



N6 KINNEGAD – ATHLONE SCHEME PHASE 2: KILBEGGAN TO ATHLONE DUAL CARRIAGEWAY

SITE A016/070; E2698: KILGARROAN 2

FINAL REPORT

ON BEHALF OF WESTMEATH COUNTY COUNCIL

7 AUGUST 2009

IAC Irish Archaeological
Consultancy

PROJECT DETAILS

Project Reference No.	WH/00/112
Project	N6 Kinnegad–Athlone Road Scheme: Phase 2, Kilbeggan–Athlone Dual Carriageway
Ministerial Direction Reference No.	A016/070
NMS Registration Number	E2698
Excavation Director	David Bayley
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Client	Westmeath County Council
Site Name	Kilgaroan 2
Site Type	Early Medieval Burnt Spread and Pits
Townland	Kilgaroan
Parish	Horseleap or Ardnurcher
County	Westmeath
NGR (Easting)	E230790
NGR (Northing)	N235748
Chainage	26340–26380
Height m OD	73.2m OD
RMP No.	N/A
Excavation Start Date	31 March 2006
Excavation Duration	3 days
Report Type	Final
Report Date	7 August 2009
Report By	David Bayley

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This report has been prepared by Irish Archaeological Consultancy Ltd on behalf of Westmeath County Council and the National Roads Authority in advance of the construction of the N6 Phase 2: Kilbeggan to Athlone Dual Carriageway Scheme.

The excavation was carried out in accordance with the Directions of the Minister for the Environment, Heritage and Local Government (DOEHLG), in consultation with the National Museum of Ireland (NMI) issued under Section 14 of the National Monuments Acts 1930–2004.

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ABSTRACT

Irish Archaeological Consultancy Ltd (IAC), funded by Westmeath County Council (WCC) and the National Roads Authority (NRA), undertook an excavation in the townland of Kilgaroan at the site of Kilgaroan 2 in advance of the proposed N6 Phase 2: Kilbeggan to Athlone Dual Carriageway Scheme (Figure 1). The following report describes the final results of archaeological fieldwork at that site. The area was fully excavated by David Bayley under Ministerial Direction (A016/070) and Registration Number E2698 issued by the DOEHLG in consultation with the National Museum of Ireland. The fieldwork took place between 31 March and 4 April 2006.

The site of Kilgaroan 2, a total excavated area of 50m by 15m (750m²), comprised part of a burnt spread (2.6m x 2.3m x 0.1m deep) and four pits, three of which were sealed by the burnt spread. One of the fills (C5) of pit C4 produced a 2 Sigma calibrated date of AD 894–1016 dating this feature to the early medieval period.

The burnt mound and associated material was only partially excavated as the remainder of the feature lay outside the CPO line of the development. There was no evidence of a hearth or a definitive trough.

No artefacts were recovered during the course of the excavation.

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1 INTRODUCTION

1.1 General

This final archaeological report describes the results of the excavation carried out at the site of Kilgaroan 2 in the townland of Kilgaroan, Co. Westmeath (Figure 1 and 2) as part of an archaeological mitigation programme associated with the N6 Phase 2: Kilbeggan to Athlone Dual Carriageway Scheme. Archaeological fieldwork was carried out under ministerial direction by David Bayley of Irish Archaeological Consultancy Ltd. (IAC Ltd.) and was funded by WCC & NRA under the National Development Plan 2000–2006, 2007–2013 and the EU Structural fund.

Kilgaroan 2 was identified as a result of archaeological assessment undertaken by IAC Ltd. in August 2005 (Ministerial Direction No. A016/029, NMS Number E3273). All features identified during the assessment phase (two pits and a burnt spread) were subsequently re-identified and the site was fully excavated during the resolution phase of the project which took place between 31 March and 4 April 2006 with a crew of 1 director, 1 supervisor and a maximum of 12 site assistants.

The site was located c. 50m from the northeast field boundary in boggy pastureland at a height of 73.2m OD, c. 0.6km south of the current N6, c. 2km southwest of Kilbeggan (Westmeath OS sheets 37). Kilgaroan 2 had not been previously identified and was not a recorded monument.

The site was assigned the following identification data:

Site Name: Kilgaroan 2; Ministerial Direction No.: A016/070; NMS Registration No.: E2698; Route Chainage (Ch): 26340–26380; NGR: 230790/235748.

1.2 Proposed Development

The proposed N6 Kinnegad–Athlone Scheme is to be constructed in two phases. The Phase 2 Kilbeggan–Athlone scheme will consist of a dual carriageway that will run for a distance of approximately 29km. The location of the route is predominantly to the south of the existing N6 and there will be access to the local road network through the seven grade separated junctions located at Athlone, Farnagh, Moate and Kilbeggan. The cross-section of the mainline consists of 2m wide verges, 2.5m wide hard shoulders, 7m wide two-lane carriageways and a 3m wide central reserve. This central reserve will accommodate 1m hard strips and a safety barrier. In addition to the mainline dual carriageway there is a further 0.3km of standard dual carriageway to the south of Athlone Interchange to connect to the existing N6 and 1.2km to the south of Kilbeggan Interchange to connect to the existing N52.

1.3 Archaeological Requirements

The archaeological requirements for the N6 Kilbeggan to Athlone Dual Carriageway Scheme, are outlined in the Ministerial Directions issued to Westmeath 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 Westmeath 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 Kilbeggan South, Co. Westmeath and Creggan Lower, Co. Westmeath.

The proposed N6 was subjected to an Environmental Impact Assessment, the archaeology and cultural history section of which was carried out by Sheila Lane and Associates and presented in 2003. The Record of Monuments and Places, the Sites

and Monuments Record, Topographical files, aerial photography, the Westmeath Archaeological Urban Survey and literary sources were all consulted. One phase of geophysical survey was also conducted at selected sites along the proposed route by Target Archaeological Geophysics. As a result of the paper survey, field inspections and geophysical survey, a number of potential sites were recorded in proximity to this section of the overall route alignment.

Advance archaeological testing was completed by IAC Ltd and excavation of the sites identified during testing was conducted by IAC Ltd on behalf of Westmeath County Council.

1.4 Methodology

The topsoil was reduced to the interface between natural subsoil 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 features were subsequently fully excavated by hand and recorded using the single context recording system with plans and sections being produced 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.

An environmental strategy was devised at the beginning of the excavation. Features exhibiting large amounts of carbonised material were the primary targets.

In the instances where artefacts were uncovered on site they were dealt with in accordance with the guidelines as issued by the NMI and where warranted in consultation with the relevant specialists. All artefacts, ecofacts and paper archive are currently stored in IAC offices, Lismore, Co Waterford and will ultimately be deposited with the National Museum of Ireland.

Radiocarbon dating of the site was carried out by means of AMS (Accelerator Mass Spectrometry) dating of identified and recommended charcoal samples. All calibrated AMS dates in this report are quoted to 2 Sigma.

All excavation and post excavation works were carried out in consultation and agreement with the Project Archaeologist, the National Monuments Section of the DOEHLG and the National Museum of Ireland.

2 EXCAVATION RESULTS

The early medieval burnt spread and four pits, three of which were sealed by the burnt spread, constituted the main phase of activity identified at Kilgaroan 2. Only half of the mound lay within the CPO line of the development. The remainder lay outside the development area and was not excavated.

Detailed descriptions of contexts are listed in Appendix 1. The site matrix is detailed in Figure 6.

2.1 Phase 1: Natural Drift Geology

The dominant bedrock geology identified along the corridor of the proposed route are Lower Carboniferous rocks, mainly limestone lithologies, which overlay Devonian Old Red Sandstone rocks. Carboniferous volcanic rocks were also identified as being present locally in the form of sills passing through the bedrock sequences (Riada Consult, 2003). The underlying geology of the area is overlain by occasional moraines and small glacial hillocks covered by grey brown podzolic soils.

The subsoil C2 above bedrock encountered at Kilgaroan 2 was uniform across the site and consisted of grey marl.

2.2 Phase 2: Primary Archaeological Activity

2.2.1 Pit C4

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
4	N/A	1	0.75	0.12	Irregular cut with flat base	Cut of shallow pit
5	C4	0.61	0.75	0.12	Mid grey clayey silt	Fill of pit
8	C4	0.67	0.75	0.08	Light grey mottled clay	Fill of pit

Finds: None

Interpretation:

Shallow pit C4 was located to the southwest of the burnt spread and the other pits on site (Figures 4 and 5). It contained two fills (C5 and C8) which represent natural backfill/slumping into the shallow feature. This pit was the only pit on site that was not sealed by burnt spread C3. The function of the pit is unknown although it is assumed it is directly associated with the other archaeological features on the site given its proximity to them. A small piece (0.3g) of hazel charcoal (O'Carroll, Appendix 2.1) recovered from C5 was sent for AMS dating. This sample returned a date of 1084 +/- 30 BP (UBA 8620, Appendix 2.2). The 2 Sigma calibrated result for this sample produced a date of AD 894–1016, dating the pit to the early medieval period. Analysis of the charcoal recovered from C5 identified willow, oak, hazel, pomoideae and ash. The range of taxa suggests the wood selection was in relation to firewood used at the site. Insect holes were present in some of the charcoal remains, which indicate dead or rotting wood. The presence of willow among the taxa indicates that the area of Kilgaroan was a wetland area as willow is symptomatic of a wetter environment (O'Carroll, Appendix 2.1).

