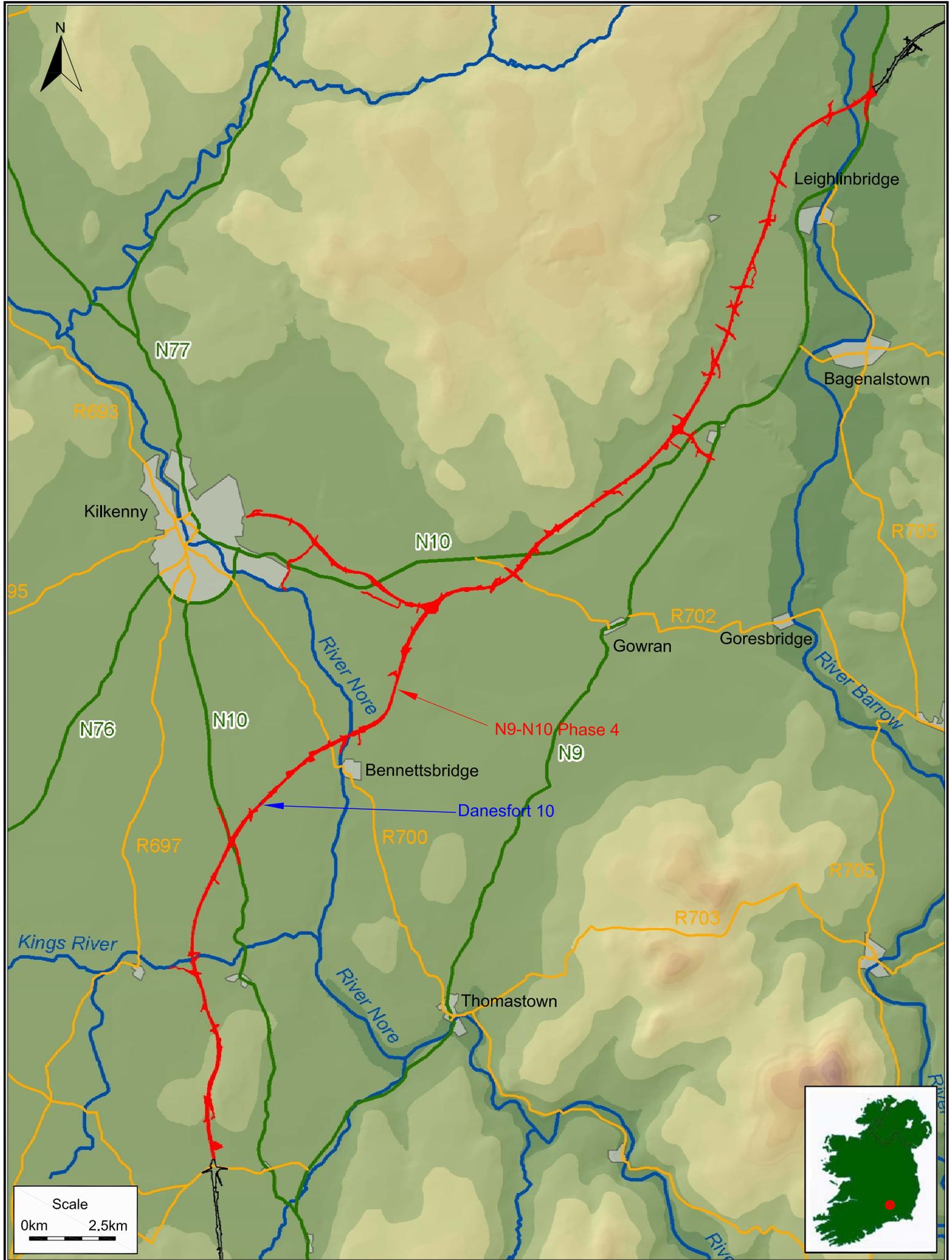
Topographical Files of the National Museum of Ireland, Kildare Street, Dublin 2.

Second Edition OS map

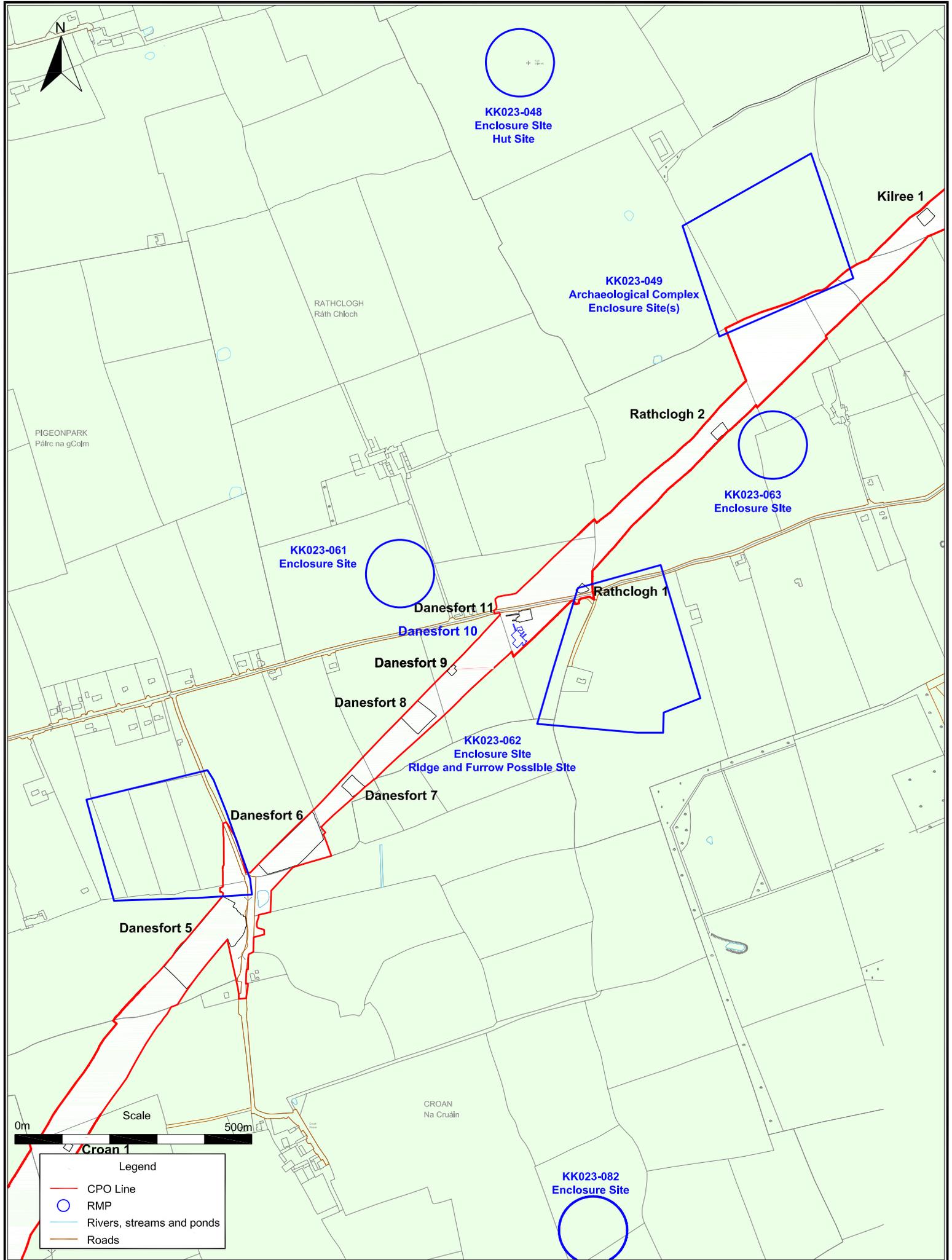
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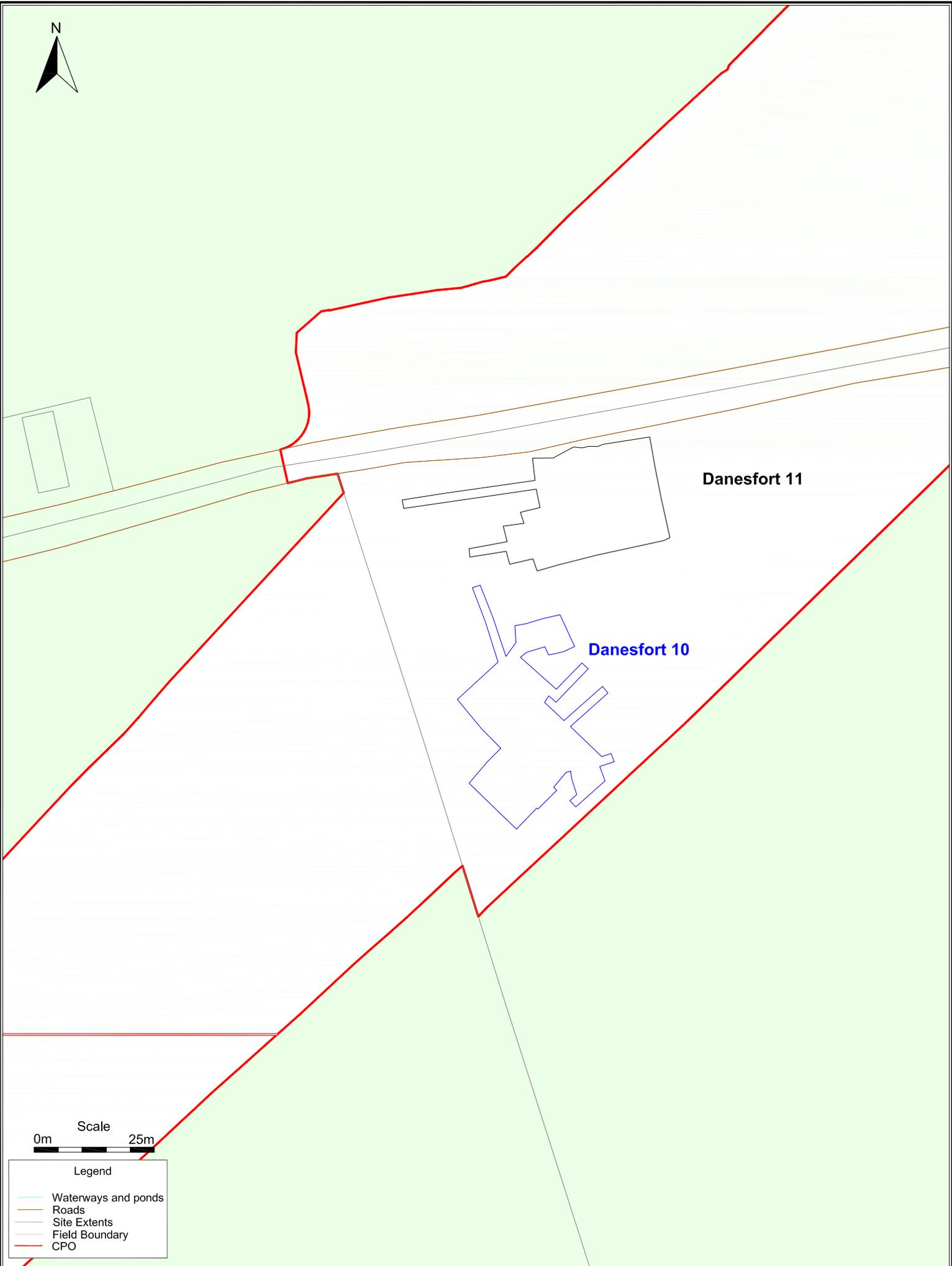
ENVision; *Environmental Protection Agency* Soil maps of Ireland

