N11 Gorey to Arklow Link:
Archaeological Resolution

FINAL REPORT
Ministerial Direction: A003/042
Excavation Number: E3488

Site 24, Raheenagurren West Townland,
Co. Wexford

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ABSTRACT

This report comprises the final results of the archaeological excavation of Site 24, in the townland of Raheenagurren West, Co. Wexford. Work was undertaken as part of the archaeological mitigation programme for the proposed N11 Gorey to Arklow Link Road Scheme. Excavation was conducted under Ministerial Direction No. A003/042, (Registration No E3488) by Thaddeus Breen, for Valerie J Keeley Ltd, from 25th July and 18th August 2005.

Excavation revealed the remains of a *fulacht fiadh* / burnt mound, measuring 20m (northwest-southeast) by 13m in width, sealing a small sub-rectangular trough or pit, with a series of six associated stake-holes, and an adjacent post-hole. Radiocarbon dating of a circular pit or trough immediately south of the mound returned a date of 380-200 cal BC (SUERC-32374).

Finds consisted mostly of worked flint lithics - including a blade, piecer tool, endscrapers, cores and flakes. A perforated stone disc spindle-whorl was also recovered from the burnt-mound material.

The site was subject to ploughing, notably adjacent to the extant field boundary, and this activity produced several sherds of post-medieval pottery and iron nails.

All archaeological work is now complete for this site and this report constitutes the final report on this excavation. A digital copy of the archive is available at the post excavation offices of Valerie J Keeley Ltd., Brehon House, Kilkenny Road, Castlecomer, Co. Kilkenny. The original paper archive for this excavation will rest with the Department of Heritage, Environment and Local Government.

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1.0 INTRODUCTION

1.1 Project Background

The project comprised of the construction of dual carriageway to replace the existing N11 between Clogh and the Arklow bypass and included a bypass of Gorey Town. The scheme also included the construction of approximately 1.5 km of single carriageway, the Arklow Link Road. The southern section, Clogh to Tinnock opened on 4th July 2007, the remaining section, Tinnock to Arklow was completed in September 2007 and the scheme was officially opened on 13th September, 2007.

An intensive investigation strategy consisting of desk-based archaeological assessment and a walkover study was undertaken to assess the impact of the scheme on the archaeological heritage. The development was designed to avoid all the known archaeological monuments identified within the scheme's proximity. This archaeological assessment was further informed by both a geophysical survey. In January 2005, Irish Archaeological Consultancy Ltd undertook test excavations to ensure the investigation and preservation of sites along the route. As a result, a total of 53 previously unknown sites were identified

1.2 Aims & Objectives

Valerie J. Keeley Ltd. was appointed by Wexford County Council to excavate archaeological sites first identified during a programme of centreline testing[1].

The scope of the archaeological measures was:

- To strip the topsoil from an area measuring approx. 30m by 28.5m, (846m^2 in area) along the CPO link road corridor and identify the previously discovered archaeological features and any other features that may be present in this area.
- Photograph and plan any archaeological features or possible features.
- Excavate any features identified and record their contexts and sections, retaining samples where necessary, to resolve them with preservation by record.
- Reinstatement of excavated areas where required.

The proposed excavation was carried out following the initial archaeological assessment by The Irish Archaeological Consultancy Ltd. and completion of the centreline testing (Mullins, 2005). The goal of this project being to preserve by record the archaeological site/s exposed within the take of the proposed route.

These works took place in accordance with the Directions issued by the Minister for Environment, Heritage and Local Government under Section 14A(2) of the National Monuments Acts (1930–2004), in accordance with the terms of the Contract between Kilkenny County Council and Valerie J Keeley Ltd and according to the terms of

[1] Mullins, J. (2005) *Irish Archaeological Consultancy Ltd*. Archaeological Assessment: N11 Gorey-Arklow Link, Co. Wexford. Site SpecificTest Area 3 A003/009. P12.

the Code of Practice agreed between the National Roads Authority and the Minister of Arts, Heritage, Gaeltacht and the Islands. The excavations also complied with the Policy and Guidelines on Archaeological Excavation (Govt of Ireland 1999) and were overseen by the Project Archaeologist.

1.3 Site Location & Access

The site was located along the line of the proposed N11 Gorey to Arklow Link. This part of the development consists of the construction of 23 km of high quality dual carriageway, which will link into the proposed Arklow bypass and bypass Gorey town.

Site 24 was located in the townland of Raheenagurren West in a field of low-lying flat ground in the flood-plain of a stream (Chainage 8000 – 8020; N.G.R.: 316375E, 158033N; See Figures 1 & 2). The usage of this land until its excavation could be defined as agricultural/grazing.

1.4 Project Timescale

Topsoil was stripped from this site in May 2005. Full excavation of the site began on 25th July and was concluded on 17th August 2005. The site was handed over to the contractor shortly after the work was carried out.

1.5 Summary of Archaeological Significance

Excavation of this site produced a small, Iron Age *fulacht fiadh* / burnt mound, consisting of one and possibly three small unlined troughs or pits – one circular trough was radiocarbon dated to 380-200 cal BC, and the two other circular and rectangular undated examples, were located 14m-16.5m to the north/northeast. The burnt mound was an amorphous spread, sealing the undated rectangular troughs, which also contained six associated external stake-holes. A sizable assemblage of (66) worked flint lithics – including a blade, piecer tool, endscrapers, cores and flakes was recovered from the burnt mound, residual contexts and topsoil. A perforated stone disc spindle-whorl was also recovered from the burnt-mound material. Plus several sherds of post-medieval pottery and iron nails were recovered from intrusive plough furrows.

This excavation was a well-documented example of a collection of troughs and pits, one dated to the Iron Age, as well as a large lithic assemblage. Whilst the majority of burnt mounds are dated to the Bronze Age, and rarely produce artefacts assemblages, similar dated examples are increasing being noted from excavated sites across the country. The nearest example from this scheme is in the adjacent site 27-29, within the same townland, and other adjacent sites have produced significant lithic assemblages. Similar examples are occasionally found within the archaeological record nationally, and throughout northern Europe throughout the Iron Age. This excavation represents an addition to the national/regional distribution pattern of the region for the

period, and also provides significant data in the study of the monument type. No further work is recommended on this site.

2.0 BACKGROUND

2.1 Geology and Topography

The bedrock geology for the route of the N11 Gorey to Arklow Link road scheme consists of Acid Volcanics which extend in a band from north-east of Gorey to the south-west, away from the scheme area. Specifically, these are a Campile Formation of Rhyolitic Volcanics with grey and brown slates. Solid geology of Ordovicians occupy most of the study area to the N of Gorey, toward Arklow. The drift geology consists primarily of glacial till from Marine sediments, with pockets around Gorey having little or no Drift cover. The geomorphology is primarily lowlands and high hills (c. > 100m < 300m) of boulder-clay (*Source:* I.A.C. EIS; Mullins 2005).

The soils in this area consist primarily of gleys and grey-brown podzolics, which derive from glacial muds of Marine origin. These are mostly wet, mineral soils, which occur in flat to undulating lowland. For the most part the land of the study area has limited capability due to the poor drainage characteristic of the soil type and is predominantly used for pasture, however, the south and SW facing slopes of Ask Hill are suitable for tillage and soft-fruit growing (*ibid.*).

The general topography of the area through which the N11 Gorey to Arlow Link passes can be characterized as a coastal lowland. To the west the area is dominated by the eastern foothills of the Blackstairs and Wicklow Mountains; The route passes between the foothills and some outlying hills Ballyminaun Hill to the south of Gorey and Ask Hill / Gorey Hill to the northeast of the town. While much of the route is only 3-8 km from the sea the intervening undulating topography does not allow views of the coast. (*ibid.*)

The N11 Gorey to Arklow Link does not cross any significant watercourses. To the north of Ask Hill / Tory Hill small streams drain into the Inch and Clonough Rivers that flow into the Irish Sea via the Kilgorman River. Land to the east and south of Gorey are drained by the Banoge and Bracken Rivers that flow into the Irish Sea at Courtown via the Owenavorragh River (*ibid.*).

2.2 Historical Background

2.2.1 Gorey and its environs

The name Gorey is derived from the Irish *Gabhrach*, meaning the place of the goats. The town is a planned one (Ref No.: WX007:033) and was built as part of the seventeenth century plantation of Wexford. It received its first charter of incorporation in 1619, when it was called the town of Newborough or Newtown. According to this charter the town was to consist of a sovereign, twelve burgesses and free commons, modelled on the town of Cavan (Hore 1900-11, vi, 611, quoted in Bradley & King n.d.). (Source: EIS by M. Gowen & Co. Ltd, September 2003; additions by F. Smith).

The town was laid out on a grid pattern of *c.* 14 acres. The Main Street runs east to west through the centre, and the original town area stretches from Pearse Street to Church Lane north to south; The Avenue to Church St. west to east. No physical remains of the seventeenth century town survive, although the tomb of Archbishop Ram, which dates to the seventeenth century (1634), still stands in the graveyard within the town. The graveyard is located on the site of the original plantation parish church (Ref No.: WX007:033-01; built 1610) in the southwest corner of the planned town; the present church on the site was built in 1861.

Although the town is best known as a seventeenth century planned town, there is some evidence that there was an Anglo-Norman settlement here in the thirteenth century. The evidence relates to a reference in 1296 of the payment of 13s from 'the community of the town (ville) of Gory' (Hore 1900-11, vi, 609, quoted in Bradley & King n.d.). However, nothing further is known of this settlement.

In common with other plantation towns Gorey was protected by defences, and from references made these defences were earthen. The fact that the town was captured easily in 1641 suggests that the defences were never particularly strong. The ramparts of the town are mentioned in passing in the Corporation records for 1708, while those of 1713 note the construction of a causeway along the rampart to the churchyard (Hore 1900-11, vi, 618, 622). A fort at Gorey is also shown on the Down Survey Map of 1655-6 in the parish of Kilmaclogue to the west of the town. It is depicted surrounded by a wall (Hore 1900-11, vi, 616, 618), which Loeber & Stouthamer-Loeber (1987) suggest was more likely to be made of sod than of stone.

The present parish of Gorey represents the old parish of Kilmakilloge and parts of Kilnahue and Kiltennal (Grattan Flood 1916). While the towns foundation is non-ecclesiastical the old parish church of Kilmakilloge or Kilmochilloge (Ref No.: WX007:034) in Clonatin Upper was founded by St. Sillan or Silog in the Early Christian period, and was originally known as *Cill mo Sillog*, the church of Sillog. Some documentary sources (Lewis 1837) claim that the now ruinous church in Clonatin was founded by St. Edan, stating that the placename may be a modification of *Cluain-Edan,* meaning 'the retreat or cell of St. Edan' or Aedan. However, the church is more likely to have flourished contemporaneously with the Church of St. Aedan of Ferns, and according to Grattan Flood (1916) the true meaning is 'the meadow of the furze'. Apparently, there are many references to furze on an estate map of Clonatin dating from 1786.

The church of St. Sillan was re-dedicated to St. Michael during the thirteenth century when it was attached to the Deanery and abbey of Ferns, and continued as such until 1560. In 1619 Thomas Ram, Protestant Bishop of Ferns and Leighlin obtained a Charter for the new town of Gorey, or Newborough as it then became known. In 1620 Bishop Ram transferred the episcopal palace from Ferns to Gorey, calling his new residence Ramsfort, which became the seat of the Ram family following the restoration of the Cathedral at Ferns until their departure at the end of the nineteenth century. According to O'Donovan (1840) a second church existed near the Ram's residence at Gorey, but neither it nor its graveyard were visible at that time.

The church in Clonatin, indicated on the first edition six-inch map of the OS (dated 1841) as 'Kilmakilloge Church *in ruins*' sits close to Clonatin House, which was built as an auxiliary manor by a member of the Ram family in the eighteenth century. The house, burned in 1798 was later rebuilt, and its estate, over 288 acres, extended amongst others into the townlands of Ballyloughan and Kilmurry. According to local history one of the roads that led to the cemetery passed by way of the outbuildings of Clonattin House; a second had its entrance somewhere in the vicinity of Kilmurry Crossroads (FitzPatrick OP). Local tradition also recalls the existence of the 'Butchers Box', a hanging tree situated alongside the roadway amongst an aged group of trees beyond the entrance gates of Clonattin House and beyond a long line of trees that run parallel to the road from the Clonattin House entrance (FitzPatrick OP).

From Ram title deeds connected with the Clonatin Estate it is recorded that William Plunket Esqr. and heirs were granted by King Charles 'the whole manor castles towns lands of the manor of Cloghleskin with the appurtenances and amongst those the said town and lands of Ballinclare, Ballybanogue, Ballyminaun, Coleshill, and Tuberneering…henseforth forever be reputed and called the Manor of Bewley' (FitzPatrick OP). A subsequent deed dated 20th August 1680 records that 'Sir Walter Plunket…(son and heir of the said William Plunket)…did grant bargain, sell, release and confirm onto the said Abel Ram all that and those the several Manors, towns, villages, lands, tenements, and Hereditaments in the Manor of Bewley…including the said lands of Ballinclare etc., to have and to hold to the same Abel Ram his heirs and assigns forever'.