2.2.2 Pit C6

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
6	N/A	1.05	0.85	0.16	Sub-circular pit cut with concave base	Cut of pit
7	C6	1.05	0.85	0.16	Grey brown silty clay	Natural silting of pit

Finds: None

Interpretation:

Small pit C6 contained a single fill (Figures 4 and 5; Plate 1 and 6) which represented natural silting of material into the cut. The function of the pit is unknown. It was sealed by burnt spread C3 and is probably related to the activity that created the burnt spread.

2.2.3 Pit C12

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
12	N/A	1.5	N/A	0.51	Oval cut with concave base	Cut of pit
13	C12	0.7	N/A	0.51	Dark grey clay	Fill of pit-natural silting
14	C12	0.79	N/A	0.51	Dark brown clay with moderate burnt stone	Fill of pit

Finds: None

Interpretation:

Pit C12 was an oval pit that contained two fills C13 and C14 (Figure 4 and 5; Plate 2 and 4). The two fills were divided vertically in section, which suggests that the pit was sub-divided while in use. Fill C13 represented natural silting of the feature while C14 comprised burnt mound material similar to C3. It was sealed by burnt spread C3 and is probably related to the activity from which the burnt spread derived.

2.2.4 Pit C9

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
9	N/A	1.1	N/A	0.52	Oval cut with a flat base	Cut of pit
10	C9	0.86	N/A	0.16	Grey sandy clay	Natural silting
11	C9	0.94	N/A	0.36	Grey clay with moderate stone inclusions	Natural silting

Finds: None

Interpretation:

Pit C9 was the largest feature on site (Figure 4 and 5; Plate 3 and 4). It contained two fills C10 and C11, both of which were natural silting of the feature. The function of the pit is unknown, but it was sealed by burnt spread C3 and is probably related to the activity that created the burnt spread.

2.3 Phase 3: Secondary Archaeological Activity

2.3.1 Burnt Spread C3

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
3	N/A	2.6	2.3	0.1	Sub-circular burnt spread	Burnt spread

Finds: None

Interpretation:

This burnt spread comprised dark brown/black silty clay with frequent inclusions of heat affected stone (Figure 4 and 5; Plate 1). The spread overlay pits C6, C9 and C12, but did not fill them. The shallow depth of the spread could indicate that it was disturbed after the abandonment of the site.

2.4 Phase 4: Topsoil

2.4.1 Topsoil

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
1	N/A	N/A	N/A	0.35	Mid brown sandy clay	Topsoil

Finds: None

Interpretation:

Phase 4 represents the topsoil that sealed all of the archaeological deposits and features at Kilgaroan 2. The topsoil had a depth of c. 0.35m.

3 SYNTHESIS AND DISCUSSION

3.1 Landscape Setting

The new route of the N6 runs from south of Kilbeggan town to east of Athlone Co. Westmeath, crossing through the northern part of Co. Offaly for approximately 7.5km of its entire length. The landscape of this area is comprised of generally flat to undulating terrain. The underlying geology of the area is dominated by carboniferous limestone and is overlain by occasional glacial features such as moraines and eskers. The eskers dominate to the north and south of most of the route, with moraines featuring along parts of the western section toward Athlone. The soil cover varies considerably across the scheme, passing through soil complexes, grey brown podzols, boglands and alluvial deposits. The area is drained by the River Shannon through its tributaries, the Brosna, Boor, Cloghatanny and Gageborough rivers.

The site at Kilgaroan 2 was located 2.5km west of Kilbeggan town in a boggy field (73.2m OD). The underlying geology of the area is carboniferous limestone, which is overlain with occasional small glacial hillocks, forming a gently undulating low-lying landscape. Soil cover in this area consists of grey brown podzolics of the Patrickswell series. On the 6" OS map (1834–1842) the area is marked as been marshy and rock outcrops were noted 300m south of the site. No rivers or streams noted nearby, however a spring/well was situated 200m north of the site (6" OS map 1834–1842) indicating that the area had a high water table.

3.2 Archaeological Landscape

The early medieval landscape

From east to west the N6 passes in proximity to the towns of Kilbeggan, Clara, Moate and Athlone. This stretch of landscape corresponds with a probable medieval routeway leading from the secular hub of Kilbeggan to that of Athlone, which is thought by some to represent the *Slighe Mhór* (O Lochlainn 1940, 471).

Kilbeggan, or *Cill Bheagáin*, derives its name from St Beccan who was associated with the town in the sixth century AD (McCormack 2006, 5). The site of St Beccan's monastery occupies the vicinity of the current graveyard and Protestant Church in the town. A later monastery was constructed by the Cistercians, close to Saint Beccan's site, in AD 1150 (Masterson 2004). Both of these monastic foundations lay in proximity to the River Brosna and it is likely that the town developed from this point. A number of recorded RMP sites testify to early medieval monastic activity in Kilbeggan and include an ecclesiastical site (WM038-017001), graveyard (WM038-017002) and church (WM038-017006). A recent geophysical survey has identified the footprint of the Cistercian monastery and excavations nearby have revealed a large cemetery (possibly of early medieval date) a cereal-drying kiln, pits and ditches (Hayden 2003; Sweetman 2004). A significant excavation, c. 5km to the north of Kilbeggan, at Gneevebeg uncovered an enclosed cemetery of probable early medieval date in addition to cereal-drying kilns, a bullaun stone and a number of pits and ditches (Wallace 2002).

The north midlands, through which the N6 traverses, is described by Stout (1997, 77) as having a high-density of ringforts and enclosures. A number of enclosure sites (OF008-006) and possible enclosures (OF008-005 & OF008-014) are recorded within the small town of Clara, Co. Offaly; some of which may represent early medieval ringforts. Excavations at Ballicknahee, near Clara, revealed at least 17 extended inhumation burials of possible early medieval date (Murphy 1998). Research undertaken to study the regional distribution of ringforts in the barony of Kilcoursey, Co. Offaly has revealed a high density of ringforts in the area with 0.41

per km squared (Stout 1998, 33). Kilcoursey is the smallest barony in Offaly and the only one in the county to be impacted upon by the N6. Excavations at Cappydonnell Big (Coughlan 2009a) have revealed a large multi-period enclosure located in proximity to several ringforts at Ballynakill Big (OF002-023, OF002-032 & OF002-033) to the south and at Kilbeg (WM037-001 & WM037-004) to the east.

An early medieval enclosure was excavated at Moyally 1 (Bayley 2009a) 400m south of a ringfort (WM030-115) and near two enclosures (WM030-114 and OF001-005), indicating a continuance of settlement and activity c. 2km southeast of Moate. The nearest recorded early medieval monument at Moate, Co. Westmeath is a ringfort to the west at Tullaghnageeragh (WM030-108), however the sites in closest proximity are castles dating to the later medieval period. As Moate develops into a settlement of status in the later medieval period it is thought that there must have been a preceding focus of activity here during the early medieval of possible ecclesiastical origin due to the presence of a bullaun stone (WM030-117) and burial ground (WM030-113).

The largest of the towns along the N6, Athlone, is situated on the banks of the River Shannon in Co. Westmeath. By the ninth century AD the territory to the immediate west of Athlone was occupied by the *Delbna Nuadat* and the region to the east was inhabited by a vassal tribe of the southern *Uí Néill* called the *Bregmine* who gave title to the barony of Brawny (Murtagh 2000, 9). Archaeological evidence in the form of five decorated grave slabs, dating between the middle eighth to tenth centuries, indicates that an unrecorded ecclesiastical site was situated in Athlone at this time (Murtagh 2000, 11). Athlone is associated with a battle in AD 894 between the Connachtmen and the men of Meath meanwhile Lough Ree, to the north, was repeatedly the focus of Viking activity between AD 922 and 937 (*ibid.*). Little is known about the development of Athlone west of the Shannon but the surviving castle, probably constructed in the 13th century, was possibly built on the site where the castle of the *Uí Conchobhair* stood in the early 12th century (Sullivan 1997); of which the precise location is unknown (Murtagh 2000, 13). Recent excavations in Athlone have failed to locate any trace of early medieval activity; instead they have revealed later activity dating mainly to the late middle ages and post medieval period.