<http://www.epa.ie/InternetMapView/mapviewer.aspx>



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Project: N9-N10 Phase 4: Knocktopher to Powerstown	Date: 31/05/10
Client: Kilkenny County Council	Produced by: P Higgins Job No: J2432 Figure No: 1





Danesfort 11

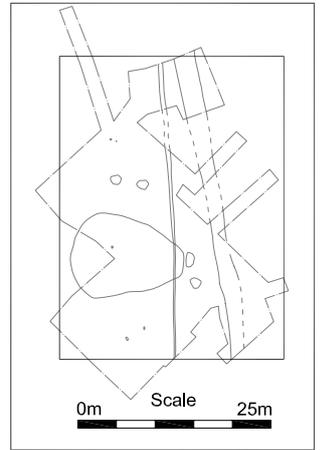
Danesfort 10



Legend	
	Waterways and ponds
	Roads
	Site Extents
	Field Boundary
	CPO



Location of plan



253222,
148425, +

C38 ○ °C36

C23
2B
64,297
2A

Limit of Excavation

C18

Charcoal production pit C28



Charcoal production pit C26



C34

63.331

Pond C53

C32

62.687

Charcoal production pit C16



C40

C25

184 BC - AD 56



Charcoal production pit C11
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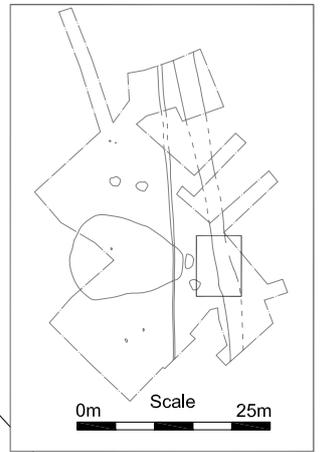
0m Scale 5m

Legend

- Sections
- CXX Cut numbers
- CXX Fill numbers
- Stone
- National Grid Reference
- XXXXXX Levels - metres OD

C4

C7



63.44

C25

Wall
C40

63.07

2A +

+2B

62.45

C25

C40

Scale
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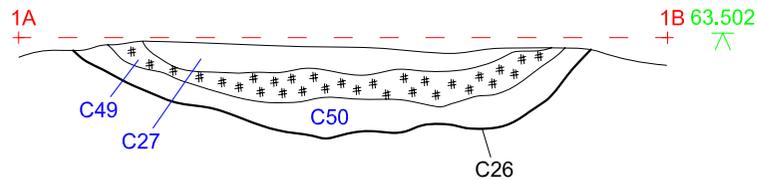
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- Sections
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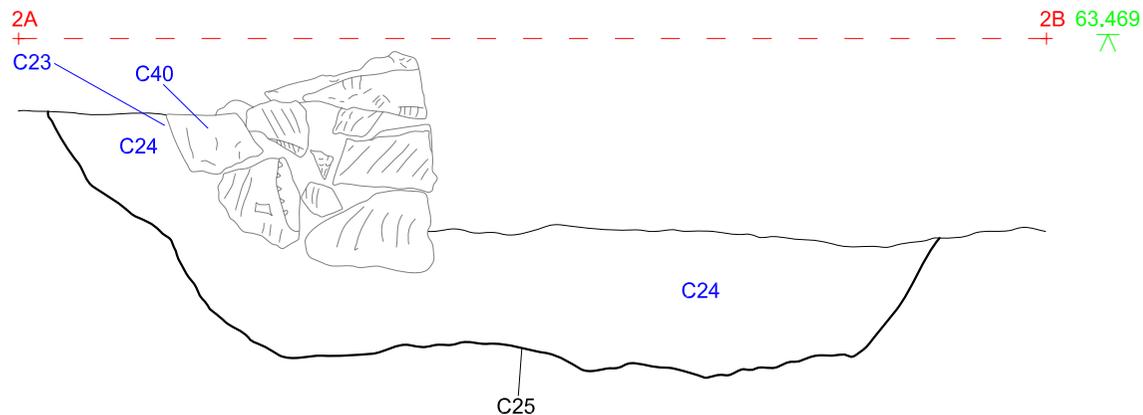
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Project:	N9/N10 Phase 4: Knocktopher to Powerstown
Client:	Kilkenny County Council

Scale:	1:30 @ A4
Date:	06/05/08
Produced by:	P Higgins
Job No:	J2432
Figure No:	5

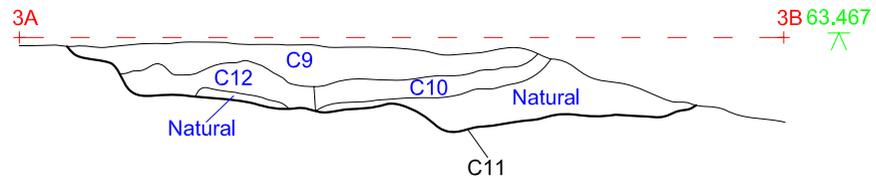
South facing section of C26



South facing section of C25



North facing section of C11



Legend	
C##	Cut numbers
C##	Fill Numbers
	Stone
#	Charcoal
###.##	Reduced Levels



**Irish
Archaeological
Consultancy Ltd.**

Title:	Danesfort 10 - Sections 1-3	Scale:	1:20 @ A4
Project:	N9/N10 Phase 4: Knocktopher to Powerstown	Date:	04/06/10
Client:	Kilkenny County Council	Produced by:	P Higgins
		Job No.:	J2432
		Figure No.:	6