2.2.2 The Rebellion of 1798

Gorey figured prominently in the insurrection of 1798 (Harbison 1995). It was strategically placed on the main coast road to Arklow, one of only three routes open to the Wexford insurgents to spread the rebellion from their county (Whelan 1998). While in possession of the town from June 4th to 12th the Irish insurgent camp was on Gorey Hill, just outside the town to the southwest.

The rebellion covered the summer months of 1798, breaking out on 23rd May in the counties immediately around Dublin. News that forces had mobilised first reached Wexford by the 25th, and by the 26th the early stages of rebel mobilisation took place in central Wexford as forces raided the houses of local gentry and yeomanry members to secure arms (Gahan 1998). In a line from New Ross to Enniscorthy north to Gorey the movement was uncharacteristically strong. The organisation here was led on the parish and barony level by the sons of large tenant farmers or gentry (Gahan 1998). The strength of the movement here is reflected in its success, where by May 30th the United Irishmen of Wexford had taken possession of the entire county apart from a number of towns along the northern and western perimeter. These towns included Gorey.

The United Irish movement emerged in opposition to a political system rooted in sectarian privilege (Whelan 1998), but from the 31st May to the 4th of June the rebellion had become exclusively a Wexford affair, as the rebellion was largely quashed elsewhere. On June 1st the Wexford rebels experienced their first setback as an

advance party from Carrigrew marched north toward Gorey. Unexpectedly meeting with a detachment of militia moving south from the town a battle ensued in the fields around Ballyminaun Hill, repulsing the northern division of the Wexford rebel forces.

Taking definite steps to crush the rebellion in Wexford the government resolved to launch a three-pronged attack on north Co. Wexford; one of three columes under General Loftus was to march south through Gorey, which he reached by June 3rd. A combined militia army was led south from Gorey on June 4th under Loftus and Walpole, who had come from central Kildare through Carnew to Gorey, with the intention of attacking the rebel camp on Carrigrew. The rebels also broke camp and marched toward the approaching soldiers. A short distance outside Gorey Loftus and Walpole split forces; the latter was attached and defeated by the rebels who subsequently took control of the unguarded town at Gorey and set up camp on Gorey hill.

On the 5th June the largest government force to be dispatched to Wexford left Loughlinstown camp in south Dublin, under command of Lieutenant-General Needham. Needham took control of Arklow town by the evening of June 6th, while the northern division of the United Irishmen remained at base camp on Gorey Hill waiting for supplies of ammunition. The rebels finally made their attack on Arklow on June 9th, the most crucial battle of 1798, but failed to storm a vital town and returned to Gorey suffering heavy losses (Gahan 1998). They remained at Gorey until the 12th, when the entire unit moved to Limerick Hill further north. A detachment also set up camp at Aske Hill, east of Limerick Hill, to guard the approach to Gorey.

On June 19th Lieutenant-General Needham marched his forces from Arklow and captured Gorey without meeting any rebel opposition, before moving beyond to Oulart. The northern rebel divisions at this stage were retreating southwards to Vinegar Hill where they were defeated on June 21st bringing the Wexford rebellion essentially to an end.

Both houses of the Ram family, Clonatin and Ramsfort, were destroyed in the insurrection of 1798. At Clonatin the house was rebuilt on a new site (as indicated on the first edition map of the OS six-inch series) and the detached out-offices now at Clonatin occupy the site of the old house. The Ram family continued to reside at Clonatin until near the close of the nineteenth century, after which the property was held by the Earls of Courtown, and the lands sold in lots.

Perrymount townland, near Inch, also claims fame as the home of Anthony Perry, a Protestant member and influential leader in the 1798 rebellion. Previously a Lieutenant in the Coolgreany Yeomen Cavalry Corps, Perry resigned in protest against treatment of the people. He was later executed for his role in the rebellion on 12th of July, 1798, at Edenderry, Co. Offaly.

Inch, in terms of military history, was also the scene of a skirmish between the advanced guard of King William's army and the partisans of James II, on their retreat from the battle of the Boyne at which James forces were defeated.

2.3 Archaeological Background

2.3.1 Prehistory

There is limited evidence of Neolithic activity in County Wexford (Culleton 1984; Moore 1996). To date a small number of megalithic structures have been identified in upland areas of the county. There is some evidence to indicate that the uplands of Wexford were settled in the Neolithic, although megalithic tombs are rare in the county with only two examples positively identified (Moore 1996). A cairn (RMP Ref.: WX007:014) on the summit of Tara Hill over 3.5 km to the northeast of Gorey may enclose a megalithic structure (Stout 1987). A possible megalithic tomb, or 'Dolmen', is also indicated on the Ordnance Surveys 1940 revision six-inch map in Kilcavan Lower (Ref No.: WX007:009). The structure comprises a large stone (2.4m x 1m) resting on further stones at its west end. Megaliths result from the practice of burial in stone tombs of elaborate construction. They were also the first permanent structures to be built in the Irish landscape. In the Early Bronze Age which followed they were replaced by the adoption of the single burial tradition within a single stone box or cist.

Prior to the commencement of this project the earliest definite evidence of human settlement in this part of Wexford could be traced back to the Bronze Age (c. 2300–500 BC). Cist burials, in which a crouched inhumation or cremation was placed, accompanied by a food vessel, in a single stone lined box was the most common mode of burial in Early Bronze Age Ireland, and notable concentrations occur in the sand and gravel soils of the southeast (Stout 1987). Cist burials are generally chance finds retrieved during land reclamation projects, quarrying or construction, and in north Wexford such burials are mainly concentrated above the 200ft contour. A number of examples of Early Bronze Age burials have been uncovered in the vicinity of Gorey. An Encrusted urn (Ref No.: WX006-065 / 007-041), now in the Edinburgh Museum, was found in 1868 in a gravel pit in the townland of Ballowen or Ramsfortpark (Kavanagh 1973). The precise location of this find is unknown. A vase urn and encrusted urn (Ref No.: WX007-055) were found in a disused sandpit / gravel quarry in the townland of Gorey corporation lands (O'Floinn 1990). The Encrusted urn may originally have been contained in the same sub-circular pit in which the partial remains of the Vase urn were found inverted over cremated bones. A Vase Food vessel was reportedly found near Gorey in 1887 (Ó Ríordáin & Waddell, 1993), it was reportedly found associated with two cists or a double cist, one containing an urn and the other a food vessel under a cairn of earth and stones (*JRSAI* 1881–2).

Such cist burials were frequently covered with mounds of earth or cairns of stone (Waddell 1990). A cairn site (Ref No.: WX007:014) is situated on the summit of Tara Hill, although in cases like the burials in Corporation Lands and Ballyowen, natural 'monuments' such as gravel ridges performed the same function.

A variety of burial monuments existed in the Bronze Age, including cairns and tumuli. A cairn, as implied above, is a mound of stone often used to cover burials, and a tumulus is a mound of earth used for the same purpose. Monuments of the latter type occur in Ask (Ref No.: WX007:020), in Knockavota (Ref No.: WX007:006) and in Monagarrow Upper (Ref No.: WX007:032), which overlooks the valley of the Clonough River. All three

monuments are indicated as 'Tumulus' on OS maps, although the archaeological origin of the 'tumulus' in Ask has been questioned. Described as a flat-topped earthen mound in pasture adjacent to a quarry, the mound may simply be a spoil mound with an advantageous view to the west and north. Toome or *tuaim* is also the Irish word for tumulus, and according to O'Donovan (1840) the tumulus in the townland formerly existed in vicinity of the old parish church.

The tumulus in Ask (Ref No.: WX007:020) is nonetheless situated in a region north of Gorey in which a distinct concentration of Bronze Age activity occurs, centred on the Annagh hills to the west and Tara Hill to the east. The most numerous monument type is the standing stone, this representing the largest group in the county, such as that in Gorey Corporation Lands (Ref No.: WX007:061). This site is typical of Wexford standing stones in that it is rather short (H. 1.5m), and is of greenish-grey slate. Standing stones very occasionally mark burials. They also may have been used as markers of route ways or territorial boundaries, or to indicate the presence of ritual or sacred places. In the vicinity of Tara Hill standing stones also exist in Ballinacarrig (Ref No.: WX007:027) and Kilcavan Upper (Ref No.: WX007:053), while possible sites exist in Kilcavan Upper (Ref No.: WX007:011), Ballinacarrig (Ref No.: WX007:025, 007:028, 007:029 and 007:054) and in Tinnock Lower (Ref No.: WX007:002). These stones are all located on the Macamores, a badly drained soil formed from drift of the Irish Sea. The site in Tinnock Lower is indicated as 'Standing Stone' only on the 1940 edition OS six-inch map, and no above ground trace remains.

Often the most common types of monuments that survive from the Bronze Age, probably because they are largely underground are the unassuming *fulachta fiadh*, or cooking site. This is also a monument that contributes the greatest amount to our knowledge of Bronze Age settlement across the country. *Fulachta fiadh* manifest themselves in the landscape as mounds of burnt stone, often forming a horseshoe-shape. The stones were heated on a fire and then placed in a water-filled pit in order to heat the water. They are usually found in marshy areas, beside rivers and streams as the pit tended to be dug into the water table in order to fill up naturally with water. After each use, the pit (or trough) was presumably cleaned of the heated and cracked stones, and these were discarded around the pit, forming the mound, from which they get their name. They often appear in groups, and soil stripping in the vicinity of isolated examples frequently reveals additional associated fulachta. Moreover, the mounds of these features are frequently ploughed out or removed, especially in counties such as Wexford with strong tillage traditions, but top-soil stripping reveals the trough or burnt spreads of former fulachta. Examples include a *Fulacht fiadh* site in Kilmurry (Ref No.: WX007:058), which consists of two areas of burnt and broken stone in a black matrix that is visible when the area is ploughed.

During the Late Bronze Age there was a revival in gold working using bar gold as well as sheet metal. Among metalworker products was the gold bar torc, or neck ornament, of which thirty are known from Ireland. Their distribution, which shows a concentrated in south Leinster, is possibly due to the presence of gold in the Wicklow Mountains (Stout 1987), and a gold bar torc was found at Tubberduff (Toberduff) in the vicinity of Ask Hill in

1863, northeast of Gorey. According to Mr. Charles Naughter, Kilmurry, in the Courttown Estate Papers the torc was found in a quarry at Ask Hill.

The evidence for Iron Age activity in Wexford remains inadequate, and knowledge on this period within the county is largely dependent on a small number of defensive sites along the southeast coast (Stout 1987).

2.3.2 Early medieval period

Christianity was introduced into Ireland in the fifth century AD and brought with it not only writing and recorded history but also a range of new monuments. The best known native monument of this period is the ringfort—the classic early medieval (*c.*500–*c.*1100 AD) secular settlement type. Ringforts are among the commonest monuments in Ireland, although only around one hundred and fifty survive in Co. Wexford. They are round or oval enclosures defined by a bank and an external ditch, often situated on gentle hill slopes. Excavation suggests they were defended farmsteads, including the dwelling house and outhouses of an extended family, and occasionally also have evidence for small-scale industrial activity. Conclusive ringforts in the environs of Gorey include those in Ballinakill (Ref No.: WX012:029), southwest of Courtown, Ballowen or Ramsfortpark (Ref No.: WX007:017), Ballyfad (Ref No.: WX003:002), Huntingtown (Ref No.: WX011:007), Kilcavan Upper (Ref No.: WX007:012) and in Raheenagurren West (Ref No.: WX012:003). The ringfort in the latter townland is indicated on the first or the 1841 edition OS map much as it survives today, although presently the site is densely covered in damp scrub vegetation.

Many of the monuments classified as enclosures in the environs of the proposed realignment are also undoubtedly ringforts or the sites of ringforts, although enclosures can date to various periods and have different functions. Often identified from early OS maps or through aerial photography, where they appear as cropmarks, they are referred to as 'enclosures' until a more precise classification can be established. Enclosure sites exist in Ask (Ref No.: WX007:060), Ballinglin (Ref No.: WX007:008), Balloughter (Ref No.: WX011:043), Ballybanoge (Ref No.: WX011:017), Ballycanew (Ref No.: WX011:022), Ballydaniel (Ref No.: WX011:018, 011:021; 011:041), Ballylarkin (Ref No.: WX003:020), Ballyloughan (Ref No.: WX007:021), Clonsilla East (Ref No.: WX007:007), Clonsilla West (Ref No.: WX007:059) and in Raheen (Ref No.: WX012:031). Upstanding enclosures in comparison exist in Ballyhast (Ref No.: WX011:012), Ballyscartin (Ref No.: WX007:024), Killowen (Ref No.: WX011:003) and in Raheenagurren West (Ref No.: WX012:001 and 012:030). A large enclosure also exists in Kilmurry (Ref No.: WX007:023), while a rectilinear enclosure survives in Tullabeg (Ref No.: WX011:040). Rectangular enclosure sites are also recorded in Plattinstown (Ref No.: WX003:007), Raheen (Ref No.: WX011:035) and in Toberanierin Upper (Ref No.: WX011:037), which may have been Anglo-Norman moated sites.