The Hill of *Uisneach* located c. 14km to the NNW of Kilbeggan is often referred to as a central axis point or place of assembly of high importance, due to its location in *Mide* (Schot 2006, 41). During the early medieval period it was thought to hold contemporary significance with Tara and many mythological and annalistic tales refer to the area as one of territorial and spiritual consequence. Reanalysis of the excavations undertaken by MacAlister and Praeger in the 1920s at Rathnew, a figure of eight shaped enclosure at the Hill of *Uisneach*, has highlighted activity during the late Iron Age and early medieval period. It has been suggested that the conjoined bivallate ringfort with associated structures and souterrain may have functioned as a royal seat of the *Clann Cholmáin* further adding to the political and religious significance of this landscape (*ibid.* 65).

Crannógs also feature significantly in this region and include those excavated by Hugh Hencken during the 1920s at Ballinderry I, Co. Westmeath (Hencken 1936) and Ballinderry II, Co. Offaly (Hencken 1942), located c. 2km northeast and ENE respectively from Moate. Recently, the excavated evidence from both crannógs has been reinterpreted by Ruth Johnson (1999) at Ballinderry I and Conor Newman (2002) at Ballinderry II. These crannógs are centrally located in relation to many important early medieval ecclesiastical centres, such as Clonmacnoise, Gallen, Bealin, Durrow, Rahan and Inchbofin (Johnson 1999, 24).

Ballinderry I, located in the barony of Clonlunan, has been interpreted as a high status early medieval site with evidence for craft working, agriculture, trade, hunting or warfare and domestic and leisure activities (Johnson 1999). The tenth century Ballinderry game-board is thought to be the most striking piece of decorated wood of this period found outside Dublin and certainly adds to the significance of the settlement. The artefactual evidence for Hiberno-Scandinavian influence at Ballinderry I is strong and it has been suggested that this may be associated with a rise in the military and economic strength of the *Clann Cholmáin* in the region (Johnson 1999, 67). Newman's reassessment of the early medieval activity at Ballinderry II, located in the barony of Kilcoursey, revealed evidence for high status deer hunting, killing and feasting (Newman 2002). The abundance of deer bone and antler in the faunal assemblage and presence of c. 11 circular wicker structures are associated with numerous high quality artefacts dating to the sixth and seventh centuries. Artefacts including pins with zoomorphic design, sherds of E ware and gaming pieces indicate possible trade with northern Europe (Newman 2002, 111).

A more recent excavation of a crannóg was undertaken at Newtownlow, in the barony of Moycashel a short distance to the northeast of Kilbeggan (Bourke 1984, 1985). At Coolure, on Lough Derravaragh also within the barony of Moycashel, a crannóg was the focus of a recent archaeological survey, environmental investigation and artefactual and landscape research (O'Sullivan *et al* 2007). Historically, the impact of the Vikings in the region and specifically on Lough Ree is well summarised by Alfred Smyth (1979, 246–53). Ballaghkeeran Little, in the barony of Clonlunan, has been suggested as the location of a possible *longphort* site (Fanning 1983).

Excavations of ecclesiastical sites are rare in the archaeological record but a monastic enclosure was partially excavated at Clonfad, Co. Westmeath (Stevens 2006, 8–11). The findings revealed that a variety of industrial and craft activities occurred on the site including extensive evidence for ironworking and non-ferrous metalworking, notably the production of handbells, and bone working. Another ecclesiastical site excavated at Kilpatrick, located in the most northern barony of Westmeath in Fore, also revealed evidence for bone, antler and ironworking (Swan 1976, 89–96; 1994/95, 1–21).

Although brief, this discussion attempts to illustrate that the early medieval landscape of the N6 route was comprised of a series of important well organised secular settlements interspersed with ecclesiastical centres; all of which were linked through established routeways. This region, bordering Connaught and Leinster, has been shaped by activities associated with recurrent struggles for both territory and power which continued well into the later medieval period.

Kilgaroan 2

Kilgaroan 2 consisted of a potential burnt mound spread and some early medieval pits. It appears that the burnt mound was disturbed and re-deposited across the site. The only dated feature was an early medieval pit. A number of various components of burnt mound sites were also excavated in advance of the N6 within the townland of Kilgaroan. Kilgaroan 4 consisted of disturbed pockets of burnt mound spread, a potential trough – that was filled with burnt mound type fill – and some pits. Three evenly spaced postholes to the west of the trough may have supported a windbreak and one of the pits, again filled with burnt mound type material, produced a 2 Sigma date of 2023–1894 BC placing the site in the early Bronze Age (Bayley 2008b). A much later isolated pit – unrelated to the burnt mound activity – was dated to the latter part of the early medieval period. An undated linear burnt mound spread was also revealed at Kilgaroan 6 (Lynch 2009a).

A number of burnt mound sites were also excavated in close proximity to Kilgaroan townland to the west. At Correagh 1, approximately 1km away, a burnt mound sealed a timber-lined trough, a possible trough and pits (Lynch 2009b). Elsewhere on the site, another burnt mound had been disturbed and was spread across the site and excavations revealed a further timber-lined trough, with two large posts at its east and west sides, a possible trough and pits (*ibid.*). Radiocarbon determinants from various features returned early and middle Bronze Age dates. A large number of burnt mound sites were revealed immediately west of Correagh in the townland of Kilbeg. Kilbeg 7 (McManus 2009), approximately 1km away, was the closest to Kilgaroan 2 while Kilbeg 1 (Coughlan 2009b) was the furthest away approximately 3km to the west.

The Kilbeg sites constituted a variety of burnt mounds and their various components which were variously dated to the early, middle and later phases of the Bronze Age. Kilbeg 1 and 2 represented burnt mound sites at their simplest. The former consisted of burnt mound material that overlay a shallow trough (Coughlan 2009b), while the latter was a burnt mound without any associated features (Walsh 2009a). They were dated to the late and early Bronze Age respectively. More complex examples of burnt mound sites were found at Kilbeg 5, 6 and 7. At Kilbeg 5, two large burnt mounds were each associated with a number of pits and troughs. Mound 1 sealed a circular trough and a possible structure that was defined by a number of postholes and a hearth. A second isolated trough was also revealed. Mound 2 sealed a trough with stakeholes and a second trough contained a gully at its southern end (Walsh 2009b). Kilbeg 6 consisted of a large burnt mound that sealed a trough with oak plank lining and a number of other pits and possible troughs (Lyne 2009), while another large burnt mound, that sealed a wood-lined trough (with *in-situ* upright supports), was revealed at Kilbeg 7 as well as a brushwood deposit area and a roasting pit (McManus 2009). The latter two sites were both dated to the early Bronze Age while Kilbeg 5 was utilised during the middle and later Bronze Age. Finally, Kilbeg 3/4 represented the most complex of all the Kilbeg burnt mound sites as seven large burnt mounds with associated troughs, hearths and pits were revealed. Some troughs were wood-lined and others contained curvilinear gullies. There was also evidence of structures directly associated and sometimes sealed by the burnt mounds (Walsh 2009c). These features were variously in use during the early and middle Bronze Age and four, of the six, Kilbeg burnt mound sites were in contemporaneous use during the early Bronze Age.

A number of excavations in advance of the N6 to the southeast of Kilgaroan 2 also revealed burnt mound sites. Ballinderry Big 1 was located approximately 2km away and consisted of a burnt mound with associated trough and pits (Lynch 2009c). The trough contained postholes as well as slots and was probably previously timber-lined. A number of radiocarbon dates from the site place it in the early Bronze Age. Tonaphort 1 – directly east of Ballinderry Big – consisted of a burnt spread, associated trough and isolated pits. The trough contained four postholes – one in each corner – and there was also a single timber on its floor. One of the pits returned an early Bronze Age date of 2296–2029 BC (2 Sigma) while the trough was a later feature as one of the posthole fills was dated to 1499–1301 BC (2 Sigma) (Coughlan 2009b). Kilbeggan South 2 was approximately 3km to the southeast of Kilgaroan 2 and consisted of a small burnt spread, possible trough and pits (Coughlan 2009c). All of the pits – one of which was dated to the early Bronze Age – were filled with heat-scorched stones and it is likely that this was a disturbed burnt mound site.

The vast majority of burnt mound sites date to the Bronze Age and were most commonly utilised during the middle and later parts of the period (Brindley *et al* 1989/90; Corlett 1997). The burnt mound component of the site at Kilgaroan 2 was

undated but it is likely that it belonged to the Bronze Age based on previously dated burnt mound sites and the proximity of a number of Bronze Age burnt mound sites on the scheme.