PLATES



Plate 1: Prehistoric pits C11 and C16 (foreground ditch C25 and stone revetment wall C40), pre-excavation, facing north



Plate 2: Pit C26, mid-excavation, facing north



Plate 3: Ditch C25, mid-excavation, facing south
(Danesfort 11 visible in the right background)

APPENDIX 1 CATALOGUE OF PRIMARY DATA

Appendix 1.1 Context Register

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Context Above	Context Below
1	N/A				Topsoil	Mid-brown clayey-silt		
2	N/A				Subsoil	Mid-yellow sands and clays		
3	C4	0.35	0.07	0.21	Fill of posthole	Oval shape, loosely compact black/brown sand with charcoal	C1	C4
4	N/A	0.35	0.17	0.22	Cut of posthole	Oval shape, sharp break of slope-top, vertical sides, sharp and gradual break of slope base to concave base.	C3	C2
5	C4	0.35	0.04	0.21	Fill of posthole	Oval shape, loosely compacted yellow/brown sand with charcoal.	C1	C4
6	C7	0.50	0.34	0.21	Fill of posthole	Oval regular shape. Soft compaction, mid-yellowish brown, med to fine sand with 10% small stones.	C1	C7
7	N/A	0.50	0.34	0.21	Cut of posthole	Oval shape. Sharp break of slope-top, concave sides, concave break of slope base to concave base. Base shape not perceptible.	C6	C2
8	N/A	0.95	0.30	0.28	Upper fill of ditch	No distinct shape, moderate compaction, orange brown with orange flecks 100% sandy soil.	C1	C40
9	C11	1.69	1.48	0.09	Fill of pit	Circular shape, firm compaction, medium brown silty sand, with some stones	C1	C12
10	C11	1.69	1.48	0.06	Fill of pit	Circular shape, soft compaction, brownish red silty clay containing pebbles and charcoal	C9	C11
11	N/A	1.69	1.48	0.18	Cut of pit	Circular, gradual corners, gradual break of slope for top and base with sloping sides to concave base.	C12	C2
12	C11	1.69	1.48	0.11	Fill of pit	Circular shape, firm in places but loosely compact, dark brown silty clay with fine pebbles and charcoal.	C9	C2
13	N/A	13.30	7.30	0.65	Fill of pond	Loosely compacted, mid-orangey brown with small stones.	C1	C2
14	C16	1.60	1.10	0.08	Upper fill of pit	Oval shape, softly compacted, yellowish brown sandy silt with occasional medium pebbles and charcoal	C1	C15
15	C16	1.60	1.10	0.07	Bottom fill of pit	Oval shape, softly compacted, brownish-red silty clay with medium pebbles and charcoal	C14	C16
16	N/A	1.60	1.10	0.15	Cut of pit	Oval shape, gradual break of slope for top and base, gradual sides with uneven base.	C15	C2
17	C18	0.53	0.40	0.16	Fill of drain	Linear feature poss. modern drain, NE-SW, orangey brown silty clay with small pebbles.	C1	C18

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Context Above	Context Below
18	N/A	17.5	0.40	0.16	Cut of modern drain	Linear drain crossing site, steep sides, gentle break of slope and u-shaped base	C17	C2
19	N/A							
20	N/A					Oval shape, yellowish-brown sandy silt with charcoal.		
21	N/A							
22	N/A							
23	C25	95.30	0.80	1.14	Cut of stone wall	Irregular shape. Corners 85deg on W,90deg E, uneven break of slope- top and base, sides gradual on W, sharp on E, flat base.	C40	C24
24	C25	95.30	2.38	1.26	Fill of linear ditch	Linear in shape, N orientation. Moderate to softly compact, orange, brown (light) very fine clayey sand with occasional pebbles.	C23	C25
25	N/A	95.30	2.38	1.26	Cut of ditch	U-shaped. Sharp break of slope for top, gradual sides, uneven break of slope base.	C24	C2
26	N/A	2.10	1.60	0.26	Cut of pit	Oval shape. Invisible break of top slope, concave sides, Base slope unbroken, U-shaped base.	C50	C2
27	C26	1.80	1.25	0.27	Upper fill of pit	Oval shaped, very hard compaction, brownish sandy silt, contains small stones and charcoal flecks.	C1	C49
28	N/A	1.70	1.35	0.25	Cut of pit	Oval shape. Invisible break of top slope, concave sides, U-shaped base.	C52	C2
29	C28	1.40	1.35	0.15	Upper fill of pit	Oval shaped, very hard compaction, brownish sandy silt, no inclusions	C1	C52
30	N/A	0.26	0.17	0.07	Cut of stakehole	Irregular shape. Not perceptible break of slope top, straight sides to little flat base.	C31	C2
31	C31	0.15	0.12	0.08	Fill of stakehole	Irregular NW-SE. Softly compacted, black soil with frequent charcoal and occasional pebbles.	C1	C30
32	void				Determined as non archaeological during post excavation			
33	N/A	1.55	0.47	0.15	Spread	Irregular shape, softly compact, black/brown/yellowish clayey silt with charcoal flecks and clay inclusions.	C1	C32
34	void							
35	N/A	0.13	0.10	0.05	Spread	Oval, N-S orientated. Softly compacted, black soil with frequent charcoal and pebbles	C1	C34
36	void				Determined as non archaeological during post excavation			
37	N/A	0.21	0.15	0.10	Spread	Circular , middle soft compaction, black soil with frequent charcoal	C1	C38

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Context Above	Context Below
38	void				Determined as non archaeological during post excavation			
39	N/A	0.35	0.17	0.22	Spread	Very irregular, N-S orientated. Middle soft compaction, light black and brown soil, moderate charcoal and occasional pebbles.	C1	C38
40	C23	95.3	0.80	1.14	Fill of stone wall	Irregular stone edges, loosely compact, stones and rocks.	C1	C23
41-48	void							
49	C26	1.60	0.80	0.14	Fill of pit	Oval shape, softly compact, dark black soil with charcoal flecks	C49	C26
50	C26	1.30	0.80	0.06	Fill of pit	Oval shape, very hard compaction, very reddish clayey silt.	C29	C52
51	C28	1.25	0.37	0.08	Fill of pit	Irregular shape, softly compact, dark black with charcoal flecks.	C51	C28
52	C28	0.95	0.60	0.10	Cut of pond	Irregular shape, very hard compaction, pink/reddish clayey silt, no inclusions	C55	C2
53	N/A	15.0	10.8	1.4	Fill of pond	Sub-oval shape, E-W orientated, sharp break of slope-top and gradual break of slope-base, steep sides and flat base	C13	C53
54	C53	5.4	5.00	0.46	Fill of pond	Moderately compacted, yellow clay at the base of pond		
55	C53	0.18	0.16	0.1	Fill of pit	Softly compacted, dark grey-black clayey silt with small burnt stones, occasional charcoal	C27	C50

Appendix 1.2 Catalogue of Artefacts

ExcavNo	ContextNo	ItemNo	SimpleName	FullName	Material	Description	NoOf Parts
E3549:008:1	8	1	Bowl	Rimsherd of post-medieval pottery	Ceramic	A rimsherd of a possible bowl dating to the post-medieval period	N/A
E3549:008:2	8	2	Nail	Iron nail	Iron	A small corroded iron nail with a sub-circular convex head and thin slightly tapering shaft, which is broken	N/A
E3549:017:1	17	1	Debitage	Flint debitage	Flint	Flint debitage	N/A
E3459:024:1	24	1	Nail?	Possible iron nail	Iron	A very corroded possible iron nail, although corrosion hides the definite form. Possible circular head and point protruding	N/A

Appendix 1.3 Catalogue of Ecofacts

During post excavation works specific samples were processed with a view to further analysis. A total of 10 soil samples were taken from features at Danesfort 10 and all samples were processed by flotation and sieving through a 250µm mesh. The following are the ecofacts recovered from these samples:

Context #	Sample #	Feature type i.e. Structure A, hearth C45	charcoal	Seeds and charcoal	Burnt animal bone	animal bone	human bone	metallurgical waste	Other
C3	1	Fill of posthole	5.5g						
C8	6	Upper fill of ditch				0.7g			
C9	2	Fill of pit	25.7g	0.3g					
C10	4	Fill of pit	1.3g						4.1g burnt clay
C12	3	Fill of pit	17.5g	0.4g					
C15	7	Fill of pit	0.5g						
C19	8	n/a	0.1g						
C20	10	n/a	6.8g						
C49	11	Fill of pit	19.7g						9.3g burnt clay
C51	14	Fill of pit	25.8g	0.2g					3.5g burnt clay

Appendix 1.4 Archive Index

Project: N9/N10 Phase 4 Knocktopher to Powerstown		
Site Name: Danesfort 10 AR087		
Excavation Registration Number: E3459		
Site director: Richard Jennings		
Date: July 2010		
Field Records	Items (quantity)	Comments
Site drawings (plans)	5 pre-ex, 4 mid-ex, 11 post-ex	
Site sections, profiles, elevations	6 section sheets	
Other plans, sketches, etc.	0	
Timber drawings	0	
Stone structural drawings	0	
Site diary/note books		
Site registers (folders)		
Survey/levels data (origin information)	300	
Context sheets	55	
Wood Sheets	0	
Skeleton Sheets	0	
Worked stone sheets	0	
Digital photographs	86	
Photographs (print)	0	
Photographs (slide)	0	
Security copy of archive	Yes	Digital copy

APPENDIX 2 SPECIALIST REPORTS

Appendix 2.1 Medieval and Post-Medieval Pottery Report – Clare McCutcheon

Appendix 2.2 Lithic Report – Farina Sternke

Appendix 2.3 Charcoal and Wood Report – Lorna O’ Donnell

Appendix 2.4 Plant Remains Analysis Report – Penny Johnston

Appendix 2.5 Faunal Assemblage Report – Aoife McCarthy

Appendix 2.6 Radiocarbon Dating Results – QUB Laboratory Waiting

Appendix 2.1 Post-Medieval Pottery Report – Clare McCutcheon

**A Note on the Pottery
From
Danesfort 10 (E3459)
N9/N10 Knocktopher to Powerstown, Co. Kilkenny
Clare McCutcheon MA MIAI**

Introduction:

A single sherd of post-medieval pottery was presented for study. This is the rim of a possible bowl from context C8, an upper fill of a stone wall embankment C23.

Glazed red earthenware:

Glazed red earthenware or 'brownwares' were made widely in Britain and Ireland from the later 17th century through to the 19th century (Dunlevy 1988, 24–5). Because of the standardisation of the clay and vessel form it is always difficult to specify a particular production site but a typical kiln was excavated at Tuam, Co. Galway with milk pans and dishes comprising a majority of the vessels (Carey and Meenan 2004). The fabric is generally sandy earthenware, usually oxidised buff to light orange through to brown. The clear lead glaze takes its colour from the fabric with variations due to firing conditions (Jennings 1981, 157).

References:

Carey, A and Meenan, R 2004 Excavation of a post-medieval pottery kiln, Tuam, Co. Galway, *Journal of the Galway Archaeological & Historical Society*, **56**, 37–45.

Dunlevy, M 1988 *Ceramics in Ireland*. National Museum of Ireland, Dublin.

Jennings, S 1981 *Eighteen centuries of pottery in Norwich*. Norwich Survey, Centre of East Anglian Studies, University of East Anglia, Norwich.

Appendix 2.2 Lithic Report – Farina Sternke

Lithics Finds Report for E3459 Danesfort 10 (A032/063), Co. Kilkenny

N9/N10 Road Scheme – Phase 4

Farina Sternke MA, PhD

Introduction

One lithic find from the archaeological excavation of a prehistoric site at Danesfort 10, Co. Kilkenny was presented for analysis (Table 1). The find is associated with two hearths, two clay-lined pits and several stakeholes.

Find Number	Context	Material	Type	Condition	Cortex	Length (mm)	Width (mm)	Thickness (mm)	Complete	Retouch
E3459:17:1	17	Flint	Debitage							

Table 1 Composition of the Lithic Assemblage from Danesfort 10 (E3459)

Methodology

All lithic artefacts are examined visually and catalogued using Microsoft Excel. The following details are recorded for each artefact which measures at least 20mm in length or width: context information, raw material type, artefact type, the presence of cortex, artefact condition, length, with and thickness measurements, fragmentation and the type of retouch (where applicable). The technological criteria recorded are based on the terminology and technology presented in Inizan *et al.* 1999. The general typological and morphological classifications are based on Woodman *et al.* 2006. Struck lithics smaller than 20mm are classed as debitage and not analysed further, unless they represent pieces of technological or typological significance, e.g. cores etc. The same is done with natural chunks.

Quantification

The lithic (E3459:017:1) is a piece of worked flint.

Provenance

The lithic artefact was recovered from C17.

Technology/Morphology:

The artefact is a piece of flint debitage.

Dating:

The artefact most likely dates to the late Neolithic or early Bronze Age.

Conservation

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

Summary

This site makes a minor contribution to the evidence for prehistoric settlement and land use in Co. Kilkenny.

References

Inizan, M-L, M Reduron-Ballinger, H Roche and J Tixier 1999 *Technology and Terminology of Knapped Stone* 5. CREP, Nanterre.

Woodman, P C, Finlay N and E Anderson 2006 *The Archaeology of a Collection: The Keiller-Knowles Collection of the National Museum of Ireland*. National Museum of Ireland Monograph Series 2. Wordwell, Bray.

Appendix 2.3 Charcoal and Wood Report – Lorna O’ Donnell

Client – Irish Archaeological Consultancy Ltd

Site Name- Danesfort 10

Excavation number –E3459 AR087

County – Kilkenny

Author- Lorna O’Donnell

Date –24/8/09



1 Introduction

This report describes the charcoal analysis of samples from prehistoric features adjacent to a pond, excavated by Richard Jennings at Danesfort 10, Co. Kilkenny. The site was excavated as part of along the N9/N10 Kilcullen to Waterford Scheme, Phase 4 – Knocktopher to Powerstown (Jennings 2008). Charcoal was examined from four hearths and one pit fill from the site. The aim of the work is to identify enough suitable material for radiocarbon dating, and to provide a floristic background to the site. It can also give us information about species selected for fuel at Danesfort 10. This report is summary in nature only, further analysis, discussions and comparisons of results will be incorporated into a final integrated charcoal and wood report for all sites along the N9/N10 ((Lyons *et al* forthcoming).

2 Methodology (After IAC Ltd)

2.1 Processing

- A mechanical flotation tank using a pump and water recycling system is used for soil flotation
- The soil is washed using a 1mm mesh in the flotation tank and a 300 micron and 1mm sieve is used to catch floated material.
- The volume of all soil samples are recorded in litres using a measuring jug.
- The sample is then placed into the 1mm mesh in the flotation tank, the tank is then filled with water and the sample washed. Any large lumps of soil can be carefully broken down by hand, but the jets of water in the flotation tank gently clean the rest of the sample.
- Once the sample is clean (just stones, charcoal, artefacts remaining in the mesh) the tank is fill up with water and at this stage any floating material (charcoal, seeds etc) should flow over the spout and into the sieves.
- The retent is then gently poured into a labelled tray (containing site code, site name, sample number and context number) and place on a shelf to dry.
- The flots are securely packaged in tissue, labelled and hung up to dry. This prevents any loss of light material (seeds) which could result once the flots are dry and being moved (if they are dried on trays).
- Before washing a new sample all equipment used (measuring jugs, 1mm mesh, sieves etc) are thoroughly washed using clean water.
- The large black settling tanks (and water) are cleaned between every site, or if a large site is being processed, every 1–2 weeks.
- Any samples containing a high clay content will be soaked in water for 1–2 days to aid the sieving process.