Sites that have been disturbed, so much so that they cannot be readily attributed to any class or group of monument are termed simply earthwork. Sites that are marked on Ordnance Survey maps but not identifiable on

the ground are termed earthwork sites, and numerous examples of the latter, also likely to have been ringforts, are recorded, including those in Ballykilty Upper (Ref No.: WX003:006), Ballyminaunhill (Ref No.: WX011:008 and 011:009), Coolishal Upper (Ref No.: WX011:006), Coolroe Great (Ref No.: WX003:022), Courteencurragh (Ref No.: WX007:035 and 007:036;), Hollyfort (Ref No.: WX003:014), Hydepark (Ref No.: WX003:031), Kilowen (Ref No.: WX001:004), Limerick (Ref No.: WX003:025), Raheenagurren West (Ref No.: WX012:002), Tara Hill (Ref No.: WX007:031) and Whitepark (Ref No.: WX003:015).

2.3.3 Later medieval period

Many of the ruinous churches visible in the landscape today date from the early medieval period, and as they were usually built of wood, none of the early churches of the Early Christian or Early Historic period will survive above ground. Often the Irish word 'cill', meaning a church appears as a root word in townland names where early churches were known to have been founded, as in Kilmakilloge. Many medieval stone churches or church sites were formerly parish churches, such as that in Churchtown (Ref No.: WX011:036), the parish church of Liskinfere, and in Ballinclare (Ref No.: WX011:011), the parish church of Toome. The medieval church in Churchtown is no longer visible above ground, and the site, at Clogh, is occupied by a modern Church of Ireland. Similarly, the site of the parish church of Inch (Ref No.: WX003:028) is now occupied by a nineteenth century Church of Ireland church. Both the earlier parish church site and the present church, built in 1831, were situated adjacent to the to a glebe of seventeen acres, on which the Glebe house was under construction in 1791 (Lewis 1837). The latter building, present in 1841, appears to have been replaced by a new building indicated as the Rectory by the turn of the twentieth century. The church represented the focal point for the village of Inch, which developed on the mail coach road from Dublin to Wexford.

Parish churches also existed in Clonatin Upper (Ref No.: WX007:034), the parish church of Kilmakilloge, and in Kilcavan Lower (Ref No.: WX007:010), the parish church of Kilcavan. The 'Site of Graveyard' (Ref No.: WX003:021) is also indicated on the 1841 edition OS map, with a well, marked 'St Michaels Well', shown nearby close to banks of the Clonough River in Clonough. A graveyard site also existed in Ballowen or Ramsfortpark (Ref No.: WX007:018) close to a natural spring marked 'Holy Well' on OS editions, and locally dedicated to St. Michael, while a D-shaped graveyard presently survives in Toberanierin Lower (Ref No.: WX011:039). None of these three sites are traditionally associated with a church.

It is recorded that the graveyard in Ballinclay (Ref No.: WX011:038, delisted) was given to the 'friends' in 1778 [the Religious Society of Friends, or Quakers, was founded in 1652 as the Friends of the Truth by George Fox. William Edmonds, a former soldier, first introduced the society into Ireland, where its doctrine spread rapidly in the wake of the Cromwellian period. However, there was a meeting house at Ballinclay since 1743, and the first recorded burial relates to an Elizabeth Rousom who died in 1767. From the Registry of Deeds an indented deed dated 14 July 1759 outlines the lease made by John Wright of 'Ballinclea' of 'that part of the lands of Ballinclea

now walled in and set apart for a graveyard or place of burial for the people called Quakers'. Margaret Wright, wife of John, and residing in Ballinclay House, was buried in the graveyard in 1774; the above said John was buried in 1785. A William Watson Waring, then residing in Ballinclay, was buried in the graveyard in 1836, and reportedly during the Waring's occupation of the House the meeting house was neglected and fell into ruins. The graveyard is currently still in use and burial took place as recently as 2000.

North county Wexford would have been relatively inaccessible until the sixteenth century, and the few Anglo-Norman settlements in the area suggest that the Anglo-Norman infiltration had not been strong (Loeber & Stoutamer-Loeber 1987), although the entire county was sub-infeudated in the early stages of Anglo-Norman activity in Ireland (Colfer 1987). The various elements of society that the Anglo-Normans introduced include boroughs, demesne manors and manorial villages. The introduction of continental monastic orders also followed, including a possible Augustinian friary in Coolgraney Demesne (Ref No.: WX003:011). The reform of the Irish church into a diocesan and parochial system, begun in the twelfth century, was greatly boosted by Anglo-Norman settlement in the thirteenth century (Moore 1996).

Anglo-Norman fortifications include motte-and-baileys and moated sites. Mottes are steep-sided earthen mounds, originally topped with a wooden lookout tower or *bretasche*, and often associated with a rectangular enclosure, defended by a bank and ditch, and palisade fencing, known as a bailey. Mottes were usually located at defendable vantage points, often overlooking fords on rivers, and were among the first fortifications constructed by the Anglo-Normans on their arrival in Ireland. Moated sites, in comparison, are defended farmsteads dating from the thirteenth and fourteenth centuries. They are usually square or rectangular areas, defined by banks and external ditches, often built in damp areas where the ditch becomes naturally waterlogged. The distribution of mottes and moated sites in the county indicate that initially the Anglo-Normans intended to occupy and settle all of the county, and examples in the environs of Gorey include a motte in Ballymore Demesne (Ref No.: WX016:014), southeast of Camolin, in Middlemount (Ref No.: WX012:010), on the east coast south of Courtown and in Pallis Lower (Ref No.: WX002:019), west of Inch. A mound site at Kilgorman (Ref No.: WX007:046) may also possibly be a motte. Moated sites occur in Camolin (Ref No.: WX011:014) and in Clones Middle (Ref No.: WX007:003), northeast of Tara Hill. The subsequent building of stone castles, particularly tower houses, examples of which shown a marked southern distribution, highlight the failure of Anglo-Norman settlement in the north of the county (Colfer 1987). The scarcity of medieval tower houses in the region, what became the seventeenth century plantation area, has also led Loeber & Stoutamer-Loeber (1987) to suggest that timber dwellings must have remained common, given an abundant supply of wood from forests of the Leinster hills.

Following the Anglo-Norman invasion in 1169 Gorey was situated within the major Prendergast fief of Ui Mealla and Kynaloh, the largest fief in the county (Colfer 1987), and to which Pallis motte (Ref No.: WX002:019), west of Inch, must have been related. The fief passed to the Roches toward the end of the thirteenth century. As previously alluded to Gorey may have been a possible borough on Prendergast fief, but would possibly never

have been more than just a 'rural borough' with no locational or economic advantages. As such, the survival of Gorey in the modern landscape must be owed to the seventeenth century plantation. A borough at Courtown may simply have resulted from the need for a port and ready access to England by sea from the north of the county.

2.3.5 The Wexford Plantation

The plantation of Wexford was the first colonial settlement undertaken by the Dublin government after the massive introduction of British settlers into Ulster at the beginning of the seventeenth century (Loeber & Stouthamer-Loeber 1987). It was initiated in order to settle the northern part of the county, which had never been fully penetrated following the Anglo-Norman conquest of the twelfth century, and where the native Irish sept, the McMurrough Kavanaghs, retained a strong presence. Large tracts of land, ranging from 1000 to 3000 acres, belonging to families of both old Gaelic and Anglo-Norman stock were confiscated, and colonial strong houses, subsequently destroyed in the rebellion of the 1640s, sprang up throughout the barony of Gorey. To shire the north of the county a fort was built by 1610 as a garrison for troops five miles northeast of Gorey, called Fort Chichester (now named Fortchester). It was built to protect the county against raids from displaced natives, but had passed to private hands by 1618. Access to north Wexford from the Pale was through the pass at Fort Chichester.

The Wexford Plantation was to have a plantation town, and King James I in 1618 gave directions to that effect. The result, as indicated above, was the grant of a charter to Bishop Ram, Protestant Bishop of Ferns and Leighlin, in 1619, and the development of a town, initially called Newborough, and later Gorey. A plantation village and a church also sprang up at Limerick, around the new manor of Sir Lawrence Esmond four miles to the north of Gorey (no trace of this latter village survives). The estate of Lemanagh, anglicised to Limerick, was granted to Sir Lawrence Esmond in 1612 (and again in 1618), who, as a condition of plantation, was required to build a defensible castle or house. Esmond had built on this property by 1617, the largest of known plantation castles of the area (Ref No.: WX003:024). Little of the castle or Jacobean house at Limerick survives; it was burnt in 1649 during the rebellion and the site of the house may coincide with the present farm buildings on site.

Ramsfort, one mile north of Gorey was another plantation site. Thomas Ram, the protestant Bishop of Ferns and Leighlin moved his seat from Ferns to the new plantation town of Gorey in 1620, and when he died in 1634 his body was buried in the chapel built by him in the town. Rebels burned the Bishop's Palace in 1641 when the town was sacked during the rebellion of that year. Rams son had also built a house close to the town called Ramsfort, which was also burnt around this time. It probably stood on the site of the present country house, which built in 1751. The Civil Survey mentions the site as 'a ffort in repaire & a decayed Mill', suggesting that the residence may have been situated in a fortified enclosure.

Additional plantation estates included that at Prospect east of Gorey, granted to Sir Edward Fisher in 1612 as the manor of Chichester, and regranted in 1618 as the manor of Fisherstown. The decayed castle at Prospect (Ref No.: WX007:049) is probably shown on the Down Survey map as a tower-like feature. The estate of Sir Richard Cooke was located at Newtown Lower, close to the county boundary with Wicklow, from 1612, becoming the manor of Cookestown from 1618; a castle stood on site by 1621 (Ref No.: WX003:004). Lands were also granted to Sir Rodger Jones at Middletown on the outskirts of Courtown in 1618. The subsequent defensive house or castle (Ref No.: WX012:018), built by 1621, was in a state of decay by 1654. A plantation castle was also erected in Monaseed Demesne (Ref No.: WX006:071), west of the Esmond estate at Limerick, on land granted to William Marwood in 1618. A plantation site, which was not government sponsored, also existed at Killybegs, immediately west of Inch. Its Irish owner William Doyle of Fortchester mortgaged it to a merchant Thomas Wakefield, where a brick house was subsequently built following the rebellion.

During the intervening period between the rebellion of the 1640s and the late 1870's landed properties in Wexford became progressively smaller (Gahan 1987). The once extensive Esmond estate, at one time occupying the entire parish of Kilcavcan, had shrunk to an area around the manor of Limerick, to be replaced by the Quinn estate and several smaller properties nearby (Gahan 1987). The Esmonds did however remain a large landowning family in the parish of Kilcavan. The Ram family, with a modest estate around Gorey (expanded in the seventeenth century when the property of an absentee grantee Sir Walter Plunkett, i.e. the Clonatin estate, was incorporated), similarly remained a prominent landed family into the nineteenth century.

2.3.5 Industrial sites

Other monuments, such as watermills, which can date from the medieval period or later, also appear in the archaeological record. Many of these features are noted from the Civil Survey and, in some case, relate to features still extant today or extant on later maps, such as the first edition OS map (1841). However, little is known of the horizontal Mill in Corcannon (Ref No.: WX007:057), discovered during land reclamation in *c*. 1985, although a dendrochronological felling date of AD 1228±9 was established for timbers recovered. There is also record of timbers from a 'crannog', discovered in *c*. 1900 in Toberduff, from which a granite quern was also recovered. The site, WX007:052, which is not precisely located may also possibly have been a horizontal mill (Moore 1996).

The first edition map of the OS six-inch series indicates an unnamed 'Corn Mill' on the townland boundary between Clogh and Cain. Its 'Mill Pond' lies slightly to the northwest along the channel of a 'Mill Race' that sources in Moneylawn Upper and travels through the centre of Moneycross Upper townland, thereby dividing the townland in two. A second mill, on the east side of the present Arklow to Gorey road on the Ballylarkin and Ballyellin townland boundaries is indicated as 'Ballylarkin Corn Mill'. The building of water powered corn mills

reached a peak in the years immediately preceding the Famine, and took place all over County Wexford in the first half of the nineteenth century.

2.4 Townland

The townland placename Raheenagurren, includes the root word *raheen*, which means little rath or fort. The gurren element of the townland could be anglicised from garran, which means a shrubbery or garden (Rafferty 2004).