To conclude, the burnt mound site at Kilgaroan 2, although much later in date, is paralleled by a number of similar sites that were revealed along the N6 between Athlone and Kilbeggan. The presence of a number of burnt mounds in Kilgaroan townland is replicated in other townlands, for example, at Cregganmacar, Burrow or Glennanummer and Kilbeg and this was also evident at Newtown (Stevens 2004a, 2004b, 2004c) and Enniscoffey/Caran (Molloy 2007a, 2007b, 2007c, 341–2), during excavations in other parts of Co. Westmeath. Archaeological investigation on other sections of the N6 has also uncovered various burnt mound sites, for example at Stonehousefarm 6.1 and 6.2 (McDermott 2004).

3.3 Archaeological Typology Background (Burnt Spreads/Mounds)

Burnt mound/spread sites are one of the most common field monuments found in the Irish landscape. The last published survey (Power *et al.* 1997), carried out over a decade ago, recorded over 7000 burnt mound sites and in excess of 1000 sites have been excavated in recent years through development led archaeological investigations. In spite of this no clear understanding of the precise function of these sites has been forthcoming.

Burnt mound sites are typically located in areas where there is a readily available water source, often in proximity to a river or stream or in places with a high water table. In the field burnt mounds may be identified as charcoal-rich mounds or spreads of heat shattered stones, however, in many cases the sites have been disturbed by later agricultural activity and are no longer visible on the field surface. Nevertheless even disturbed spreads of burnt mound material often preserves the underlying associated features, such as troughs, pits and gullies, intact.

Ó Néill (2003–2004, 82) has aptly identified these sites as the apparatus and by-product of pyrolithic technology. This technology involved the heating or boiling of water by placing fire-heated stones into troughs of water. Small shallow round-bottomed pits, generally referred to as pot boiler pits or roasting pits, are often associated with burnt mound sites. The purpose of these pits remains unclear. Occasionally large pits are also identified and may have acted as wells or cisterns. Linear gullies may extend across the site, often linked to troughs and pits, and demonstrate a concern with on-site water management. Post and stakeholes are often found on burnt mound sites and these may represent the remains of small structures or wind breakers.

Burnt mound sites are principally Bronze Age monuments and reach their pinnacle of use in the middle/late Bronze Age (Brindley *et al.* 1989–90; Corlett 1997). Earlier sites, such as Enniscoffey Co. Westmeath (Grogan *et al.* 2007, 96), have been dated to the Neolithic and later sites, such as Peter Street, Co. Waterford (Walsh, 1990, 47), have been dated to the medieval period. Thus although burnt mound sites generally form a component of the Bronze Age landscape, the use of pyrolithic technology has a long history in Ireland.

Although there is a general consensus that burnt mound sites are the result of pyrolithic technology for the heating or boiling of water, the precise function of these sites has, to date, not been agreed upon. Several theories have been proposed but no single theory has received unanimous support. The most enduring theory is that burnt mound sites were used as cooking sites. O'Kelly (1954) and Lawless (1990) have demonstrated how joints of meat could be efficiently cooked in trough of boiling

water. The use of burnt mound sites for bathing or as saunas has been suggested as an alternative function (Lucas 1965, Barfield and Hodder 1987, O' Drisceoil 1988). This proposal is largely influenced by references in the early Irish literature to sites of a similar character and is very difficult to prove, or disprove. Others, such as Jeffrey (1991), argue that they may have been centres of textile production for the fulling or dyeing of cloth. More recent demonstrations by Quinn and Moore (2007) have shown that troughs could have been used for brewing, however, this theory has been criticised by leading Irish environmentalists due to the absence of cereal remains from most burnt mound sites (McClatchie *et al.* 2007).

3.4 Discussion

3.4.1 Phase 1: Natural deposits

This phase represents the natural subsoil, which was cut or sealed by all subsequent archaeological features. For the purposes of recording on site this phase of activity was allocated the context number C2. At the site of Kilgaroan 2 the subsoil was uniform throughout consisting of a grey marl.

3.4.2 Phase 2: Primary Archaeological Activity

Phase 2 represents four pits, three of which were sealed by the burnt spread material. The pits are thought to be related to one another, given their proximity to each other. Neither a definite trough nor a hearth was identified on site, but as only part of the burnt spread was excavated, with the remainder lying outside the CPO line, these features may survive outside the site. AMS radiocarbon dating of a small piece of hazel charcoal recovered from the pit C4, which wasn't sealed by the burnt spread, produced a 2 Sigma calibrated date of AD 894–1016 (UBA 8629, Appendix 2.2), which dates this feature to the early medieval period. Analysis of charcoal recovered from fill C5 of pit C4 identified willow, oak, hazel, pomoideae and ash. As willow trees and shrubs are generally found growing near wetland areas and are symptomatic of a wetter environment, it indicates that the site was situated in a wetland environment (Appendix 2.1).

Pit C4 contained a variety of charcoal species. Insect holes were present in some of the charcoal remains, which indicate dead or rotting wood. This suggests that this is representative of wood which was collected for firewood to be used at the site (O'Carroll, Appendix 2.1).

3.4.3 Phase 3: Secondary Archaeological Activity

Phase 3 represents a burnt spread that sealed three of the four pits in phase two. It is possible that the shallow depth of the burnt spread indicates that it was disturbed during recent land improvement works such as land levelling.

Phase 2 and 3 Landscape

The date returned for the activity at Kilgaroan 2 is almost identical to a date returned from an isolated pit at the eastern end of Kilgaroan 4 (Bayley 2009b), which was located c. 120m to the southeast. This pit was a possible hearth and could be associated with the activity at Kilgaroan 2.

Of the other sites in Kilgaroan townland, Kilgaroan 3 (Bayley 2009c), which was located c. 20m to the southeast of Kilgaroan 2, returned a late medieval date that was close to a date returned for a charcoal production kiln at Kilgaroan 1 (Bayley 2009d), which was located c. 30m to the west of Kilgaroan 2. Another pit at Kilgaroan 1 returned a Bronze Age date that was contemporary with the Bronze Age date returned for the burnt spread activity recorded at Kilgaroan 4, which was c. 110m to the southeast of Kilgaroan 1.

3.4.4 Phase 4: Topsoil

This phase represents the topsoil that sealed all of the archaeological deposits and features on site.

4 CONCLUSIONS

Kilgaroan 2 was identified as a burnt spread measuring 2.6m x 2.3m x 0.1m deep within the CPO. This represented only a portion of the burnt spread with the remainder lying outside the CPO and therefore remaining unexcavated. The section of the burnt spread which was excavated sealed three pits, with a forth pit located to the southwest of the burnt spread. This pit (C4) produced a 2 Sigma calibrated radiocarbon date placing it within an early medieval date range (AD 894–1016). Although the majority of burnt mounds date to the Bronze Age, hot stone technology was utilised throughout prehistory, and like Kilgaroan 2, also the early historic periods.

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PLATES



Plate 1: E2698: Burnt mound spread C3 and pit C6, mid-excitation, facing northeast