2.2 Charcoal identification

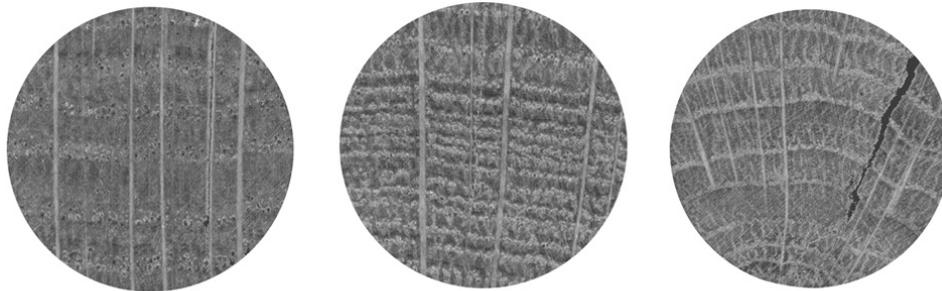
Each piece of charcoal was examined and orientated first under low magnification (10x-40x). They were then broken to reveal their transverse, tangential and longitudinal surfaces. Pieces were mounted in plasticine, and examined under a binocular microscope with dark ground light and magnifications generally of 200x and 400x. Each taxon or species will have anatomical characteristics that are particular to them, and these are identified by comparing their relevant characteristics to keys (Schweingruber 1978; Hather 2000 and Wheeler *et al* 1989) and a reference collection supplied by the National Botanical Gardens of Ireland, Glasnevin. It was aimed to identify fifty fragments per sample.

2.3 Details of charcoal recording

The general age group of each taxa per sample was recorded, and the growth rates were classified as slow, medium, fast or mixed. It was not within the scope of this project to measure all the ring widths from the charcoal, however, some measurements were taken with a graticule in the microscope in order to make the

scale of slow, medium and fast growth less subjective. Slow growth within the charcoal from this site was considered to be approximately 0.4mm per annum, medium approximately 1mm per annum and fast approximately 2.2mm per annum.

The ring curvature of the pieces was also noted – for example weakly curved annual rings suggest the use of trunks or larger branches, while strongly curved annual rings indicate the burning of smaller branches or trees (Fig. 1). Tyloses in vessels in species such as oak can denote the presence of heartwood. These occur when adjacent parenchyma cells penetrate the vessel walls (via the pitting) effectively blocking the vessels (Gale 2003, 37). Insect infestation is usually recognised by round holes, and is considered to be caused by burrowing insects. Their presence normally suggests the use of decayed degraded wood, which may have been gathered from the woodland floor or may have been stockpiled.



Weakly curved rings Moderately curved rings Strongly curved rings

Fig. 1 Ring curvature. Weakly curved rings indicate the use of trunks or large branches.

(After Marguerie and Hunot 2007 1421, Fig. 3).

3 Results

Five wood taxa were identified from Danesfort 10, hazel (*Corylus avellana*), pomaceous fruitwood (Maloideae), wild/bird cherry (*Prunus avium/padus*), oak (*Quercus*) and willow (*Salix*). The results are dominated by pomaceous fruitwood (Fig. 2).

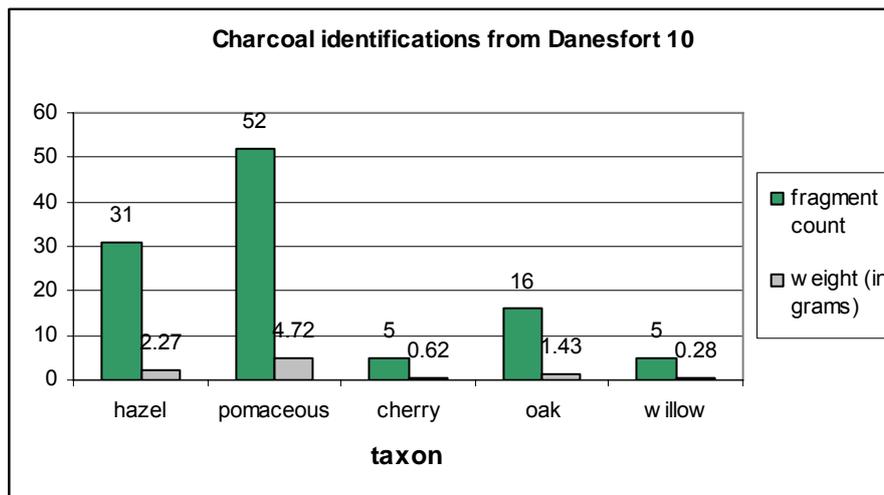


Fig. 2

The charcoal examined is derived from two hearths (Cut 11 and 16) Contexts 10,12 and 15) and a pit Cut 26, Context 49. The charcoal identifications from the different feature types are similar.

4 Discussion

The Maloideae group (pomaceous fruitwood), a sub family of the Rosaceae includes crab apple, wild pear, rowan/whitebeam and hawthorn. Crab apple (*Malus sylvestris*) is a tree of hedges, copses and oak woodland, thriving in fertile and heavy soils. It often grows singly, with large distances between individual trees (Lipscombe and Stokes 200, 78). Wild pear (*Pyrus pyraster*) can grow on woodland edges and also can be found growing in a solitary situation (Lipscombe and Stokes 2008, 114 ; Stuijts 2005, 142). Rowan (*Sorbus aucuparia*) is a tough colonizer which can tolerate peaty soils and exposed conditions. It needs plenty of light to thrive (Hickie 2002, 65). It is a tree of mountains, woodlands and valleys, growing on a wide range of soils, including chalks, acid soils and even peat (Lipscombe and Stokes 2008, 120). Whitebeam (*Sorbus aria*) grows up to 20m high and has a preference for limestone soils (Orme and Coles 1985, 11). Hawthorn (*Crataegus monogyna*) can thrive in all but the most acid of soils (Gale and Cutler 2000). As wild pear is not a native Irish species, it is likely that the charcoal represents other types encompassed in the Maloideae group.

The oak present could be either our native pedunculate (*Quercus robur*) which prefers more wet, heavier clays than the sessile oak (*Quercus petraea*) (Beckett 1979, 40–41). Hazel is a very tolerant tree, it can grow from wet to dry conditions (but not waterlogged ones (Orme and Coles 1985, 9). It was once very common in Ireland, Mc Cracken writes that it was once widespread to an extent that is hard to imagine today (1971, 19). It can grow as a tree or can form hazel scrub. Wild/bird cherry can grow well in light conditions such as near woodland margins (Orme and Coles 1985, 11). Willows are primarily wetland trees, and the main Irish native willows are grey willow (*Salix cinerea*), goat willow (*Salix caprea*) and eared willow (*Salix aurita*).

5 Summary

Charcoal was examined from four contexts at Danesfort 10, from including hearths and a pit. Five wood taxa only were identified, the results are dominated by pomaceous fruitwood.

References

- Beckett, J.K., 1979, *Planting Native Trees and Shrubs*. Norwich: Jarrold and Sons Ltd
- Gale, R. 2003. Wood based industrial fuels and their environmental impact in lowland Britain. In P. Murphy and P.E.J. Wiltshire (eds) *The Environmental Archaeology of Industry*. Oxbow books: Oxford 30–47.
- Gale, R., & Cutler, D., 2000. *Plants in Archaeology. Identification of vegetative plant materials used in Europe and the southern Mediterranean to c. 1500*. West Yorkshire: Westbury Publishing.
- Hather, J.G., 2000. *The Identification of the Northern European Woods. A guide for archaeologists and conservators*. London: Archetype Publications Ltd.
- Hickie, D., 2002. *Native trees and forests of Ireland*. Dublin: Gill & Macmillan Ltd
- Jennings, R. 2008. Preliminary Archaeological resolution report N9/N10 Kilcullen to Waterford Scheme Phase 4: Knocktopher to Powerstown, Danesfort 10 (AR087 E3459). Unpublished report for Irish Archaeological Consultancy Ltd.
- Lipscombe, M. and Stokes, J. 2008. *Trees and how to grow them*. London: Think books.

Lyons, S., O'Carroll, E. and O'Donnell, L. forthcoming. Charcoal analysis from the N9/N10- overall integrated report. Unpublished report for Irish Archaeological Consultancy Ltd.

Marguerie, D. and Hunot, J.Y. 2007. Charcoal analysis and dendrology: data from archaeological sites in north-western France. *Journal of Archaeological Science* **34** 1417–1433.

McCracken, E. 1971. *The Irish Woods since Tudor Times. Distribution and exploitation*. Devon : David & Charles Newton Abbot.

Orme, B.J. and Coles, J.M., 1985. Prehistoric woodworking from the Somerset levels: 2 : Species selection and prehistoric woodlands. *Somerset Levels papers*, 11, 7–24

Schweingruber, F.H., 1978. *Microscopic wood anatomy*. Birmensdorf: Swiss Federal Institute for Forest, Snow and Landscape Research.