Townland names were taken down in the nineteenth century by the Ordnance Survey, at which time some were anglicised, some were translated while others were given entirely different names by the new landowners. The greatest number of townland names traversed by, or in the vicinity of the proposed realignment are anglicised Irish names such as Ballinclay or Kilmurry; examples of translated names include Ashwood and Hollyfort on the county boundary with Wicklow; Ramstown and Fortchester, along with Perrymount, are examples of the introduced English names of seventeenth century plantation or later settlers. By the time the OS collected placenames in the area in the 1840's, both the native Irish and introduced English forms would have been simultaneously in use in the area, although the Irish language itself in Wexford had ceased to be spoken by 1851.

Of the Anglicised Irish place names a high ratio are cultural in origin, meaning they relate to human activity. Among generic cultural elements, by far the most numerous is *baile* (a town) and in Gorey barony over one quarter of the townland names contain baile as a prefix. Ballyloughlan is derived from both *baile*, meaning town and *loch*, meaning lake, so that it may translate to the town of the lake. Ballinclare contains the suffix *clár*, meaning a level piece of land, so that the townland may mean the town of the plain. Ballinclay is probably anglicised from *baile na cliath,* or the town or place of the hurdles. Ballyminaunhill contains the root word *mín*, for level; *mínán* subsequently means a small level place. Ballydermot contains a personal name, the town of Dermot, as may Ballyellin, although ellin may be derived from oileáin, for island. The prevalence of *baile* in placenames is an expression of the Gaelic influence that prevailed during the medieval period in Wexford. Placenames with the English suffix town, such as Ramstown, are much less common. Other English name elements include land, park (Parkbaun) and mount (Perrymount).

None of the names relate directly to pre-Christian monuments, a fact reflected in the almost complete lack of prehistoric monuments in the area. Names that do indicate archaeological activity in the landscape include those names referring to ringforts, such as Raheenagurren, which includes the root word *raheen*, which means little rath or fort. The gurren element of the townland could be anglicised from garran, which means a shrubbery or garden. Killybegs is anglicised from *cealla-beaga*, the little churches; Kilmurry is so called from a dedication to the Blessed Virgin, *Cill-Mhuire*, Our Lady's or Mary's Church. Reference to a well exists in the Irish Toberduff, derived from *tobar dubh,* meaning the black well. Anglo-Norman heritage may be represented by the old English

name Frankfort, which possibly meaning the fort of the French or Gall. Tinnock is anglised from *Tigh na cnoic*, the house of the hill.

Many townlands are also anglicisations of Irish names that refer to topographical and agricultural aspects of the landscape. Ask, may derive from *eisc*, an Irish word for water or a stream channel. Ballyloughan is derived from the Irish *Bale an Locháin* meaning the town of the little pool. Corcannon, contains *cor*, meaning a round hill, cannon may derive from *cunna*, meaning hounds. Clogh is the Irish for stone. Inch derives from *Inis*, an island of land or low meadow by a river. Boleybawn incorporates *buaile,* the milking place for cattle, and *bawn*, meaning green field or grazing place; Parkbaun also contains the suffix *bawn*, which simply means green field. Clonatin, as mentioned earlier is derived from *cluain* and *aiteann*, the meadow of the furze. Coolnaveagh and Coolnastudd contain either *cuil*, a corner or *cul*, the back; Coolnaveagh is possibly anglicised from *cuil* and *bheith*, meaning birch corner or alternatively from *cuil* and *fiach*, the ravens back. Coolroe translates as the red corner or back. Moneylawn and Moneycross also both contain money, which is derived from *muine* or scrubby place. Knockduff is an anglicised version of *cnoc dubh*, or black, black hill. Carriganeagh contains the prefix *carrig*, the Irish for rock; the townland name may simply mean little rock, or alternatively the rock of the deer (from fiadh). Banogehill contains the root work *bánóg*, the Irish for a meadow. Cronecribbin contains the root word *cró*, which means a hollow or valley predominantly in the northwest, and a cattle hut elsewhere. However, the prefix crone may derive from *crón*, for brown.

3.0 THE EXCAVATION

3.1 Setting

Site 24 was located in the townland of Raheenagurren West, east of the R741, located *c*.1.9km to the south southeast of Gorey town, County Wexford, towards the south-central area of the proposed scheme (Chainage 8000–8030; N.G.R.: 316375E, 158033N; See Figures 1-6).

The site was situated at a level of 37 m above sea level, in low lying wet land, drained and bordered to the south by a small unnamed stream, 0.5 km east of the Branogue River, a tributary of the Owenavorragh River. The site was located in a large open square field, bordered by a modern road to the west and a field boundary ditch to the east. The site lay within the C.P.O./LMA of the proposed mainline route of the N11 Gorey to Arklow Link, and comprised the combination of one rectangular excavation area, previously identified as containing archaeological deposit. This site was adjacent to Sites 25, 26, & 27-29, all excavated within 100m of this site (See E3489 [25]; E3491 [27-9]; E2390 [26]; Breen *et al forthcoming*).

The topsoil was stripped from areas measuring a total of 856m^2 to locate the potential archaeological features identified during the centreline testing. Works began on site on 11/08/05 and were completed on 05/09/05.

Once the topsoil was removed, the exposed area was cleaned by hand and features were identified and investigated. All of the identified potential archaeological features were photographed and recorded on the general site plan prior to excavation, and the features identified during the testing were examined further.

3.2 Previous Archaeological Assessment

Geophysical testing was carried out between Chainage 8040-8230 (Area 2a), adjacent to the location of a known archaeological monument –a ringfort (RMP ref.: WX012:003; EIS Site 14). Geophysical magnetometry survey at Area 2a revealed a broad linear trend of magnetic enhancement, possibly geological in origin, plus a small amomaly, almost at a right-angle to the first, sub-circular in shape with a diameter of 34 m in length, possibly representing ditches or hearths (A003/001; Bonsall & Grimson, 2005, Fig.s 4 & 5, p3, 11-12).

Excavation was carried out following the completion of archaeological assessment by Irish Archaeological Consultancy Ltd., for the N11 Gorey–Arklow Link (Excavation No. A003/009; Site Specific Test Area 3; Mullins 2005, 12). The goal of this project being to preserve by-record the archaeological site/s exposed within the take of the proposed route.

Site 24 was revealed in testing to comprise a deposit of charcoal-rich silty clay and frequent heat shattered stone, measuring 11m (north/south) x 7.5m. The average depth of topsoil was 0.35m. No other features were identified during testing (*ibid.*).

A further burnt mound / *fulacht fiadh* site (Site 25; E3489) was located on a gentle slope to the southwest. To the east, beyond the stream, the land sloped up to Site 27 (E3491), where traces of Bronze Age and Iron Age settlement were found (See Breen *et al forthcoming*).

3.3 Method

Topsoil at this site was removed from an area measuring 856m^2, utilising a 20 tonne hydraulic excavator under the direction, supervision and monitoring of a qualified archaeologist. Once the topsoil had been removed, the entirety of the site area was cleaned back by a team of six archaeologists and assistants, to reveal both the features identified during the previous testing (see above) and to try to identify any new features which may have been exposed (See Figures 6-9; Plates 1-3).

All of the features identified during the centreline testing were relocated and excavated during this open area excavation of the site locales. These, as well as any potential newly discovered features, were investigated, recorded using drawn half sections and fully excavated.

Upon location all archaeological materials were cleaned and excavated by hand using methods appropriate to their composition, nature and date. All archaeological contexts were photographed and planned (in relation to the site grid) prior to excavation. Excavation of contexts was carried out by sectioning, using methods appropriate to their composition and nature. Well-defined pits and post-holes were half sectioned and recorded and then fully excavated. Sections were excavated through any linear features to obtain profiles and to expose the stratigraphic sequence.

The composition, stratigraphic position and interpretation of all contexts were recorded on a context sheet prior to excavation. Contexts have been sampled for botanical material, radiocarbon dating, micromorphology, petrology and wood identification, where appropriate. All sections and cut features were photographed and drawn. The position of all finds and samples were recorded in three-dimensions (where practicable) in relation to the site-grid.

Any later linear features discovered were investigated by the hand excavation of a section across their width and a record was made of their stratigraphy, composition and any attendant features, which may have been present. Where features of a late or modern date truncated earlier features these were fully excavated to remove any danger of contamination of artefactual or dating evidence.

3.4 Stratigraphic Description

Features are listed in detail in Section 10, Appendix A, with artefacts detailed in Section 4 below and also catalogued in Section 10, Appendix B, finally bulk soil and environmental samples taken from the site are listed in Section 10, Appendix C at the end of this report. A matrix of the stratigraphic relationship of contexts is listed in Appendix E (Section 10).

N11 Site 24, in Raheenagurren West townland, consisted of a number of features, some of which cut into the sub-soil and an intermittent spread of burnt mound, marl and other deposits (See Figures 6-9; Plates 1-4). Most of these features had a discernable physical relationship to each other (Section 10, Appendix E). Together with

stylistic, cartographical and/or artefactual evidence (See Sections 4, 10.B), features were assigned to one archaeological phase (Bronze Age) listed below.

The archaeological results of this excavation refers to the prehistoric activity consisting of a pyrolithic archaeological type-site, often known in Ireland as '*fulacht fiadh*' and more universally known as a burnt mound (See Figure 6; see also Section 6.0 Discussion). This type-site is commonly, though not exclusively, dated to the Iron Age as was also the case at this site.

Non-archaeological / cancelled numbers: A number of context numbers were cancelled or assigned to features of a non-archaeological origin (Listed as C29, C53, C79, C80, C83, C84, C91, C92, C93, C94, C95, C96, C97, C98, C99, & C100; Appendix A).

3.4.1 Topography and geology

Less than 50m to the northwest of the site excavation area a significant geological boundary occurs (co-ordinates derived from the *Geological Survey of Ireland's* index of data holdings), from the Oakland's Formation to the Campile Formation. Site 24 is located on the Campile Formation, comprising grey and brown slates, and overlain by overburden, generally comprising a stratum of stiff/very stiff slightly gravelly 'Macamore' clay, overlying medium dense sand and gravel[2].

The site was situated on a slight slope with a northwesterly aspect, on low-lying flat ground and drained / bordered to the south by a small unnamed stream. Prior to excavation, land usage could be defined as agricultural/grazing (See Figure 2; Plate 2).
Subsoil on this site (C1) was recorded as a relatively flat mottled mid-grey or light orange boulder clay of moderate, occasionally gritty compaction, which covered the area of the site (See Plates 1-4).

Natural features: Despite their superficial resemblance to a ditch, various irregularities (poor edge definition etc.) suggested a natural origin, such as a sink-hole, for two features (C54/55 & C65/66–69, 76).

3.4.2 Phase I: Iron Age burnt mound / *fulacht fiadh*

The archaeological phase of this site was represented by the construction of a number of ground-water fed pit or trough like features, and associated spreads of pyrolithic debris, reflected in the spread of burnt mound material – commonly known in Ireland as a *fulacht fiadh*.

[2] N11 Gorey to Arklow Link, Environmental Impact Assessment 2005. VOL 2. Section 13.3 Existing Environment, P291-301

Iron Age circular pit: A circular pit C72 to the south of this excavation, measured 0.87m in diameter, 0.33m in depth, and had steep sides and a flat base (See Figures 6, 7). This feature contained a primary fill (C70) consisting of dark grey, charcoal-rich (oak), silty clay containing some heat-shattered stones and one charred seed, identified as knotgrass (See Dillon, Section 9.2). This was overlain by grey/brown sandy material (C71), with occasional charcoal. A sample of hazel charcoal from this upper layer returned a radiocarbon date of 380-200 cal BC (See Section 9.4).

Post-holes: Two undated post-holes (C108 & C110) were also excavated approx. 2m southwest of the Iron Age pit C72, and 0.40m apart (See Figure 6). Both were slightly oval, (maximum diameters of 0.24m / 0.26m, and depths 0.16m / 0.18m respectively), had concave sides, gradually sloping towards a flat base. Both were filled by silty clay containing occasional charcoal and heat-shattered stones (C107 & C109).

Trough / pit: An undated pit or trough-feature (C30) was excavated in the northern quarter of the site (See Figures 6, 8; Plate 1). It was approx. rectangular in plan, 1.09m in length, (orientated east southeast–west northwest), 0.46m in width, and up to 0.19m in depth. The sides were not steep and there was no marked break of slope at the base. The primary fill was a thin basal deposit of grey silty clay (C56), containing some charcoal and heat-shattered stone. This was overlain by a similar deposit, dark grey to black in colour (C33), which filled the remainder of the pit.

Adjacent post-holes: Immediately west and northwest of this undated pit, were six post-holes (C44/45; C34/35; C42/43; C36/37, C40/41; C38/39), four of which formed a linear alignment at one end of the pit, with an north/south orientation (See Figures 6, 8; Plate 1). These measured, on average, 0.06m in diameter and 0.15m in depth.