Plate 2: E2698: Pit C12, mid-excitation, facing northeast



Plate 3: E2698: Pit C9, mid-excavation, facing northeast

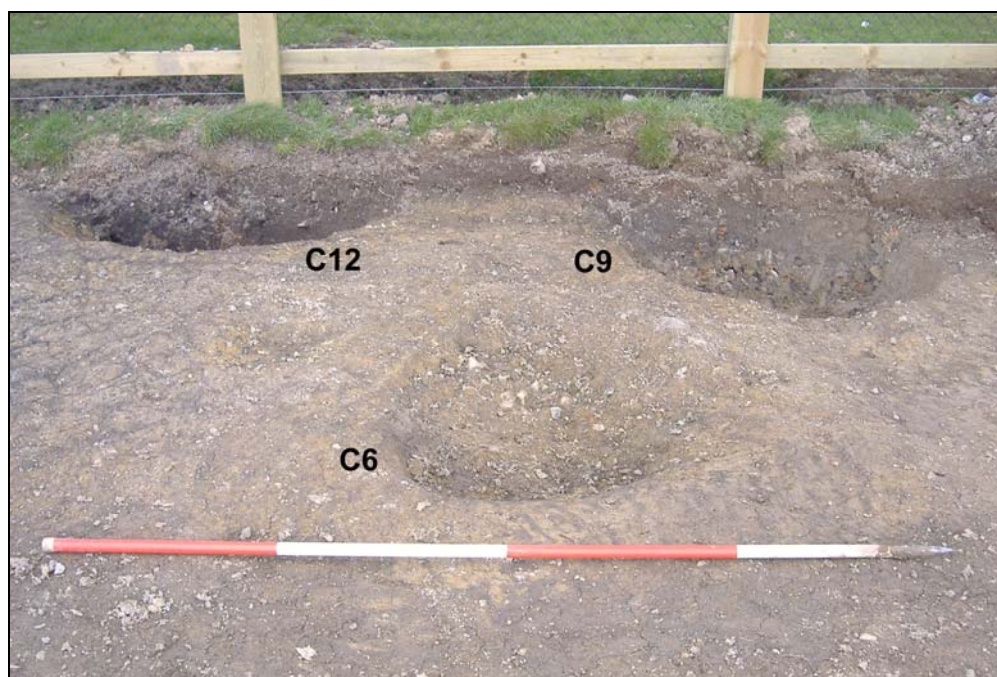


Plate 4: E2698: Post-excavation of C6, C9, and C12, facing northeast

APPENDIX 1 CATALOGUE OF PRIMARY DATA

Appendix 1.1 Context Register

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Finds
1	N/A	N/A	N/A	N/A	Topsoil.	Mid brown sandy clay.	None
2	N/A	N/A	N/A	N/A	Subsoil.	Grey marl.	N/A
3	N/A	2.6m	2.3m	0.1m	Burnt spread.	Sub-circular spread, E–W orientation, black/dark grey silty clay, frequent (60–70%) sub-angular stone and occasional charcoal fleck inclusions. Medium compaction. Sealed C09, C12 & C06.	None
4	N/A	1m	0.75m	0.12m	Possible natural depression filled with archaeological material or cut of shallow, irregular shaped pit.	Irregular shaped cut; north–south orientation, gentle break of slope at top, gentle to moderately sharp sloping sides gentle break of slope at base onto flat bottom.	None
5	C4	0.61m	0.75m	0.12m	Fill of pit.	Mid grey clayey silt, occasional charcoal fleck inclusions, medium/firm compaction.	None
6	N/A	1.05m	0.85m	0.16m	Cut of pit.	Sub-circular cut, E–W orientation rounded corners, sharp break of slope at top, gradual sloping sides onto concave base.	None
7	C6	1.05m	0.85m	0.16m	Fill of pit-natural silting.	Grey/brown silty clay, moderate (30–40%) small angular stone inclusions, firm compaction.	None
8	C4	0.67m	0.75m	0.08m	Fill of pit.	Light grey mottled with yellow clay, occasional charcoal fleck inclusions, firm compaction.	None
9	N/A	1.10m	N/A	0.52m	Cut of pit.	Oval-shaped cut, E–W orientation, rounded corners sharp break of slope at top, steep sloping sides, sharp break of slope at base onto flat base.	None
10	C9	0.86m	N/A	0.16m	Fill of pit-natural silting.	Grey sandy clay, frequent stone inclusions, firm compaction.	None
11	C9	0.94m	N/A	0.36m	Fill of pit-natural silting.	Firmly compacted grey clay, moderate small stone inclusions.	None
12	N/A	1.5m	N/A	0.51m	Cut of pit; function unclear, associated with C9.	Oval shaped cut, E–W orientation, rounded corners, sharp break of slope at top, steep sloping sides onto concave base.	None
13	C12	0.7m	N/A	0.51m	Fill of pit-natural silting.	Dark grey clay, moderate small stone inclusions, firm compaction.	None
14	C12	0.79m	N/A	0.51m	Fill of pit-natural silting.	Dark brown black clay, moderate burnt stone inclusions, firm compaction.	None

Appendix 1.2 Catalogue of Artefacts

There were no artefacts recovered from this site.


Appendix 1.3 Catalogue of Ecofacts

A total of four bulk soil samples were taken during the course of excavation at this site. Of these, one was processed by means of flotation and sieving through a 250/300µm mesh. The resulting retrieved samples of this process are listed below.

1.3.1 Charcoal

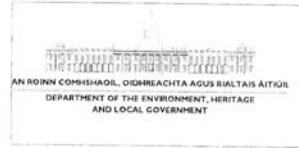
Context number	Sample number	Feature	Sample weight (g)
C5	2	Fill of pit	11.4g

Appendix 1.4 Archive Checklist

Project: N6 Kilbeggan – Athlone	Irish Archaeological Consultancy Ltd	
Site Name: Kilgaroan 2		
NMS Reg. No.: E2698		
Ministerial Direction Number: A016/070		
Site Director: David Bayley		
Date: January 2009		
Field Records	Items (quantity)	Comments
Site drawings (plans)	2	
Site sections, profiles, elevations	1	
Other plans, sketches, etc.	0	
Timber drawings	0	
Stone structural drawings	0	
Site diary/note books	1	
Site registers (folders)	1	
Survey/levels data (origin information)	53	
Context sheets	14	
Wood Sheets	0	
Skeleton Sheets	0	
Worked stone sheets	0	
Digital photographs	23	
Photographs (print)	0	
Photographs (slide)	0	
Finds and Environ. Archive		
Flint/chert	0	
Stone artefacts	0	
Pottery (specify periods/typology)	0	
Ceramic Building Material (specify types eg daub, tile)	0	
Metal artefacts (specify types - bronze, iron)	0	
Glass	0	
Other find types or special finds (specify)	0	
Human bone (specify type eg cremated, skeleton, disarticulated)	0	
Animal bone	0	
Metallurgical waste	0	
Enviro bulk soil (specify no. of samples)	4	
Enviro monolith (specify number of samples and number of tins per sample)	0	
Security copy of archive	1	On IAC Server

Appendix 1.5 Copy of Registration No. Document from DoEHLG

National Monuments
Acts (1930-2004)
Ministerial Directions
Record Number for
archaeological activity



File:

Direction No. A16

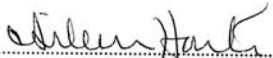
Registration Number: E2698

Directions have been issued to Murty Hanly on behalf of Westmeath County Council in order to regulate archaeological activities carried out on N6 Kilbeggan to Athlone (Phase 2).

Application having been duly made to me by Mr. David Bayley of Irish Archaeological Consultancy, 8 Dunngar Terrace,, Dun Laoghaire,, Co. Dublin.

For a registration number to record excavation at the site of Kilgaroan 070 being part of the townland of KILGAROAN in the County of Westmeath.

This registration is not an archaeological licence or consent but it is issued solely for archive purposes and to allow for the material from the activity to be registered with the National Monuments Service and the National Museum.

Signed 

31 October 2006

Appendix 1.6 Copy of Ministerial Direction Document

Section 14A(2) National Monuments Acts 1930-2004

Directions to Westmeath County Council for the carrying out of archaeological works on the N6 Kinnegad to Athlone dual carriageway road scheme (Phase 2 * Kilbeggan to Athlone).

1. Introduction

The project is an approved road development, having been approved by An Bord Pleanála on 26th March 2004.

The development will consist of a dual carriageway that will run for a distance of approximately 57.5km.

In line with recommendations in the Environmental Impact Assessment for the scheme, archaeological investigations included site specific testing followed by a centreline test trench with staggered offsets. The request for directions has an attached strategy document that covers the proposed resolution works

These directions relate to Phase 2 works and are issued following the receipt by the Minister of reports on the testing work carried out in Phase 1.

2. Directions

All aspects of the archaeological works should be conducted in accordance with provisions of the policy and advice notes on archaeological excavations issued by the Department and in line with the provisions of the Code of Practice agreed with the National Roads Authority. Archaeological works shall be carried out in accordance with the Strategy for Proposed Works submitted with the application seeking Directions.

3. Project Archaeologist

The Project Archaeologist appointed for the road development should ensure that the archaeological works are carried out in accordance with the terms of the directions.

- Any changes to the agreed method statement for the excavations should be submitted to the National Monuments Section for approval.
- Any proposal to change any named director of a specific excavation should firstly be notified to the National Monuments Section for approval.

4. Conduct of Archaeological Excavations:

a) The archaeological excavations should be carried out in accordance with the specifications set out in the strategy document submitted to the Minister.

b) The National Monuments Section should be notified of the commencement date of the works on site.

c) The names of the archaeological consultants, including site directors should be submitted to the National Monuments Section in advance of the works commencing.

d) Where necessary the layout of the archaeological trenches should be adjusted to include additional archaeological features and deposits or areas of archaeological potential.

e) All archaeological objects recovered in the course of the test excavations should be treated and conserved in line with the advice notes and guidelines issued by the National Museum of Ireland.

f) A report on the progress of the archaeological works shall be submitted to the National Monuments Section every 4 weeks.

5. Record Number for the scheme:

The record number for the recording of archaeological works is A016/000. Sub-numbers may be allocated by the Project Archaeologist to the additional works. These numbers should be notified to the National Monuments Section for agreement with full details of the archaeological works involved.

6. Detection Device:

Detection devices may be used as appropriate in the course of archaeological works to recover archaeological objects. Details of proposed methodologies should be notified to the National Monuments Section.