Stuijts, I. 2005 Wood and charcoal identification. In M. Gowen, J. Ó Neill and M. Philips (eds) *The Lisheen Mine Archaeological Project 1996–8*, 137–186. Wordwell: Dublin.

Wheeler, E.A, Bass, P. & Gasson, P.E. 1989. *IAWA list of microscopic features for hardwood identification*. IAWA Bulletin nos. 10 (3): 219–332.: Leiden: Rijksherbarium

Table 1 Charcoal identification details from Danesfort 10

Context number	Cut number	Sample number	Flot weight (g)	Context description	Wood taxon	No. of fragments	Charcoal weight (grams)	Size of fragments (mm)	No. of growth rings	Growth	Weakly or strongly curved rings	Insect holes	Comment
10	11	4	1.3	hearth	<i>Corylus avellana</i> (hazel)	3	0.35	5-6	3-4	medium	strongly curved	none	
					Pomoideae spp. (pomaceous)	1	0.01	5-6	3-4	medium	strongly curved	none	
					<i>Salix</i> spp. (willow)	1	0.07	5-6	3-4	medium	strongly curved	none	
12	11	3	17.5	hearth	<i>Corylus avellana</i> (hazel)	5	0.52	5-10	2-5	medium	strongly curved	none	
					Pomoideae spp. (pomaceous)	40	4	5-15	2-15	medium	strongly curved	none	
					<i>Quercus</i> sp. (oak)	9	0.74	5-10	2-5	medium		none	
15	16	7	0.5	hearth	<i>Corylus avellana</i> (hazel)	1	0.02	3	2	medium		none	
					Pomoideae spp. (pomaceous)	4	0.19	2-5	3	medium	strongly curved	none	
49	26	11	19.7	pit	<i>Corylus avellana</i> (hazel)	22	1.38	5-15	2-9	medium	strongly curved	none	radial cracks
					Pomoideae spp. (pomaceous)	7	0.52	5-10	3-4	medium		none	
					<i>Prunus avium/padus</i> sp. (wild/bird cherry)	5	0.62	5-10	3-20	medium	strongly curved	none	
					<i>Quercus</i> sp. (oak)	7	0.69	5-10	2-10	medium	weakly curved	none	
					<i>Salix</i> spp. (willow)	4	0.21	4-6	2-5	medium		none	

Appendix 2.4 Plant Remains Analysis Report – Penny Johnston

Client – Irish Archaeological Consultancy Ltd
Site Name- Danesfort 10
Excavation number – E3459 AR087
County – Kilkenny
Author- Penny Johnston
Date – June 2009

Introduction

This report details the analysis of plant remains recovered from excavations at AR087, Danesfort 10 along the proposed N9/N10 Kilcullen to Waterford Scheme, Phase 4 – Knocktopher to Powerstown.

Methodology

The samples were processed by the client, who also carried out a preliminary sorting of the samples. This pre-selection of the plant remains may bias the final plant records from these sites, as it is possible that many small items, such as weed seeds and chaff, were not picked out.

The selected material was sent to Eachtra Archaeological Projects where it was examined under a low-powered binocular microscope (X6 –X45). Suitable plant material was identified and the results of analysis are presented in Tables 1 – 25 at the end of this report. Scientific names are mainly confined to these identification tables in order to facilitate easy reading of the text. Nomenclature and taxonomic orders generally follows Stace (1997).

Results

This site comprised hearths, clay-lined pits, stake-holes and a pond. It has been interpreted as the site of cereal-drying kilns. There was also a phase of activity that probably dated to the post-medieval period. A total of 3 samples were examined from this site. All of the retrieved plant remains were cereal grains. All the identifiable remains were from barley. Barley grains are common from sites associated with prehistoric occupation, in particular the Bronze Age (Monk 1985/6 and Johnston 2007, 73).

Table 24: Identified plant remains from Danesfort 10 E3459

Context	51	12	9
Sample	14	3	2
Barley grains (<i>Hordeum vulgare</i> L.)	7	7	7
Indeterminate cereal grains	9	38	7

References

Johnston, P. 2007 'Analysis of carbonised plant remains' in Grogan, E., O'Donnell, L. and Johnston, P. *The Bronze Age Landscapes of the Pipeline to the West*. Bray, Wordwell, 70 – 79.

Monk, M. 1985/6 'Evidence from macroscopic plant remains for crop husbandry in prehistoric and early historic Ireland: a review,' *The Journal of Irish Archaeology* III.

Stace, C.A. 1997 (2nd edition) *New Flora in the British Isles*. Cambridge, Cambridge University Press.

Appendix 2.5 Faunal Assemblage Report – Aoife McCarthy

**Osteoarchaeological Report of Faunal Remains from
E3459 A032/: Danesfort 10 AR087
Co. Kilkenny
N9/N10 Kilcullen to Waterford Scheme
Phase 4: Knocktopher to Powerstown**

**Author: Aoife McCarthy MA BA
Date: December 2009**

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1. Introduction

Introduction

This report details the osteological analysis of faunal remains recovered during excavations at Site E3459 AR087 Danesfort in the townland of Danesfort, Co Kilkenny as part of the archaeological mitigation programme of the N9/N10 Kilcullen to Waterford Road Scheme. Aoife McCarthy MA (Osteoarchaeology University of Southampton 2006) undertook the analysis on behalf of Irish Archaeological Consultancy Ltd in November 2009. At the time of writing this report, background archaeological information was obtained from a draft interim excavation report (Jennings, R. 2009) and from consulting the original site register documents.

1.1 GENERAL OSTEOLOGICAL INFORMATION

The osteological analysis of faunal remains recovered from Site AR087 was undertaken to provide an overview of the osteoarchaeological aspect of the site and determine if the material could provide further interpretation of site activity.

A total of 4 fragments from 2 possible skeletal elements and weighing 0.69g were recorded within the assemblage. The degree of preservation of the animal bone assemblage recovered at Site AR087 was poor with a high degree of fragmentation.

The faunal material recovered at Site AR087 Danesfort 10 originated from C8 the moderately compacted orange/brown upper fill of ditch feature C23.

A total of 4 bone fragments (100%) of the faunal remains assemblage were identified to species. The faunal remains assemblage recovered from Site AR087 Danesfort 10 contained bones from a single recognisable species of pig.

2. Methodology

SPECIES IDENTIFICATION: Identification of the bones involved reference to Schmid (1972) and Hillson (1992) as well as comparison with the author's own reference material.

- **NISP:** Number of Identified Specimens Indicates the total number of fragments found.
- **MNI:** Minimum Number of Individuals. Indicates the minimum number of individuals from every species that were present in the material. Estimating MNI is calculated on the specimen of the most abundant skeletal element present; whilst taking age, sex, size and archaeological context into account.
- **MNE:** Minimum Number of Elements. Indicates the minimum number of anatomical units that are present and what side they are from. To avoid getting a higher MNE all loose epiphyses have to be paired with all un-fused diaphysis.

AGEING: Two main methods are used to determine the age of faunal remains; tooth eruption and degree of Epiphysial fusion (a less reliable method). Tooth eruption and wear stages were recorded for the following teeth where possible; dP4 (deciduous fourth premolar), P4 (fourth premolar), M1 (first molar), M2 (second molar) and M3 (third molar) of cattle, sheep/goat and pig (Grant 1982). The analysis of tooth wear patterns refers to the alteration of the enamel surface and exposure of inner dentine through use.

BIOMETRICAL DATA: Due to the high degree of fragmentation and nature of the faunal remains recovered from Site AR087 measurements were not taken.

SEX DETERMINATION: Sex determination of animal remains is possible by analysis of certain sexually dimorphic elements. For example goat horncores may be classified as male or female based on their morphology and cattle metacarpals can be defined as male or female through calculation of the slenderness index (McCormick 1992). Sexual determination of species was not possible due to the high degree of fragmentation and nature of the animal bone material recovered from Site AR087 Danesfort 10.

BUTCHERY/GNAWING/BURNING: Evidence for butchery was recorded under the categories of cut, chopped, chopped and cut. All specimens were analysed for evidence of rodent or carnivorous gnawing as well as evidence of burning. Burnt bones were recorded in accordance with colour changes resulting from differing heat levels e.g. calcined bones acquire a bluish-whitish hue through exposure to high temperatures.

PATHOLOGY: The discovery of any injury and/or pathology was recorded for all specimens, where present.