Burnt spread: A large amorphous spread of (probably truncated) burnt-mound material located partially sealed (and post-dated) C30 and C71, and comprised two layers and was irregular in plan, and covered an area 14m in length by 8.5m in width (See Figures 6, 9; Plates 2, 3). The primary deposit of stiff grey clay (C8), measuring 0.10m in depth, contained occasional charcoal and heat-shattered stones and flint lithic artefacts, including a blade (Find 59), a possible broken 'piecer' tool (Find 27), and numerous waste flakes and chunks (See Moore, Section 4.2; Illus 1). The upper layer (C3) consisted of heat-shattered stone and charcoal in a matrix of silty clay, and up to 0.20m in thickness. This layer also produced a disc-shaped stone spindle-whorl (Find: 16; See O'Brien, Section 4.3; Illus 2) along with a flint scraper (Find 35), and worked flint flakes and chunks (See Moore, Section 4.2; Illus 1). Environmental samples from this layer also produced a small quantity (0.3g) of unidentified burnt bone (See Troy, Section 9.3), as well as traces of charred cereal grains (See Dillon, Section 9.2) abd oak, alder, blackthorn and ash charcoal (See OCarroll, Section 9.1).

Isolated pit: A small, isolated oval pit (C19) was located in the far south-western extent of the site, 9m southwest of the Iron Age circular pit, and measured 0.55m in length, 0.46m in width, 0.18m in depth (See Figure 6)**.** This feature contained a primary fill (C18) of charcoal-rich, silty sand containing frequent heat-shattered stones, charred seeds, identified as hazel nuts and cereal grains (See Dillon, Section 9.2). This was covered by a thin layer of what appeared to be re-deposited natural with occasional heat-shattered stone and charcoal inclusions (C22)**.** One piece of flint flake was recovered from this fill (Find 94; See Moore, Section 4.2).

Isolated post-hole: A second isolated post-hole (C57) was also excavated in the southeast of this site, 5m to the south of the burnt spread and 8m east of the Iron Age pit C72 (See Figure 6). This feature was oval in plan, 0.175m in maximum diameter, and 0.12m in depth. This contained a single backfill (C58).

Isolated post-hole: A third isolated post-hole (C7) was also excavated 3m east of the burnt spread C3 and southeast of pit 11m southeast of trough or pit C30 (See Figure 6). This feature was slightly oval, 0.39m – 0.32m in diameter, and 0.31m in depth and contained a post-pipe, 0.17m in diameter, within the backfill (C4). The packing fill, **(C6)**, contained some pebbles, which may have been packing stones. As in the case of the other post-holes, there were no finds.

3.4.3 Phase II: Undated plough furrows

A series of linear plough furrows were excavated, that survived along the south-eastern extent of the site, where the site was less disturbed from truncation, due to proximity to the hedge and present field-boundary these were orientated parallel to the field boundary (northeast – southwest), but there also included two other orientations (See Figures 2-6).

One set (C12, C81, C101& C116,) orientated east-west, were truncated by a second set (C10, C77, C118, & C85) that ran parallel to the hedge (*i.e.* northeast-southwest). In turn, they were also cut by the third set (C103, & C114) that ran north - south. Most ranged in width from 0.10m to 0.18m, but two of the furrows comprising were 0.21m and 0.28m in width and 0.06m to 0.03m in depth. (See Figure 6)

The backfills of all the furrows were similar and comprised a silty sand. There were three finds from the fills of these furrows: a flint flake (Find 64, C102), a sherd of post-medieval pottery (Find 63, C78) and a small-corroded iron object (Find 65, C115) (See Moore, Section 4.3; White, Section 4.4; Scully, Section 4.5).

Topsoil: The site was sealed by 0.35m of topsoil comprising a uniform deposit of topsoil (C2), mid-dark brown silty clay loam, in a field of undulating rough pasture, on a gentle east-facing slope beneath. A significant quantity of flint lithic artefacts (See Moore, Section 4.2 below) were found in the topsoil (C2). Three sherds of post-medieval pottery and two iron objects were also recovered in this deposit (See Scully, & White Sections 4.4, 4.5; Appendix B).

3.5 Condition Post Excavation

Following archaeological resolution of the site, the site was made safe – deep excavations were backfilled and sharp slopes levelled and smoothed out, and the site was fully fenced-off. The site was taken into possession by the contractor in September 2005, and formed part of the mainline of the new road scheme.

4.0 THE FINDS

4.1 Artefact Overview

A small lithic assemblage numbering 66 pieces recovered from the excavation was analysed by D G Moore who suggested the assemblage represented activity dating to the Neolithic – Early Bronze Age, and included two endscrapers and the flint knife and the range of knapping debris (See Moore, Section 4.2). The occurrence of this assemblage in association with a burnt mound indicates that it is likely that the material was incorporated into the mound deposits, although the date of this monument does not concur with the lithic dating evidence.

In addition, a stone spindle whorl artefact, also recovered from the burnt mound, was analysed by O'Brien however, such examples can date from the Late Bronze Age through to the medieval period (See Section 4.3).

A small residual assemblage of pottery was analysed by F White, who determined it dated from the late seventeenth century to eighteenth century (White, Section 4.4). Finally, two metal objects from this site were also subject to specialist analysis– a nail and unidentified object, but these were undated (Scully, Section 4.5).

4.2 Lithic Assemblage by Dermot G Moore

4.2.1 Abstract

A small lithic assemblage numbering 66 pieces was recovered from the excavation of A003/042 (Site 24) in Raheenagurren West townland and represents activity dating to the Neolithic – Early Bronze Age shown by the two endscrapers and the flint knife and the range of knapping debris. Their occurrence on a burnt mound site provides evidence of the continuity of site use.

4.2.2 Introduction

The lithic assemblage recovered from the excavations at A003/042 (Site 24) in Raheenagurren West townland was retrieved from a range of contexts associated with burnt mound and pre-mound activity.

FLINT	
Primary Material	
Cores	
Single platform	2
Dual platform	1
Indeterminate	3
Flakes	27
Chunks/spalls	28
Secondary Material	
Scrapers	
Endscraper	1
Thumbnail	1
Knife	1
Simple modified blade	1
Piercer	1
Total	66

Table 1: Range of lithic material recovered from Site 24

4.2.3 The Flint Assemblage

RAW MATERIAL

Although no pebbles were recovered during the excavation, the source of the raw material utilized on site was primarily derived from beach and glacial drift pebbles. Generally the flint was patinated a cream-buff – brown colour with less than half the assemblage retaining a small amount of cortex.

PRIMARY TECHNOLOGY

Cores: Six cores consisting of two single platformed examples (class A2), a dual platformed core and three indeterminate specimens were identified. The first single platform core (Find 5) was made on a large flint pebble with several impurities which measured 40mm x 37mm x 32mm. A single large flake had been removed which suggests that this was probably a test piece (Illus. 1). The other single platform core (Find 14) consisted of a small pebble flint core, which measured 24mm x 21mm x 13mm, flaked part of the way around. It is quite an irregular example with the flakes struck from one direction only (Illus. 1). The only dual-platformed core (v43) recovered was a flat example which measured 27mm x 28mm x 10mm with flake scars on opposing faces (Illus. 1).
The three indeterminate cores consisted of a small patinated and heavily weathered irregular core (Find 4); another small weathered and patinated core portion (Find 22) with at least two flake scars; and a small pebble core (Find 79) with at least three flake scars removed from one direction.

Flakes: A total of 27 flakes of which 10 were broken were recovered. Many were of fresh condition although all were patinated a cream – buff to brown in colour. The unbroken flakes ranged in length from 13 – 42mm and 9 – 33mm in breadth. Only two planar platforms were identified and five pointed; seven decortical and the remainder were indeterminate. One flake (Find 62) is notable in that it was a fine finishing flake with a pointed platform which measured 25mm x 23mm x 3mm with several flake scars on its dorsal face. This flake is likely an axe edge trimming/reworking flake (Illus. 1). Only one flake was fully decortical with the remainder retaining a small amount or no cortex.

Chunks: A total of 28 flint chunks were also recovered during the excavation many of which are natural in origin and which were shattered. Most if not all exhibited varying degrees of weathering.

SECONDARY TECHNOLOGY

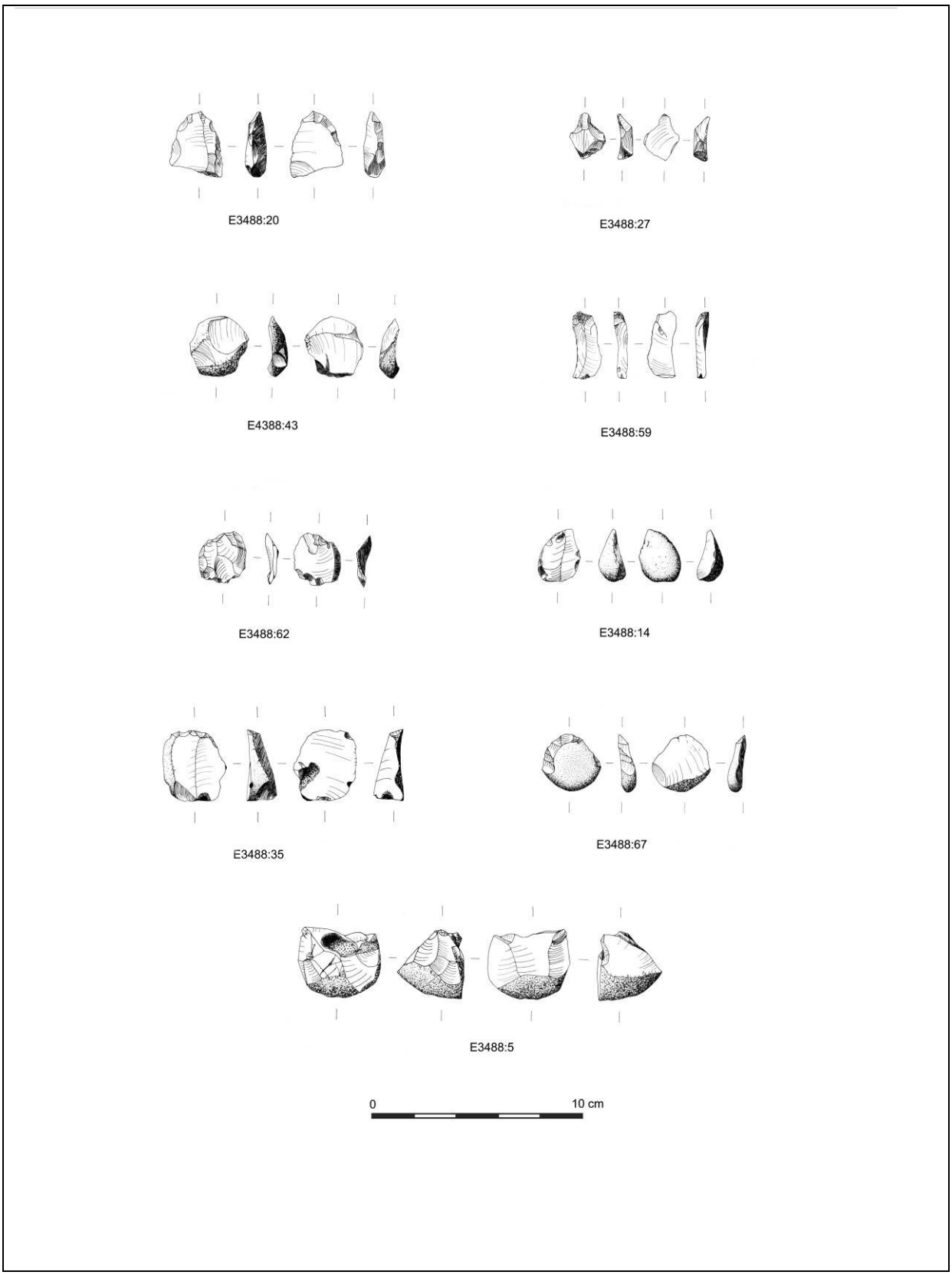
Only a small quantity of secondary worked material numbering five pieces was recovered from A003/042 (Site 24).

Simple Modified blade: A single small simple modified blade (Find 59) was the only example of its type recovered which measured 32mm x 13mm x 5mm. It exhibited fine secondary working/edge nibbling along its left lateral dorsal edge (Illus. 1).

Scrapers: Only two scrapers were identified, consisting of an endscraper and a small thumbnail scraper. The endscraper (Find 35) was made on an irregular pebble flake which measured 33mm x 30mm x 13mm. It exhibited semi-steep secondary working on a small area of its dorsal distal edge (Illus. 1).
The thumbnail scraper (Find 67) was also made on a flake which measured 26mm x 25mm x 9mm. The secondary working was located on the dorsal distal end and was quite steep and there was slight edge working of the dorsal right lateral edge. The flint is quite dense and coarse possibly due to the degree of patination (Illus. 1).

Knife: The flint knife (Find 20) was represented by a heavily patinated and weathered broken tip of a flint tool made on a flake which presently measures 31mm x 25mm x 10mm (Illus. 1). The secondary working was located on the right lateral dorsal edge, the right lateral ventral edge and around the tip. The fracture face was also patinated indicating the piece was broken in antiquity. There is also a suggestion that this knife was originally a large projectile, which was re-worked.