7. Reports:

1. A report on the results of the archaeological excavations should be submitted to the National Monuments Section within 4 weeks of the completion of the works on site. Should additional time be required to complete the report the National Monuments Section should be notified before the expiration of the 4-weeks period. A copy of the report should be sent to the National Museum of Ireland.

2. A summary of the excavation results for the site should be published in the Excavations Bulletin for the year when works are undertaken.

8. National Monuments (Subsection 14A(4)):

If during the carrying out of the archaeological excavations a site should prove to be a National Monument within the meaning of the National Monuments Acts (1930-2004) all works should stop and the National Monuments Section should be informed immediately.

9. Inspection of Works

Officers, servants or agents of the Minister may inspect the archaeological works at any time and full co-operation should be given to them in carrying out the inspections.

APPENDIX 2 SPECIALIST REPORTS

Appendix 2.1 Charcoal and Wood ID Report – Ellen O’Carroll

Appendix 2.2 Radiocarbon Dating Results – QUB Laboratory

CHARCOAL IDENTIFICATIONS

N6 KINNEGAD – ATHLONE SCHEME PHASE 2: KILBEGGAN TO ATHLONE DUAL CARRIAGEWAY

MINISTERIAL DIRECTION NUMBER: A016/070
NMS REGISTRATION NUMBER: E2698
KILGARROAN 2

Ellen O’Carroll MA DIP. EIA Mgt
Archaeological Consultancy & Wood Specialist
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Email: eocarroll@ireland.com

1. Introduction

One charcoal sample was submitted for analysis from a pit associated with the early medieval period. The charcoal was sent for species identification prior to AMS dating and also to give an indication of the range of tree species, which grew in the area at the time of use of the site. Charcoal analyses may provide information on the utilization of certain species for various functions. Wood used for fuel at prehistoric sites would generally have been collected at locations close to the site. Therefore charcoal identifications may, but do not necessarily, reflect the composition of the local woodlands. Larger pieces of charcoal, when identified, can provide information regarding the use of a species for certain structural requirements or particular functions.

This site was located in the townland of Kilgaroan, c. 2.5km west of Kilbeggan town, Co. Westmeath. The archaeological excavation was carried out by Irish Archaeological Consultancy Ltd on behalf of Westmeath County Council and the National Roads Authority in advance of the construction of the N6 Phase 2: Kilbeggan to Athlone Dual Carriageway Scheme.

The site of Kilgaroan 2 comprised the remains of a burnt spread which had been disturbed by later activity at the site. The burnt mound material overlay three pits with a fourth pit adjacent to the spread. The functions of these pits are unclear, though it is assumed they are associated with one another. The sample analysed was retrieved from C5, the fill of pit C4, and dated to the early medieval period Cal AD 894–1016 (2 Sigma).

2. Methods

The process for identifying wood, whether it is charred, dried or waterlogged is carried out by comparing the anatomical structure of wood samples with known comparative material or keys (Schweingruber 1990). The identification of charcoal material involves breaking the charcoal piece along its three sections (transverse, tangential and radial) so clean sections of the wood pieces can be obtained. This charcoal is then identified to species under a Nikon SMZ800 zoom stereomicroscope at magnifications x 10 – 190 and a transmitted light compound microscope at magnifications of x 10 – 400. By close examination of the microanatomical features of the samples the species were determined. The diagnostic features used for the identification of charcoal are micro-structural characteristics such as the vessels and their arrangement, the size and arrangement of rays, vessel pit arrangement and also the type of perforation plates. The charcoal samples were identified by weight and fragment count whereby each species was grouped together and a total weight and fragment count was obtained.

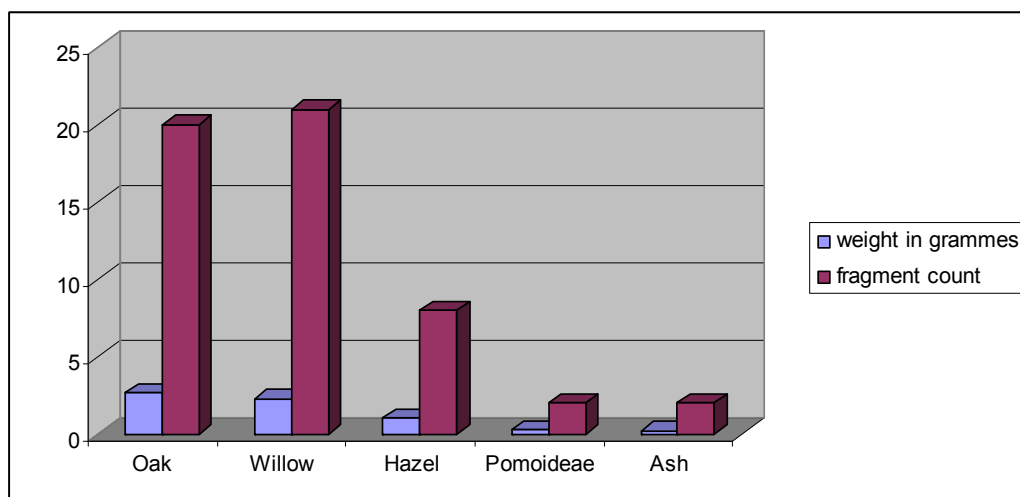
3. Results

Table 1: Results from charcoal identifications

Site no.	Context no. & type	Sample no.	Species	Comment	Date
A016/70	C5, fill of pit	2	Oak (2.64g*, 20f*), willow (2.31g, 21f), Hazel (1.01g, 8f), Pomoideae (0.25g, 2f), ash (0.23g, 2f)	Iron stained. Some insect holes in oak and hazel. Willow brushwood 3yrs	AD 894–1016

* = grammes * = fragment count

Table 2: Results from charcoal identifications



4. Discussion & Conclusions

Willow, oak, hazel, pomoideae and ash in that order were identified from fill C5 of the pit C4. The range of taxa identified from the features analysed includes large trees such as oak and ash and smaller scrub or hedgerow trees (hazel, pomoideae and willow). Willow trees and shrubs are generally found growing near wetland areas and are symptomatic of a wetter environment.

The charcoal is related to wood selection in relation to firewood used at the site. It is unlikely that this pit functioned as a charcoal production pit due to the variety, preservation and amount of taxa present. Insect holes were present in some of the charcoal remains which indicate dead or rotting wood.

The results suggest that there may have been oak-ash-hazel woodlands surrounding the sites during the early medieval period in Kilgaroan. Considerable quantities of willow charcoal indicate an area of wetland close by to the site during the early medieval period.

Further analysis, discussions and comparisons of results will form part of a final integrated charcoal and pollen study of the sites and the surrounding environment on this scheme which is being undertaken as part of the authors PHD thesis. These results will be published accordingly.

5. REFERENCES

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- Irish Archaeological Wetland Unit 1993 *Excavations at Clonfinlough, County Offaly*. Transactions **2**. Dublin.
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- O'Carroll, E 2005 *The analysis of charcoal remains from Ardnamullan 1, Co. Meath*. Unpublished specialist report for V J Keeley.
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- Schweingruber, F H 1990 *Microscopic Wood Anatomy*. 3rd edition. Birmensdorf: Swiss Federal Institute for Forest, Snow and Landscape Research.
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- Webb, D A 1977 *An Irish Flora*. Dundalgan Press Ltd, Dundalk.

RADIOCARBON DATING RESULTS
KILGARROAN 2

CHRONO LABORATORY, QUEENS UNIVERSITY BELFAST

Colette Rynhart
Irish Archaeological Consultancy Ltd
120b Greenpark Road
Bray
Co. Wicklow, Ireland
Rep. of Ireland
VAT No. IE8288812U

¹⁴CHRONO

¹⁴CHRONO Centre
Queens University Belfast
42 Fitzwilliam Street
Belfast BT9 6AX
Northern Ireland

Radiocarbon Date Certificate

Laboratory Identification: UBA-8620
Date of Measurement: 2008-04-04
Site: A016/70 Kilgaroan
Sample ID: S2 C5
Material Dated: Hazel
Pretreatment: AAA
Submitted by: IAC

¹⁴C Date: 1084±30
AMS δ¹³C: -24.6

Information about radiocarbon calibration

RADIOCARBON CALIBRATION PROGRAM*
CALIB REV5.0.2

Copyright 1986-2005 M Stuiver and PJ Reimer

*To be used in conjunction with:

Stuiver, M., and Reimer, P.J., 1993, Radiocarbon, 35, 215-230.