3. Results

Context 8 Sample 6

A total of 4 bone fragments (0.69g) representing 2 possible skeletal elements were identified within C8 the loosely compacted upper fill of ditch feature C23. Three poorly preserved long bone diaphysis fragments of unidentifiable element as well as a fragment of rib corpus costae were identified to pig.

Sus/Pig

A series of 3 poorly preserved long bone diaphysis fragments (0.43g) of unidentifiable element (possible femur) were identified to pig. A single rib corpus costae fragment (0.26g) in poor condition and measuring 34mm long, 6mm wide and 2mm thick was also recovered. None of the 4 pig bone fragments displayed evidence of butchery, exposure to heat or gnawing.

4. Summary

Four animal bone fragments recovered from a single archaeological context on Site AR087 Danesfort 10 were submitted for examination. All four bone fragments were identified as pig. None of the four bone fragments recovered displayed evidence of butchery, burning/exposure to heat or gnawing.

The entire faunal remains assemblage retrieved from Site AR087 was recovered from a single archaeological context C8 the upper fill of ditch feature C23. An iron nail along with a single sherd of post medieval glazed red earthenware were also recovered from fill C8. It is not possible to determine the significance of this small and largely unidentifiable assemblage of faunal remains.

5. BIBLIOGRAPHY:

Binford, L & Howell, F.C. (1981), 'Bones, Ancient Men and Modern Myths', Florida Academic Press Inc.

Boessneck, J. (1969), 'Osteological Differences between Sheep and Goat' in D. Brothwell and E. Higgs (eds.), *Science in Archaeology*, 331–358, Thames & Hudson, London.

Davis, S.J. (1987), *The Archaeology of Animals*. New Haven & London: Yale University Press.

Fisher J.W. (1995) 'Bone Surface Modifications in Zooarcheology' in *Journal of Archaeological Method and Theory Vol. 2 No.1*, Springer, Netherlands.

Grant, A. (1982) 'The use of tooth wear as a guide to the age of domestic ungulates' in B. Wilson, C. Grigson and S. Payne (eds.) *Ageing and sexing animal bones from Archaeological Sites*, 91–108, BAR 109, Oxford.

Haynes G. (1978) 'Morphological Damage and Alteration to Bone: Laboratory experiments, field studies and zoo studies', *American Quaternary Association* 210, Edmonton Alberta.

Hillson, S. (1992). *Mammal Bones and Teeth: An Introductory Guide to Methods and Identification*. London Institute of Archaeology: UCL, London.

Jennings, R. (2009) *Archaeological Resolution Report N9/N10 Kilcullen to Waterford Scheme Phase 4: Knocktopher to Powerstown E3459 Site AR087 Danesfort 10*, IAC Ltd. Forthcoming.

Luff R. & Pearce J. (1994) 'The Taphonomy of Cooked Bone' in *Whither Environmental Archaeology*, Oxbow Books Ltd, Oxford.

Lyman R.L (1994) *Vertebrae Taphonomy*, Cambridge University Press

McCormick F. & Murray E. (2007) *Knowth and the Zooarchaeology of Early Christian Ireland*, Royal Irish Academy, Dublin.

McKinley, J.I. (2004) Compiling a Skeletal Inventory: Cremated Human Bone in Brickley, M. & McKinley J. I. (eds) *Guidelines to the Standards for Recording Human Remains*, 9–13, Southampton.

O'Connor T.P. (2000) *The Archaeology of Animal Bones*, Sutton.

Olsen P.S. (1988) 'Surface Modification on Bone: Trampling versus Butchery' in *Journal of Archaeological Science* 15, 535–559.

Reitz, E.J and Wing, E.S. (2008) *Zooarchaeology Second Edition*. Cambridge Manuals in Archaeology, Cambridge University Press.

Schmid, E. (1972) *Atlas of Animal Bones for Prehistorians, Archaeologists and Quaternary Geologists*. Amerstadam, London, New York, Elsevier Publishing.

Shaffer, B.S. & Sanchez, J.L.J (1994) Comparison of 1/8" and 1/4" mesh recovery of controlled samples of small-to-medium-sized mammals. *American Antiquity* 59 (3), 525–30.

Silver, I.A. (1969) 'The Ageing of Domestic Animals' in D.R. Brothwell and E. Higgs (eds.) *Science in Archaeology*, 283–302, London.

GLOSSARY OF TERMS:

BOS: Latin term for Cow

SUS: Latin term for Pig

CERVUS: Latin term for Deer

EQUUS: Latin term for Horse

OVIS: Latin term for Sheep

CAPRINAE: Latin term for Sheep/Goat

CANIS: Latin term for Dog

LEPUS: Latin term for Hare

AVES: Latin term for Bird

TAPHONOMY: The study of the processes affecting an organism after death from the time of burial until collection.

TRABECULAR BONE: Osseous tissues that fill the interior cavity of bones and resemble a sponge or honeycomb.

DIAPHYSIS: Bone shaft

CORPUS COSTAE: Body of Rib Bone

Bone Database:

Site Area	Spec	C	S	Taxa	Anat	Side	Prox	Dist	1	2	3	4	5	6	7	8	But	Bu	G	Q	W (g)	Comments
AR087 E3459	1	C8	6	Pig	Long Bone															3	0.43	3 poorly preserved long bone diaphysis fragments. Poss. Femur. Fragments poorly preserved.
AR087 E3459	2	C8	6	Pig	Rib					1										1	0.26	Thin and poorly preserved rib corpus costae. Fragment is 34mm long, 6mm & 2mm thick

Key:

C= Context

S=Sample

Anat=Anatomical Element

Q=Quantity of Pieces

But=Butchery

Bu=Burnt

G=Gnaw

B=Black

W (g) =Weight in grams

Unid=Unidentifiable

Taxa=Taxon

Dist=Distal

W=White

R=Rodent

Prox=Proximal

G=Grey

Appendix 2.6 Radiocarbon Dating Results – QUB Laboratory

The “Measured radiocarbon age” is quoted in conventional years BP (before AD 1950). The error is expressed at the one-sigma level of confidence.

The “Calibrated date range” is equivalent to the probable calendrical age of the sample material and is expressed at the two-sigma (95.4% probability) level of confidence

Calibration data set: intcal09.14c

Context	Sample No	Material	Species id/ Weight	Lab	Lab Code	Date Type	Calibrated date ranges	Measured radiocarbon age (BP)	13C/12C Ratio ‰
C12, Fill of a posthole	3	Seed	Barley / 0.04g	QUB	UBA 15559	AMS (Std)	155BC–AD3 (1 sigma), 184BC–AD56 (2 sigma)	2048±49	-22.2

References for calibration datasets:

PJ Reimer, MGL Baillie, E Bard, A Bayliss, JW Beck, PG Blackwell, C Bronk Ramsey, CE Buck, GS Burr, RL Edwards, M Friedrich, PM Grootes, TP Guilderson, I Hajdas, TJ Heaton, AG Hogg, KA Hughen, KF Kaiser, B Kromer, FG McCormac, SW Manning, RW Reimer, DA Richards, JR Southon, S Talamo, CSM Turney, J van der Plicht, CE Weyhenmeyer (2009) Radiocarbon 51:1111–1150.

Comments:

* This standard deviation (error) includes a lab error multiplier.

** 1 sigma = square root of (sample std. dev.² + curve std. dev.²)

** 2 sigma = 2 x square root of (sample std. dev.² + curve std. dev.²)

where ² = quantity squared.

[] = calibrated range impinges on end of calibration data set

0* represents a "negative" age BP

1955* or 1960* denote influence of nuclear testing C-14

Note: cal ages and ranges are rounded to the nearest year which may be too precise in many instances. users are advised to round results to the nearest 10 yr for samples with standard deviation in the radiocarbon age greater than 50 yr.

APPENDIX 3 LIST OF RMP IN AREA

RMP No	Description
KK023-048001	Enclosure
KK023-048002	Hut
KK023-049001	Enclosure
KK023-049002	Enclosure
KK023-049003	Enclosure
KK023-063	Enclosure
KK023-061	Enclosure
KK023-062001	Enclosure
KK023-062002	Cultivation Ridge
KK023-060001	Field System
KK023-060002	Linear Earthwork

See Figure 2 for location.