Piercer: A small piercer (Find 27), which measured 22mm x 18mm x 7mm, manufactured on a small flake was also recovered. It was relatively fresh with the secondary working located on the opposing lateral dorsal edges forming the tip/point which is presently slightly worn (Illus. 1).



Illus. 1: Selected lithic artefacts from Site 24.

4.2.4 Summary

The small lithic assemblage retrieved from A003/042 (Site 24) indicates small-scale domestic activity. The presence of the cores and flakes provide evidence that knapping was taking place. The three diagnostic and three indeterminate cores show that the limited knapping activity may be due to the lack of the resource and the transitory nature of the activity on the site. The production of the small number of flakes again provides evidence of temporary activity. The occurrence of the planar platforms utilizing hard hammer percussion and pointed platforms utilizing indirect percussion does attest to a Neolithic – Early Bronze period of use. The relatively large quantity of irregular flint chunks simply reflects the natural flint material.

Small size assemblages such as this, particularly those from the south-west and southeast of Ireland, in the absence of diagnostic implements such as projectiles are difficult to date as has been noted by Woodman at Lough Gur (Woodman and Scannell 1993). Indeed, only three of the modified flint pieces, the end scraper, thumbnail scraper and the knife while undiagnostic would indicate that much of the assemblage can only be broadly assigned to a Neolithic – Early Bronze Age phase of activity.

The occurrence of the small thumbnail scraper provides evidence of an Early Bronze Age period of activity but these small implements are difficult to date outside of northeast Ulster (Woodman 1994, Moore 1999) as is the endscraper itself and are heavily reliant on the size of the resource.

The thumbnails are common on sites with known Early Bronze Age activity, which have produced Beaker pottery and Food Vessels, but in this area of Ireland, the small size of the flint pebbles utilized as the source of the raw material makes this distinction between periods rather arbitrary. The Ballylough Project in south county Waterford (Green and Zvelebil 1990) provides further evidence of this, whereby, in the absence of such diagnostic tools, the variability (especially quality, size and type) of the resource made assigning undiagnostic implements such as scrapers difficult.

In conclusion, the lithic assemblage from A003/042 represents an area of Neolithic – Early Bronze Age activity based on the presence of the thumbnail scraper and other modified pieces. The presence of the limited amount of knapping debris, albeit undiagnostic of a specific period, lends further weight to the transitory nature of the site during this period. The occurrence of this assemblage in association with a burnt mound indicates that it is likely that the material was incorporated into the mound deposits.

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Find	Context	Class	Find description	L. (mm)	W (mm)	Th (mm)
1	C2	Flake	Small irregular flint flake	26	16	7
2	C2	Flake	Very heavily patinated flint pebble flake	31	22	6
4	C2	Core	Small patinated and heavily weathered irregular core	15	22	26
5	C2	Core	Large pebble core made on a flint pebble with several impurities - with one large flake removed - probably a test piece?	40	37	32
6	C2	Chunk	Small irregular weathered flint chunk with partially rolled edges	n/a	n/a	n/a
7	C2	Chunk	Small irregular flint chunk - core portion	n/a	n/a	n/a
8	C2	Flake	Broken large fine flint flake with dorsal flake scar (core edge preparation)	n/a	43	5
11	C3	Chunk	Small pebble flint chunk - heavily patinated	21	22	11
12	C2	Flake	Irregular broken flint flake portion	27	19	10
13	C2	Flake	Heavily weathered and patinated flint flake portion	n/a	n/a	n/a
14	C2	Core	Small pebble flint core and flaked part of the way around - irregular with the flakes having been struck from one direction only	24	21	13
17	C3	Flake	Flint flake with very recent edge damage/secondary working and damage/fracture	39	30	13
18	C3	Flake	Small weathered and patinated pot-lid flake	n/a	n/a	n/a
19	C3	Chunk	Large irregular naturally shattered flint chunk	n/a	n/a	n/a
20	C3	Knife	Heavily patinated and weathered broken tip of flint tool made on a flake - secondary working is located on the right lateral dorsal edge, the right lateral ventral edge and around the tip. The fracture face is also patinated indicating the piece was broken in antiquity. Possibly a large projectile or knife	31	25	10
21	C3	Flake	Small tiny flake	13	11	4
22	C3	Core	Small weathered and patinated core portion with at least two flake scars	33	21	15
23	C3	Flake	Broken flint flake portion	n/a	39	10
24	C3	Flake	Small irregular pebble flint flake with a ventral face scar	22	15	6
26	C8	Chunk	Small patinated flake chunk	19	17	10
27	C8	Piercer	Small flake tool - piercer - relatively fresh with the secondary working located on opposing lateral dorsal edges forming a tip/point which is slightly worn	22	18	7
28	C3	Flake	Small irregular flake portion	21	19	5
30	C3	Flake	Small irregular flake portion	20	14	6
31	C3	Flake	Small irregular flake with pointed platform	15	23	5
32	C3	Chunk	Weathered and patinated flint chunk	n/a	n/a	n/a
33	C3	Chunk	Small irregular weathered and patinated flake chunk	n/a	n/a	n/a
34	C3	Chunk	Small pebble flint flake chunk	n/a	n/a	n/a

Find	Context	Class	Find description	L. (mm)	W (mm)	Th (mm)
35	C3	Scraper	Endscraper made on an irregular pebble flake with semi-steep secondary working confined to an area of dorsal distal edge	33	30	13
36	C3	Chunk	Small irregular flake chunk	14	22	10
37	C8	Flake	Small irregular pebble flint flake - weathered and heavily patinated	24	25	10
39	C2	Chunk	Fresh but patinated irregular flint chunk	36	15	12
40	C2	Chunk	Fresh but patinated irregular flint chunk	n/a	n/a	n/a
41	C8	Flake	Large irregular flake removed from a weathered core	15	33	7
42	C8	Flake	Large pebble flake - broken - quarter portion of pebble with an indeterminate platform but possibly planar	33	29	15
43	C8	Core	Flat dual platformed pebble flint core with flake scars on opposing faces	27	28	10
44	C2	Chunk	Large irregular flint flake chunk with oxide mineral/sediment concretion	42	23	12
47	C8	Flake	Heavily patinated and coarse form of flint pebble flake - almost quartzitic in mineralogy	30	22	8
48	C2	Flake	Small flint pot-lid flake from pebble with 'eye' pattern	13	14	5
50	C2	Chunk	Irregular flint core spall/chunk	27	23	17
53	C2	Chunk	Large irregular flint core spall chunk - likely natural	n/a	n/a	n/a
54	C2	Chunk	Large irregular pebble flint chunk - likely natural	n/a	n/a	n/a
55	C8	Flake	Broken irregular pebble flint flake struck from a weathered and worked pebble core	32	27	10
57	C8	Chunk	Irregular flint core spall/chunk	n/a	n/a	n/a
59	C8	Simple Modified	Small simple modified blade with fine secondary working/edge nibbling along left lateral dorsal edge	32	13	5
60	C8	Chunk	Large irregular flint flake chunk - possibly core rejuvenation	38	25	13
61	C8	Flake	Large weathered and patinated pebble flint flake	42	32	11
62	C3	Flake	This piece is a fine finishing flake with many flake scars on dorsal face and likely is an axe edge trimming/reworking flake	25	23	3
64	C102	Flake	Irregular flint flake	32	19	9
66	C2	Flake	Small irregular pebble flint flake - weathered and heavily patinated	29	17	6
67	C2	Scraper	Endscraper made on a pebble flint flake. The secondary working occurs on the dorsal distal end and is quite steep and there is slight edge working of the dorsal right lateral edge. The flint is quite dense and coarse possibly due to the degree of patination	26	25	9
68	C2	Chunk	Chunk of flint pebble	28	22	14
70	C2	Chunk	Irregular flint chunk	n/a	n/a	n/a
72	C2	Chunk	Weathered and heavily patinated small flint chunk	n/a	n/a	n/a
75	C2	Chunk	Small irregular flint flake chunk	n/a	n/a	n/a
77	C2	Chunk	Small natural debitage flake	n/a	n/a	n/a

Find	Context	Class	Find description	L. (mm)	W (mm)	Th (mm)
78	C2	Chunk	Large angular flint chunk naturally shattered	n/a	n/a	n/a
79	C2	Core	Small indeterminate pebble core with at least three flake scars removed from one direction	23	19	16
80	C2	Chunk	Naturally damaged irregular pebble	n/a	n/a	n/a
81	C2	Chunk	Small irregular flint flake chunk	n/a	n/a	n/a
82	C2	Chunk	Irregular flint flake chunk	n/a	n/a	n/a
83	C2	Flake	Weathered irregular flint flake - may be pot-lid flake	22	16	7
85	C2	Flake	Weathered and slightly burnt portion of flint flake	n/a	n/a	n/a
86	C2	Chunk	Irregular and quite weathered flint pebble chunk	n/a	n/a	n/a
92	C2	Chunk	Small natural debitage flake	n/a	n/a	n/a
93	C2	Flake	Small irregular (triangular-shaped) pebble flint flake of coarse flint	21	20	7
94	C18	Flake	Very fine small flint flake (now in two pieces) with dorsal flake scarring - suggests fine trimming flake from a near-finished implement	15	9	1

Table 2: Catalogue of lithic assemblage from Site 24.

4.3 Stone Spindle Whorl by Richard O'Brien

4.3.1 General Introduction

Hand spinning of fibres was the earliest method to make yarn for clothing until the invention of the spinning wheel in the Middle Ages. The hand spinning was generally done using a spindle, usually of wood, weighted at one end with a perforated object giving balance and equilibrium during spinning. This weight is classed as the spindle whorl, or whorl. The task is universal and is still in use today in poorer countries. However spinning can be done without using a whorl; a thin relatively straight branch with bulbous end can serve the purpose adequately.

As hand spinning was such an integral part of everyday life any materials to hand were utilised by the spinner. Raw materials as diverse as human femur ends, to lead, wood, bone, antler, clay, Samian ware, jet, lignite, amber, bronze, iron, stone (generally sandstone but occasionally mudstone, limestone and slate), glass, coal and even dried cow dung have been used as whorls. Whorls were also used as parts of necklaces and thus the one object served a dual-purposeful function. However the primary function was weight and this needs to be known when a new object is being classified.

4.3.2 Irish Evidence

In Ireland early prehistoric whorls are rare as the raw materials were probably organic, and thus generally do not survive. It is likely than Neolithic people spun wool and other fibres into thread for clothing, but no definitive examples exist. Bronze Age examples are becoming more frequent but it is in the Early Medieval, Hiberno-Norse and Medieval periods that the vast majority of whorls survive from. The stone varieties predominant as they naturally survive better, but on some Early Medieval sites bone whorls have been found to predominant. The classic example is Cahercommaun Stone Fort in Co. Clare, where Hencken, excavating in 1934 defined a 4-stage criteria for bone and stone whorls; from plain hemispherical cut femur-ends through to circular, disc-shaped stone whorls finally, to lathe-turned, finely decorated bone bowl-type whorls (Hencken, H. 1938). There was a later tendency to date whorls based on the decorative motif with a view that concentric circles could signify an Early Historic date (Laing, L. 1975, 285; Sheehan, J. 1990, 35) but this view is now dis-credited (O'Brien, R. 1994).

Three whorls (2 bone hemispherical and 1 stone disc-shaped) were said to have derived from the Late Bronze Age occupation levels at Ballinderry 2 Crannog Co. Offaly (Hencken, H. 1942, 9 & Fig 6) although the dating of this site was later questioned. There are potential Late Bronze Age whorls from Freestone Hill Co. Kilkenny where 3 bone (2 hemispherical and 1 bowl-shaped) were found along with two fragments of stone whorls (Raftery, B. 1969, 61). The increased discovery of prehistoric sites in the last few years has led to more definitive Bronze Age whorls being found, and it is likely that Early Bronze Age and Late Neolithic examples will be found in due course.

A circular disc-shaped stone whorl was found from a Late Bronze Age site at Ballyveelish, Co. Tipperary (Doody, M. G. 1987, Fig. 2:4, No. 608). A siltstone circular disc-shaped stone whorl was found in the clay capping of a

trough pit on a fulacht fiadh in Coarhamore, Co. Kerry dated to 2950 ± 80 B.P (Sheehan in Buckley, V. 1990, 35). Although first thought by the finder to be Early Historic in date, largely based on decoration, this whorl can now be firmly dated to the Late Bronze Age (O'Brien, R. 1994). Another circular disc-shaped stone whorl was recovered from topsoil but within Excavation Area 1 on Knockadoon Hill, Lough Gur, Co. Limerick (Cleary, R. 2003, 131, Fig. 17, No. 1124). A circular disc-shaped stone whorl was found within a post-hole of a post-built house at Lahesseragh, Site C, Nenagh, Co. Tipperary, in direct association with a saddle quern and charred seeds (O'Brien, R. 2001, 182).