Annotated results (text) - -

Export file - cl4res.csv

S2 C5

UBA-8620

Radiocarbon Age BP 1084 +/- 30

Calibration data set: intcal04.14c

% area enclosed cal AD age ranges

Reimer et al. 2004
relative area under
probability distribution

68.3 (1 sigma)	cal AD 898- 920	0.316
	946- 993	0.684
95.4 (2 sigma)	cal AD 894- 929	0.299
	932- 1016	0.701

References for calibration datasets:

PJ Reimer, MGL Baillie, E Bard, A Bayliss, JW Beck, C Bertrand, PG Blackwell, CE Buck, G Burr, KB Cutler, PE Damon, RL Edwards, RG Fairbanks, M Friedrich, TP Guilderson, KA Hughen, B Kromer, FG McCormac, S Manning, C Bronk Ramsey, RW Reimer, S Remmele, JR Southon, M Stuiver, S Talamo, FW Taylor, J van der Plicht, and CE Weyhenmeyer (2004), Radiocarbon 46:1029-1058.

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 SITES IN AREA

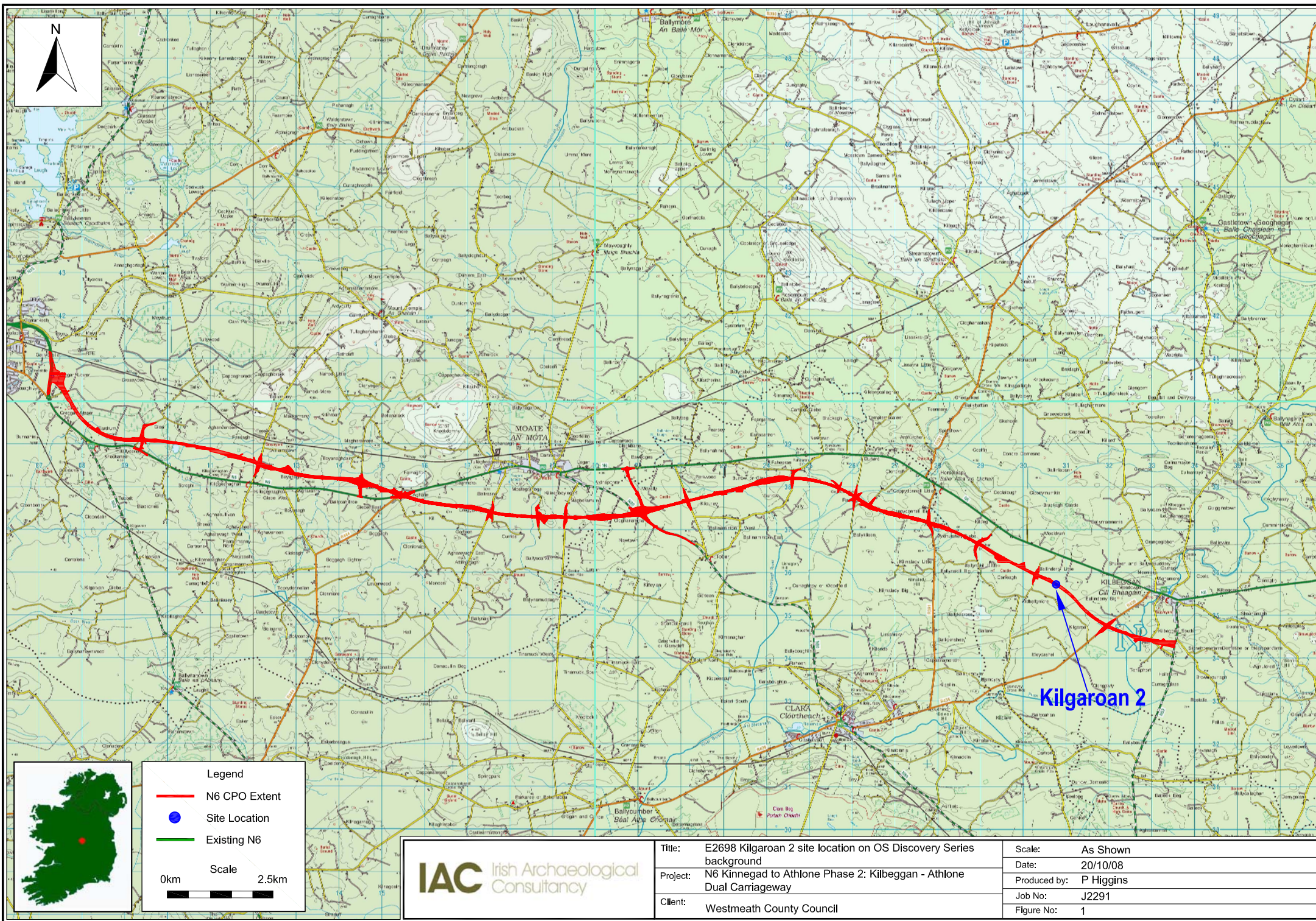
RMP No	Description
WM037-005	Ringfort – Rath
WM037-006	Ringfort – Rath
WM037-007	Castle – Tower House
WM037-008	Ringfort (Rath/Cashel)
WM037-009	Cist
WM037-010	Cist
WM037-011	Castle Site
WM038-003	Ringfort (Rath/Cashel)
WM038-004	Earthwork Site
WM038-016	Ringfort – Rath
OF002-035	Earthwork – possible
OF002-036	Ringfort (Rath/Cashel)

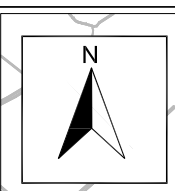
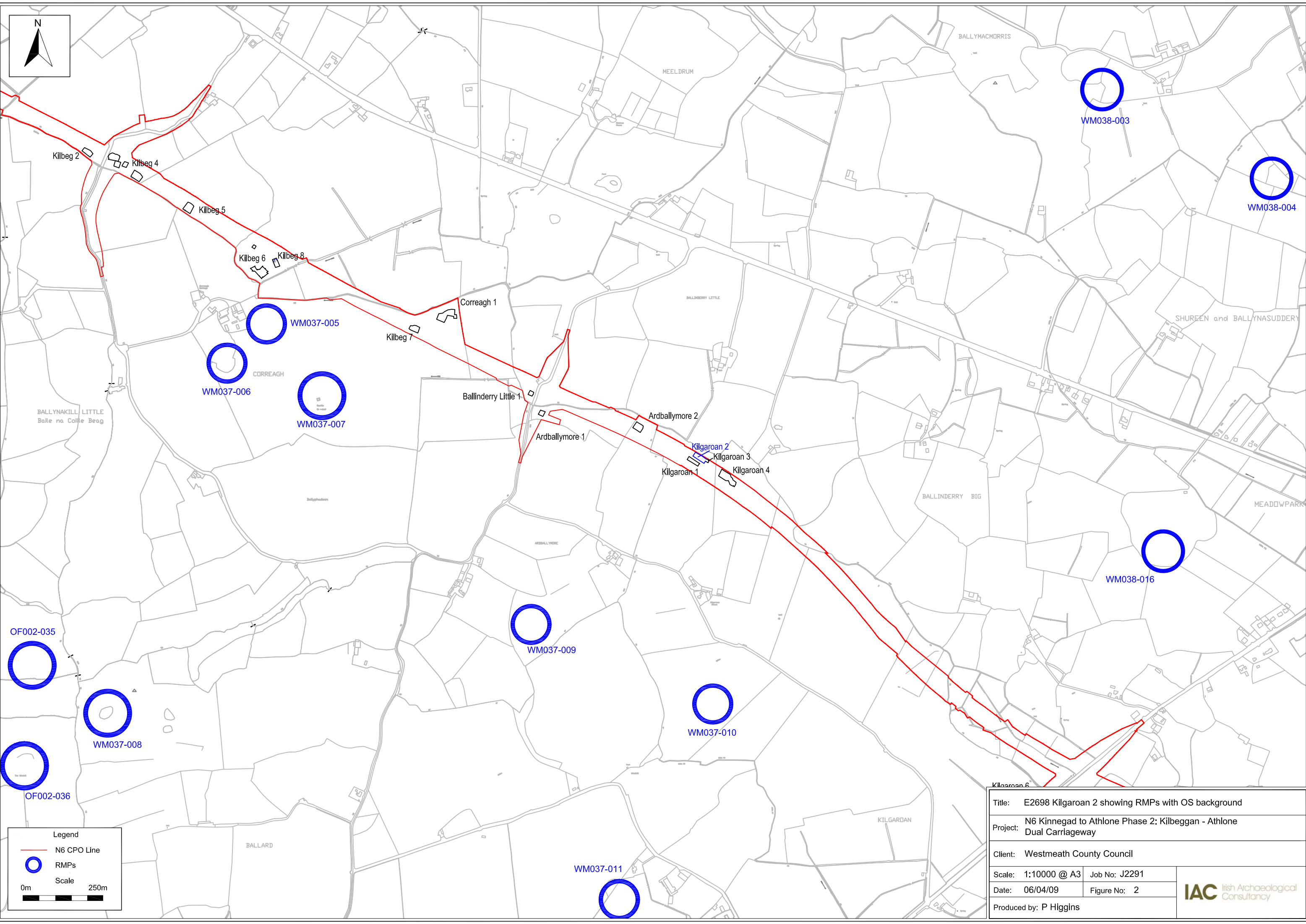
See Figure 2 for location