APPENDIX 4 LIST OF SITE NAMES

Site Name	Site Code	E Number	Director	NGR
Baysrath 2	AR055	E3627	Fintan Walsh	251593/137855
Baysrath 3	AR056	E3628	Fintan Walsh	251672/138000
Baysrath 4	AR057	E3629	Fintan Walsh	251515/138280
Danganbeg 1	AR058	E3606	Emma Devine	251462/138754
Danganbeg 2	AR059	E3607	Emma Devine	251397/138939
Danganbeg 3	AR060	E3671	Emma Devine	251430/139245
Danganbeg 4	AR061	E3676	Emma Devine	251401/139372
Knockadrina 1	AR062	E3677	Ed Lyne	251422/139420
Tinvaun 1	AR063	E3678	Ed Lyne	251482/139625
Tinvaun 2	AR064	E3680	James Kyle	251445/139736
Tinvaun 3	AR065	E3608	James Kyle	251501/139832
Tinvaun 4	AR066	E3609	James Kyle	251508/139917
Stonecarthy West 1	AR067	E3610	James Kyle	251538/140023
Knockadrina 2	AR068	E3611	James Kyle	251647/140237
Rathduff 1	AR069	E3612	Ed Lyne	251286/142167
Rathduff Upper 1	AR070	E3613	Ed Lyne	251280/142559
Kellsgrange 1	AR071	E3575	James Kyle	250911/143732
Kellsgrange 2	AR072	E3577	James Kyle	250967/143861
Kellsgrange 3	AR073	E3576	James Kyle	250948/144003
Ennisnag 1	AR074	E3614	Richard Jennings	251416/145690
Ennisnag 2	AR075	E3615	Richard Jennings	251638/146068
Danesfort 12	AR076	E3616	Richard Jennings	251669/146186
Danesfort 13	AR077	E3617	Richard Jennings	251765/146384
Danesfort 2	AR078	E3540	Richard Jennings	251953/146745
Danesfort 4	AR079	E3539	Richard Jennings	251880/147579
Danesfort 3	AR080A	E3542	Richard Jennings	252221/146845
Danesfort 1	AR080B	E3541	Richard Jennings	252267/146707
Croan 1	AR081	E3543	Emma Devine	252280/147332
Danesfort 5	AR082	E3546	Emma Devine	252567/147767
Danesfort 6	AR083	E3538	Emma Devine	252764/147995
Danesfort 7	AR084	E3537	Emma Devine	252878/148099
Danesfort 8	AR085	E3461	Richard Jennings	253020/148246
Danesfort 9	AR086	E3468	Richard Jennings	253089/148345
Danesfort 10	AR087	E3459	Richard Jennings	253229/148414
Danesfort 11	AR088	E3460	Richard Jennings	253245/148462
Rathclogh 1	AR089	E3726	Patricia Lynch	253365/145515
Rathclogh 2	AR090	E3727	Patricia Lynch	253650/148848
Kilree 1	AR091	E3728	Patricia Lynch	254088/149310
Kilree 2	AR092	E3729	Patricia Lynch	254320/149500
Kilree 3	AR093	E3643	Patricia Lynch	254449, 149639
Kilree 4	AR094	E3730	Patricia Lynch	255330/150084
Dunbell Big 2	AR095	E3853	Yvonne Whitty	256684/151066
Holdenstown 1	AR096	E3681	Yvonne Whitty	256737/151253
Holdenstown 2	AR097/98	E3630	Yvonne Whitty	256891/151781
Holdenstown 3	AR099	E3854	Yvonne Whitty	256990/152085
Holdenstown 4	AR100	E3682	Yvonne Whitty	256828/152048
Dunbell Big 1	AR101	E3855	Yvonne Whitty	257034/152315
Rathcash 1	AR102	E3859	Tim Coughlan	258178/154199
Rathcash 2	AR103	E3860	Tim Coughlan	258294/154293
Rathcash East 1	AR104	E3892	Tim Coughlan	259419/154546
Rathcash East 2	AR105	E3893	Tim Coughlan	259555/154566
Rathcash East 3	AR106	E3861	Tim Coughlan	259821/154653
Blanchvillespark 1	AR107	E3894	Richard Jennings	260535/155212

Site Name	Site Code	E Number	Director	NGR
Blanchvillespark 2	AR108	E3895	Tim Coughlan	260637/155449
Blanchvillespark 3	AR109	E3913	Tim Coughlan	260785/155653
Blanchvillespark 4	AR110	E3914	Tim Coughlan	261442/156269
Blanchvillespark / Ballyquirk 1	AR111	E3862	Ruth Elliott	261531/156323
Ballyquirk 1	AR112	E3863	Ruth Elliott	261531/156323
Ballyquirk 2	AR113	E3864	Ruth Elliott	261811/156508
Ballyquirk 3	AR114	E3865	Ruth Elliott	261875/156559
Ballinvally 1	AR115	E3836	Emma Devine	263258/157521
Garryduff 1	AR116	E3852	Emma Devine	263933/157991
Kilmacahill 1	AR117	E3915	Tim Coughlan	264267/158369
Kilmacahill 2	AR118	E3833	Tim Coughlan	264380/158453
Jordanstown 1	AR119	E3834	James Kyle	264546/158643
Jordanstown 2	AR120	E3851	James Kyle	264893/159038
Kellymount 6	AR121	E3758	Przemaslaw Wierbicki	265130,159277
Jordanstown 3	AR122	E3916	Przemaslaw Wierbicki	265103/159227
Kellymount 1	AR123	E3756	Przemaslaw Wierbicki	265250/159397
Kellymount 2	AR124	E3757	Przemaslaw Wierbicki	265164/159463
Kellymount 3	AR125	E3856	Przemaslaw Wierbicki	265338/159597
Kellymount 4	AR126	E3857	Przemaslaw Wierbicki	265412/159803
Kellymount 5	AR127	E3858	Przemaslaw Wierbicki	265530,159977
Shankill 2	AR128	E3738	Richard Jennings	265924/160651
Shankill 3	AR129	E3737	Richard Jennings	266052/161141
Shankill 4	AR130	E3838	Richard Jennings	266286/161526
Shankill 5	AR131	E3850	Richard Jennings	266374/161730
Shankill 6	AR132	E3840	Richard Jennings	266403/161836
Moanmore 1	AR133	E3835	Richard Jennings	266476/162016
Moanmore 2	AR134	E3843	Sinead Phelan	266756/162866
Moanmore 3	AR135	E3837	Sinead Phelan	266856/163259
Bannagagole 1	AR136	E3844	Sinead Phelan	266942/163569
Moanduff 1	AR137	E3839	Robert Lynch	267261/164397
Coneykeare 1	AR138	E3683	Sinead Phelan	267836/166209
Coolnakisha 1	AR139	E3768	Ellen O'Carroll	268175/167274
Coolnakisha 2	AR140	E3767	Ellen O'Carroll	268306/167559
Cranavonane 1	AR141	E3842	Tim Coughlan	268554/167895
Cranavonane 2	AR142	E3732	Ellen O'Carroll	268830/168154
Cranavonane 3	AR143	E3731	Ellen O'Carroll	269123/168362
Tomard Lower 1	AR144	E3733	Ellen O'Carroll	269349/168496
Paulstown 1	AR145	E3642	Ruth Elliot	265889/158499
Paulstown 2	AR146	E3632	Ruth Elliot	265664/158651
Rathgarvan or Clifden 1	AR147	E3760	Przemaslaw Wierbicki	257026/154123
Maddockstown 1	AR148	E3759	Przemaslaw Wierbicki	256886/154199
Templemartin 3	AR149	E3845	Emma Devine	255095/155200
Templemartin 4	AR150	E3841	Emma Devine	254920/155427
Templemartin 5	AR151	E3846	Emma Devine	254706/155636
Templemartin 1	AR152	E3849	Emma Devine	254504/155826
Templemartin 2	AR153	E3847	Emma Devine	254173/156236
Leggetsrath East 1	AR154	E3734	Emma Devine	253793/156484
Moanduff 2	AR155	E3735	Sinead Phelan	267470/164887
Moanduff 3	AR156	E3736	Sinead Phelan	267515/164979
Ballyquirk 4	AR157	E3848	Richard Jennings	262596/157025
Shankill 1	AR158	E3766	Przemaslaw Wierbicki	265707/160269
Rathgarvan or Clifden 2	AR159	E3921	Tim Coughlan	257095/154119
Ballynolan 1	AR160	E3755	Sinead Phelan	267714/165597
Rathduff Upper 3	UA2	E3974	Tim Coughlan	250991/143565
Rathduff Bayley	UA4	E4011	Tim Coughlan	251005/143564