A number of possible Iron Age whorls are known: one with hour-glass perforation was found on a hut circle dated to the Early Iron Age from Scrabo, Co. Down (Owens, M. Excavations Bulletin 1970:16). A bone whorl was found on an earthwork dated to the Late Iron Age / Early Christian period in Grannagh, Co. Galway (Rynne, E. Excavations Bulletin 1971:18).

Early Christian / Early Medieval examples are widespread and are common finds on ringfort excavations.

4.3.3 Irish Whorl classification:[3]

A weight range between 7.8g and probably not exceeding 500g, depending on the type of yarn desired, and the source fibre. The lighter the whorl the finer the yarn.

A diameter range between 34 – 134mm, mean range 35 – 131.4mm. A diameter less than 30mm was probably too small to have allowed the whorl turn clock-wise during spinning. An anti-clockwise movement during the spinning was counter-productive.

A thickness range between 2.8mm – 24.3mm, mean range 3 – 15.4mm. The whorl thickness does not have to be completely uniform. Whorls thickness at the centre naturally performs better as the grip on the spindle is easier during the movement.

Overall shape is generally circular to allow the correct clock-wise movement on the spindle; once there is some balance across the whorl a perfect circular shape is not a prerequisite for good functionality.

The section profile largely depends on the material used, so stone generally is disc-shaped, bone being hemispherical.

A central or almost central perforation with a profile not overtly slanted. A perforation size between 7.5 – 33.9mm in diameter, with mean range between 8.8 – 26.5mm. A diameter below 3mm is too narrow to have gripped the spindle sufficiently to spin even the lightest of fibre. Such objects with narrow perforations were probably beads; conversely too large a perforation nullified the use of the weight.

Decoration cannot be used to date whorls as the common concentric circles around the perforation are the simplest and most obvious way to decorate such objects, and such decorated examples are found from the Bronze Age right through to the Medieval era. The bowl-shaped examples from Cahercommaun included

[3] Based on Masters Thesis 1994

perfectly concentric circles with ring-and-dot motifs but these are rarities. Type and degree of decoration was down to the spinner's preference so variation is to be expected.

4.3.4 Description

A003:042:16, Context 3 (Illus. 2)

This is a classic circular disc-shaped spindle whorl. The raw material is probably local green sandstone.

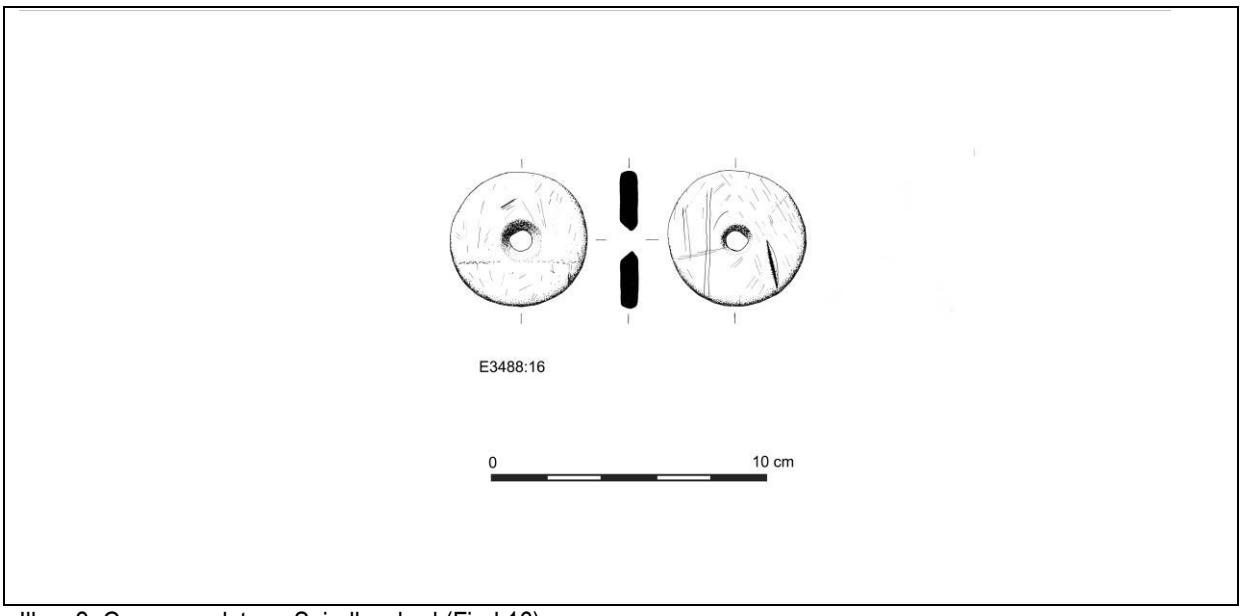
Description: Both faces are smooth and there are traces of damage both old and new across the surfaces. The upper face has a modern crack running out from the edge of the perforation to the edge of the whorl. The lower face is slightly more uneven with traces of heavy wear where the face has been roughed. The sides are very smooth.

Dimensions: The whorl measures 49mm in diameter, weighs 33g and is 8mm in thickness.

Perforation: This is perfectly circular and hourglass in profile, bored from both faces and is 7mm in diameter; a maximum of 13mm between the outer edges.

Decoration: Both faces are well marked with striations. The upper face has putative decorative motifs in the form of 2, and 3 parallel lines running across the surface. These intersect at one corner where there is also a separate band of 2-3 parallel lines running inside the edge. Closer to the centre is a trace of an incomplete concentric line, very thin and fine. Even accounting for wear, exposure and damage such complex decoration should be more definitively etched and therefore it is likely that these lines represent stray markings, and not decoration in the truest sense. The reverse has rougher more worn lines that are undoubtedly naturally derived.

Almost an exact match in terms of weight, size and thickness can be found at Garryduff I ringfort although without the striations (O'Kelly 1962, 89-90, No. 421; O'Brien 1994, 211 Plate 7.2 & 214 Table 29). Looking at similar putative decoration this type can be paralleled at Ballinderry 2 Crannog where a bone disc-shaped whorl 715(455), probably of Early Medieval date had similar parallel lines and striations on both faces (Hencken 1942, 58; O'Brien, 1994, 172 Table 3 & Fig 7.2).



Illus. 2: Green sandstone Spindle whorl (Find 16).

4.3.5 Conclusion

This object is a spindle whorl of the circular, disc shaped variety, the commonest whorl type found in Ireland. Such whorls were easy to manufacture and examples date from the Late Bronze Age through to the medieval period.

4.3.6 References

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4.4 Post-medieval Pottery by Fiona White

4.4.1 Non-technical summary

The ceramic assemblage from the N11 by pass dates between the late 18th century to the late 19th century. The assemblage is Irish with some possible English origin examples. The variety of wares and in particular table wares, indicates that the early residents of this habitation site were reasonably prosperous, with access to a number of luxury items. The domestic wares indicate that access to a local potter may have been possible.

A description of the different wares is provided and a follow up discussion. A catalogue is also provided (See Table 3).

4.4.2 Dating

Pottery as an ancient craft has probably been studied more closely than any other.

The rich resource of complete vessels and sherds discovered from stratified contexts are often helpful in establishing a dating sequence for archaeologists. The time period in this case, the post-medieval period is generally set between 1550 –1800. According to Roseanne Meenan this corresponds with a shift towards different centres of production and export as exploration and settlement of the Americas was developed.

The date for this assemblage ranges from the late 17th century to the early 20th century. The majority of the sherds date from the 18th and 19th centuries. A description of the different wares and their origins is provided. Where post-medieval pottery is evident, it is possible to give a likely date, due to the circulation and rapid changes in style, during this period, both of English and imported wares.

Ceramics form England, Ireland and possibly Germany are represented. The greatest source of imported pottery comes from England; this can be explained by market trends.

Drastic changes were taking place in ceramic technology and design from the mid 15th century onwards in both Britain and on the Continent. Closer commercial and cultural links were being forged. The urban mercantile and artisan classes gained greater purchasing power. House design was changing providing more privacy and comfort. There were major refinements in dining habits. Emphasis was placed on individual rather than communal utensils. This ceramic revolution was not confined to the aristocracy. The increase of taverns and eating houses demanded production of appropriate vessels on a wider scale. Many of these vessel forms were contemporary copies of pewter, silver and glass. Vessels were more likely wheel-made and handles and decoration applied using mechanical aids. Potters were encouraged to diverse their wares particularly for the table. Wares imported from the continent had a profound impact on pottery manufactured in Britain and Ireland. Continental wares were superior by virtue of their robust impervious body, glaze technology and diverse shapes and forms. The development of the Luxury ware ensued. On the Continent Rhenish stonewares were popular as were Spanish and Italian Majolica and lusterware. England must follow the fashion and trends. They did so by developing their basic earthenwares.

4.4.3 The Wares

ENGLAND AND IRELAND

The majority of the assemblage is of English representation. The date of the assemblage is mainly between the late seventeenth, eighteenth and nineteenth centuries. This was a phase of great change and rapid development within the ceramic industry in England, with a notable improvement in quality of all types of wares. The fabric of the wares is principally wholly un-tempered and the method of manufacture is wheel-made with spin and press moulding. The majority of the assemblage can be classed as delfts or tin glazed ware; a ware which was developed during the sixteenth century as a response to the over-riding influence of Chinese porcelain. The forms range from everyday table wares to large domestic storage vessels.

BLACKWARES

Blackware classified as red earthenware, black glazed vessels, were made in Britain and Ireland throughout the seventeenth and eighteenth centuries. Traditional blackwares were transformed into Black Basalt superlative black stoneware. Wedgwood's success led his competitors to develop similar wares and by the end of the18th century durable earthenwares and stonewares were gaining new mass markets. The ware's likely origins lie in the Buckley area of North Wales. Successful production centres also existed at Liverpool, Lancashire and Staffordshire. Considerable quantities of the ware were exported to Dublin from North Wales during the seventeenth century and it is generally the largest single group of post-medieval ware discovered in Dublin. As a result of its popularity a local industry developed in Ireland during the middle of the eighteenth century. There are three possible representatives of blackware evident in this assemblage. The first is likely to come from North Wales recognizable from its two clays of different colours and consistencies and dated to the late seventeenth century, the second is likely to be native Irish blackware as it has a softer clay of one colour and one consistency, probably dated to the mid eighteenth century, the third, likely from the Staffordshire region, as they represent tablewares. The ware is much more delicate than the examples mentioned above. Blackware is associated with domestic containers, generally jars, bowls, milk pans, jugs, pipkins and storage vessels. The sherds form this assemblage represent storage vessels, milk pans and a small number of tankards.

BROWNWARES

Origins: Also known as glazed red earthenwares. The earthenware body ranges in colour from light red/buff to dark brown or red. The lead glazes include a variety of colours brown, green and yellow. The vessels are usually coarse table wares, kitchen vessels, dairy vessels and sanitary vessels. The wares are generally assumed to be

local to each centre as it would have been uneconomical to import vessels of such size and bulk. In England brown earthenwares were produced all over the country, more intensively in Staffordshire.

4.4.4 Catalogue

A003/042 38

Tankard rim sherd brown earthenware English

A003/042:2:58

Brown glazed earthenware 17th/18th century English

A003/042: 63

18th English brown/red glazed earthenware

A003/042:9

Blackware 18th century Staffordshire

4.4.5 Conclusion

The assemblage is overwhelmingly English (possibly reflected by the population using the vessels?). There are some local wares (large bulky domestic vessels) represented, possibly produced and traded by local potters and an area where future research is vital. Further investigations are needed on the activities of local potters and whether they were producing fine ceramics. Overall the assemblage dates from the late seventeenth century to eighteenth century.

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Find	Context	Description	Date
2	C9	Blackware 18th century Staffordshire	18th
2	C38	Tankard rim sherd brown earthenware English	
2	C58	Brown glazed earthenware 17th/18th century English	17/18th
2	C63	18th English brown/red glazed earthenware	18th

Table3: Catalogue of Post-medieval pottery.

Metal objects by Órla Scully

4.5.1 A003/042, Raheengurran West,

The excavations on the route of the N11 Gorey to Arklow Link, undertaken by Valerie J. Keeley Ltd, from which metal artefacts was retrieved from Site 24, A003/042, Raheengurran West; in Co. Wexford.

There were two objects from this site, and iron nail and a fragment of a spur, made of iron, decorated with strips of copper alloy (See Table 4).

Find#	C#	Metal	Object	Function	Description	Dimensions
3	C2	Fe	Nail	Structural	Broken corroded shaft, circular-sectioned , tapered to a point, head indistinct	67 x 15 x 14
65	C11	Fe & Cu alloy	Spur fragment	Horse equipment	Circular bar, (goad) wrapped in spiral strip of cu alloy, protrudes from arched circular-sectioned bar, arms broken to unequal lengths, remains of spur	37 x 31 x 8

Table 4: Catalogue of metal finds from Site 24.