APPENDIX 4 LIST OF N6 SCHEME SITE NAMES

Site Name	Ministerial Direction No.	NMS Registration Number
Seeoge 2	A016/007	E2635
Moyally 7	A016/015	E2643
Kilcurley 1	A016/019	E2647
Cappydonnell Big 1	A016/025	E2653
Ardballymore 2	A016/028	E2656
Creggan lower 1	A016/030	E2658
Creggan lower 2	A016/031	E2659
Williamstown 1	A016/032	E2660
Williamstown 3	A016/033	E2661
Williamstown 4	A016/034	E2662
Boyanaghcalry 1	A016/035	E2663
Seeoge 1	A016/036	E2664
Aghafin 1	A016/037	E2665
Cregganmacar 1	A016/038	E2666
Cregganmacar 2	A016/039	E2667
Cregganmacar 3	A016/040	E2668
Curries 1	A016/041	E2669
Curries 2	A016/042	E2670
Culleenagower 1	A016/043	E2671
Moyally 2	A016/044	E2672
Moyally 1	A016/046	E3274
Moyally 3	A016/047	E2674
Moyally 5	A016/048	E2675
Moyally 6	A016/049	E2676
Tober 1	A016/051	E2677
Burrow or Glennanummer 1	A016/052	E2678
Burrow or Glennanummer 2	A016/053	E2679
Burrow or Glennanummer 3	A016/054	E2680
Russagh 4	A016/055	E2681
Russagh 1	A016/056	E2682
Russagh 2	A016/057	E2683
Russagh 3	A016/058	E2684
Kilbeg 1	A016/059	E2688
Kilbeg 2	A016/060	E2689
Kilbeg 4	A016/062	E2691
Kilbeg 5	A016/063	E2692
Kilbeg 6	A016/064	E2693
Kilbeg 7	A016/065	E2694
Correagh 1	A016/066	E3374
Ballinderry Little 1	A016/067	E2695
Ardballymore 1	A016/068	E2696
Kilgaroan 1	A016/069	E2697
Kilgaroan 2	A016/070	E2698
Kilgaroan 3	A016/071	E2699
Kilgaroan 4	A016/072	E2700
Kilgaroan 6	A016/074	E2702
Ballinderry Big 1	A016/076	E3275
Ballinderry Big 2	A016/077	E3276
Ballinderry Big 3	A016/078	E3277
Tonaphort 1	A016/079	E3278
Tonaphort 2	A016/080	E3279
Tonaphort 3	A016/081	E3280

Site Name	Ministerial Direction No.	NMS Registration Number
Kilbeggan South 1	A016/082	E3281
Kilbeggan South 2	A016/083	E3282
Kilbeggan South 3	A016/084	E3283
Cregganmacar 4	A016/085	E2703
Williamstown 2	A016/086	E2704
Kilbeg 8	A016/087	E3966





OF002-035

WM037-008

OF002-036

Legend

N6 CPO Line

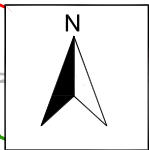
RMPs

Scale

0m

250m

Title: E2698 Kilgaroan 2 showing RMPs with OS background		
Project: N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway		
Client: Westmeath County Council		
Scale: 1:10000 @ A3	Job No: J2291	
Date: 06/04/09	Figure No: 2	
Produced by: P Higgins		



26100.000

Ardballymore 2

26200.000

CF

26300.000

Kilgaroan 1

Kilgaroan 2

Kilgaroan 3

26400.000

Kilgaroan 4

26500.000

26600.000

Legend

N6 CPO Line

Chainage

Site Extents

Scale

0m 50m

IAC Irish Archaeological Consultancy

Title: E2698 Kilgaroan 2 location of site within development
Project: N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway
Client: Westmeath County Council

Scale: 1:2000 @ A4
Date: 24/10/08
Produced by: P Higgins
Job No: J2291
Figure No: 3



+ 230786E
+ 235752N

Limit of excavation

CPO Boundary

73.214
^

2A

Pit
C12

3A

Limit of
spread C3

2B

73.224
^

Pit
C9

3B

Pit
C6

Pit
C4

1B

1A

+ 230786E
+ 235747N

+ 230793E
+ 235747N

0m Scale 2.5m

Legend

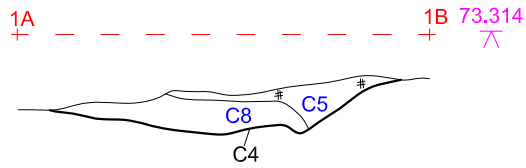
- Break of slope
- - - Sections
- - - Limit of Excavation
- C## Cut numbers
- CPO
- xx.xxx Reduced Levels
- ^

IAC Irish Archaeological
Consultancy

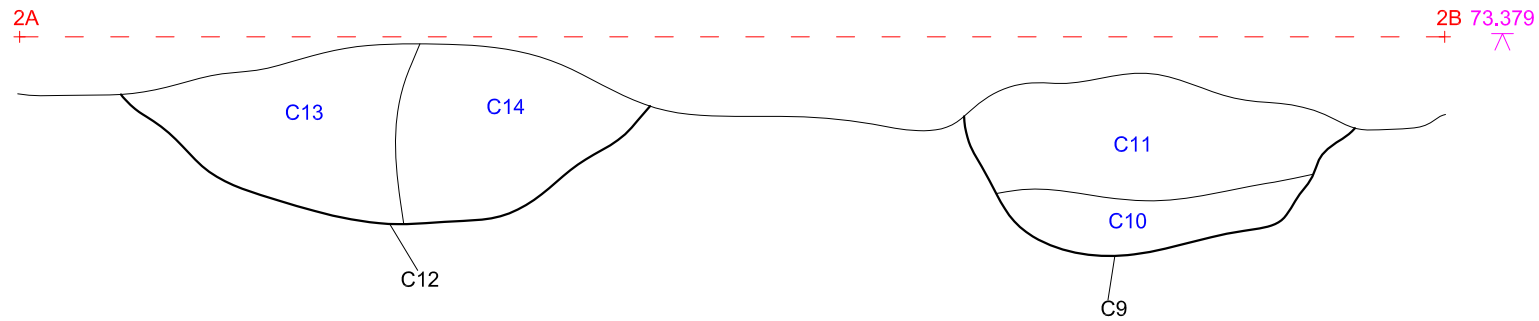
Title: E2698 Kilgaroan 2 plan of site
Project: N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone
Dual Carriageway
Client: Westmeath County Council

Scale: 1:50 @A4
Date: 06/04/09
Produced by: G Kearney
Job No: J2291
Figure No: 4

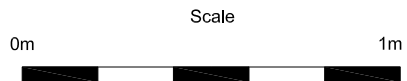
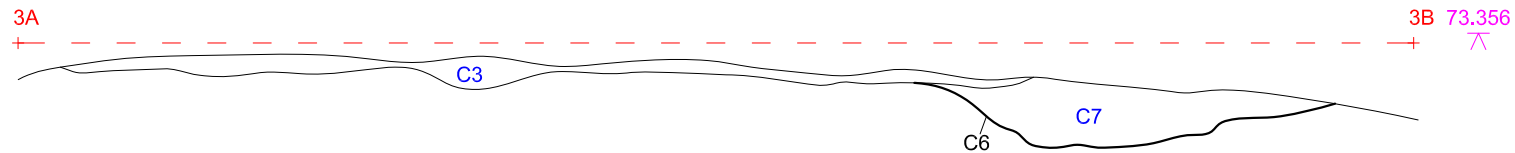
Kilgaroan 2
Southeast facing section of C4



Kilgaroan 2
Southwest facing section of C9 & C12 after removal of C3



Kilgaroan 2
Southwest facing section of C3 & C6



Legend

C## Cut numbers
C## Fill Numbers
Charcoal
###.## Reduced Levels
^ Reduced Levels

IAC Irish Archaeological Consultancy

Title: E2698 Kilgaroan 2 sections
Project: N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway
Client: Westmeath County Council

Scale: 1:20 @A4
Date: 06/04/09
Produced by: G Kearney
Job No: J2291
Figure No: 5

PHASE 4: TOPSOIL

PHASE 3: SECONDARY
ARCHAEOLOGICAL ACTIVITY

PHASE 2: PRIMARY
ARCHAEOLOGICAL ACTIVITY

PHASE 1: NATURAL DRIFT GEOLOGY

CXXX = SPREADS AND FILL CONTEXTS
CXXX = CUT CONTEXTS