5.0 DISCUSSION

5.1 Contemporary Prehistoric Settlement

The topography of the site was generally low lying and flat, prior to excavation the site was in use as rough pasture and occasional tillage. The site was set within a broad low lying coastal plain, extending 6-10 km to the east coast at Ballymoney and Courtown, with the glacial outcrops of Ask Hill (166m OD) and Tara Hill (254m OD) rising 2.5 km to the north and 3.5 km to the northeast respectively. The topography and geology of the hinterland surrounding the site is typical of the plain as a whole, with a gentle undulating east/west slope trend from Ask south as far as Wexford town. The majority of land use was rich tillage and pasture farming. The topography of the site was generally flat, fertile brown earth soils, overlooked by the Blackstairs and Wicklow mountains to the west.

The table (Table 5) below shows the relatively-limited extent of known prehistoric monuments from the RMP, and contemporary (Middle Bronze Age) available radiocarbon dates, returned from excavated sites on the N11 Gorey – Arklow Link road scheme. The contemporary settlement pattern demonstrated by this analysis, shows the data is dominated by the presence of Tara and Ask Hills, and the foot-hills of the Blackstairs to the west – evidenced by a number of standing stones and datable-sites skirting the western slopes of Ash Hill. A hiatus of low-lying sites is evidence from the data, as only six excavated examples of *fulacht fiadh* could be considered unusual given the national prevalence of in wet and low-lying topographic locations. However, whilst this shows an apparent bias towards settlement activity on the higher ground, the pattern of dated excavated sites is incomplete and may not accurately represent the level of lowland settlement, especially to the southern end of the road scheme and Gorey by-pass regions. It is in any case worthy of note that the slopes of both Ask and Tara Hills were the focus of prehistoric ritual and settlement activity and are therefore of regional significance in the landscape.

Distance to site	E #	Townland Name	Site	Date range (2σ cal)	Lab Code
0 km	E3488	Raheenagurren West	24	380-200 BC	UBA-32374
0.01 km (NE)	E3489	Raheenagurren West	25	1120-920 cal BC	SUERC-31656
0.02 km (E)	E3490	Raheenagurren West	26	2150-1960 BC	SUERC-33323
0.02 km (E)	E3491	Raheenagurren West	27-29	170 BC-30 AD	UBA-32373
1 km (NE)	E3492	Raheenagurren West	30	1260-1010 cal BC	SUERC-31593

Distance to site	E #	Townland Name	Site	Date range (2σ cal)	Lab Code
0 km	**E3488**	**Raheenagurren West**	**24**	**380-200 BC**	**UBA-32374**
2.5 km (NE)	WX07:35	Courteencurragh	Earthwork	None	
2.5 km (NE)	WX07:34	Courteencurragh	Earthwork	None	
2.6 km (NE)	**E3493**	**Courteencurragh**	**31-32**	**2290-2110 BC**	**SUERC-31609**
3.2 km (NE)	**E3494**	**Ballyloughan**	**33**	**2191-1914 BC**	**UBA-8224**
3.2 km (NE)	**E3494**	**Ballyloughan**	**33**	**2033 -1772 BC**	**UBA-8227**
3.2 km (NE)	**E3494**	**Ballyloughan**	**33**	**2011-1749 BC**	**UBA-8225**
3.2 km (NE)	**E3494**	**Ballyloughan**	**33**	**1889-1626 BC**	**UBA-8226**
3.2 km (SW)	E3478	Moneylawn Lower	13	210-40 BC	UBA-31655
4 km (NE)	**E3495**	**Ask**	**34**	**976-804 BC**	**UBA-8235**
4 km (NE)	**E3495**	**Ask**	**34**	**2012-1750 BC**	**UBA-8236**
4 km (NE)	**E3495**	**Ask**	**34**	**1297-1016 BC**	**UBA-8232**
4 km (NE)	**E3495**	**Ask**	**34**	**1207-921 BC**	**UBA-8233**
4 km (NE)	**E3495**	**Ask**	**34**	**1001-819 BC**	**UBA-8234**
4.0 km (NE)		Ask Hill	Summit (?)	N/A	
4.2 km (NE)	E3496	Ask	35-36	370-170 BC	UBA-32368
4.6 km (NE)	WX07:21	Ask	Mound	None	
4.7 km (NE)		Tara Hill	Standing stones	N/A	
4.8 km (N)	E3500	Ask	40	2025-1695 BC	UBA-8243
4.8 km (N)	E3500	Ask	40	2007-1694 BC	UBA-8242
4.9 km (N)	E3501	Ask	41	1612-1409 BC	UBA-8245
5.0 km (N)		Ask	Standing stone	N/A	
5.0 km (NW)		Ballingarry	Standing stones	None	

Table 5: Contemporary excavated sites and known prehistoric monuments, surrounding, Site 24.

5.2 Burnt Mounds

5.2.1 Definition

Burnt mounds or *fulachta fiadh* are visible within the landscape usually in the form of low, grass – covered mounds, which may be horseshoe, crescent, oval or kidney shaped. The mounds are generally composed of a

heap of fire shattered stones and charcoal that gives it a blackened appearance. They often have a depression to one side, which upon excavation reveals itself to be a trough area. This trough would have held water and can be lined with timber or stone or simply excavated into the natural clay. The trough would have been filled with water and heated stones placed into it, in order to raise the temperature. The stones shattered during this process would have been removed and piled next to the trough. This activity repeated would eventually form the mound. The larger of the *fulachta fiadh*/burnt mounds can contain over 20 tonnes of burnt stone which points to them being re-used more than 100 times (Roycroft 2006). The descriptive term "Burnt Mound" has been used throughout the text here. Whilst there was no mound present on the site, there was evidence that it formerly existed prior to its denudation.

5.2.2 Interpretation

The function of burnt mounds or *fulachta fiadh* as they are sometimes called, has ranged from the popular traditional view that they represent cooking sites to bathing, curing of animal skins, soap production, garment waterproofing and ritual practice (Monk 2007). Other functions have been argued that they may have been covered by light structures and used as saunas or sweathouses such as at Rathpatrick Co. Kilkenny, excavated as part of the Waterford city bypass (Eogan 2007; Laidlaw 2008) or used for bathing, or for some semi-industrial purpose such as washing or dyeing large quantities of cloth or for dipping hides in hot water as part of the preparation of the leather (Waddell 2000). In recent years brewing has also been suggested as a possible function (Quinn & Moore 2007). The Irish terminology has recently come under scrutiny with the suggestion that the use of it in connection with pyrolithic technology should no longer be considered appropriate as medieval manuscripts such as the Yellow Book of Lecan and the Book of Leinster refers to fulacht as cooking on a spit. The text from the Yellow Book of Lecan states

> "a piece of raw meat and another of dressed meat, and a bit of butter on it; and the butter did not melt, and the raw was dressed and the dressed was not burned, even though the three were together on the spit"

An illustration of this spit is also depicted with the text "*fulacht na morrigna inso*" below it (Ó Néill 2004). The earliest sites appear to date from the early third millennium BC with the majority of examples dating to the Bronze Age and the latest possibly surviving into the Iron Age and later (Ó Néill 2000). Generally the earlier site types were exhibited troughs circular in shape and unlined while the rectangular trough usually lined with planks or wicker became more common from around 2000 BC (Ó Néill 2000). Generally the earlier site types were troughs circular in shape and unlined while the rectangular trough usually lined with planks or wicker became more common from around 2000 BC (Ó Néill 2000).

5.2.3 Distribution

*Fulachta fiadh/*burnt mounds are the most common type of prehistoric site in Ireland (Power *et al* 1997, 75; Waddell 2000, 174) and are also known from Scandinavia, Wales, Orkney, the Shetland Islands and parts of Cumbria (Buckley 1990). There are over 7000 known examples distributed throughout Ireland and over 3000 of these occur in Co. Cork (Power *et al* 1997) with that thousands of more *fulacht fiadh* sites existing, unrecorded and undetected, throughout Irish landscape. Large numbers of burnt mound sites have also been recorded in England, Scotland and Wales (Hodder 1990; Williams 1990). *Fulachta fiadh* and burnt mound sites are normally situated close to a water source, such as a stream, streamlet or in wet marshy areas (Power *et al* 1997, 75). They sometimes occur in groups and clusters of two to six often occurring in quite a small area (Waddell 2000). Regional studies show that in Cork particular concentrations occur along streams and sandstone ridges and tend to occur below the 800ft contour (Power 1990). Particular concentrations and clusters of *fulachta fiadh* sites have also been identified in Co. Kilkenny and these occur throughout the county near streams and streamlets in limestone and sandstone rich areas (Condit 1990). The majority of the mounds constitute burnt limestone and occasional sandstone, the former being a rock that was once initially thought to have been unsuited for cooking places (O'Kelly 1954).

5.2.4 Structural Features

The main distinguishing factor of a burnt mound/fulacht fiadh site was the presence of a trough or boiling pit, spread of heat shattered stone and charcoal. Sites without a trough were labelled 'burnt spreads', although both may in fact represent similar pyrolithic activity. One hypothesis is that earlier site types consisted of troughs circular in shape and unlined while the rectangular trough usually lined with planks or wicker became more common from around 2000 BC (Ó Néill 2000). However, a growing corpus of dated-excavated sites from recent infrastructural and road schemes projects in the last 10 years would appear to indicate a random choice of circular and rectangular shaped troughs throughout the Bronze Age.

On the M8N8 Cullahill to Cashel Road Improvement Scheme a variation in trough shape was evident from the Early Bronze Age where a rectangular trough was excavated at Site E2360 / AR 7, Ballytarsna, Co Tipperary (Moore et al 2009) dated to 2460 – 2140 cal BC (Poz-24992) and a circular trough was excavated on site E2378 / AR 35, Borris, Co Tipperary (Conboy & Green 2009) dated to 2486 – 2299 cal BC (UBA – 10197). Similar variation was evident through the Middle and Late Bronze Age with a rectangular trough excavated on site E2361 / AR 8, Aughnagomaun, Co. Tipperary (Moore et al 2009) dated 1052 – 896 cal BC (UBA-10194) and a sub – circular trough on site E2818 / AR 29, Lahardan Upper, Co. Tipperary (McCullough *et al* 2009) dated 1014 – 845 cal BC (UBA-10358).

Troughs excavated along the Sligo Inner Relief Road produced sub-oval troughs from the late Neolithic/early Bronze Age (Tonafortes 2 & Magheraboy 1) and rectangular trough with corner stake-holes from the late Bronze Age (Magheraboy 2) (Danaher 2007). Only five *fulachta fiadh* were uncovered along the 35km stretch of the

roadtake of the M4 Kinnegad–Enfield–Kilcock motorway with all of the troughs exhibiting sub-rectangular shape. Early Bronze Age dates were returned for Kilmorebrannagh 1 (2130–1760 BC) and Ballynakill 1 (2460–1960 BC) while late Bronze Age dates were recorded from Rossan 1 (1100–790 BC and 1290–830 BC) (Carlin *et al* 2008). This variation in the trend in trough shape would seem to require more work before either theory can be taken as conclusive.

Troughs excavated along the Sligo Inner Relief Road produced sub-oval troughs from the late Neolithic/early Bronze Age (Tonafortes 2 & Magheraboy 1) and rectangular trough with corner stake-holes from the late Bronze Age (Magheraboy 2) (Danaher 2007). Only five Burnt Mounds were uncovered along the 35km stretch of the roadtake of the M4 Kinnegad–Enfield–Kilcock motorway with all of the troughs exhibiting sub-rectangular shape. Early Bronze Age dates were returned for Kilmorebrannagh 1 (2130–1760 BC) and Ballynakill 1 (2460–1960 BC) while late Bronze Age dates were recorded from Rossan 1 (1100–790 BC and 1290–830 BC) (Carlin *et al* 2008).

5.2.5 Dating & Chronology

Burnt stone activity has been shown to date from the Mesolithic to the 1st Millennium AD with a distinct concentration in the Bronze Age (Brindley *et al* 1990). In general the earliest sites in Ireland appear to date from the early third millennium BC with the majority of examples dating to the Bronze Age, surviving into the Iron Age and even later (Ó Néill 2000) as seen with a medieval cooking trough from Waterford City (Walsh 1990). Generally the earlier site types exhibited troughs circular in shape and unlined while the rectangular trough usually lined with planks or wicker became more common from around 2000 BC (Ó Néill 2000).

6.0 CONCLUSION

The Iron Age date for trough C71 would appear to be at odds with the flint lithic assemblage, which is consistent with a Neolithic – Early Bronze Age date, and may represent an earlier phase of activity, whereas the spindle whorl is of a type found throughout the early medieval period to the Bronze Age, and may have been either an intrusive artefact or just as likely was contemporary. It is not at all certain that the burnt mound was Iron Age, as this feature of the site was not directly related to the dated trough, and despite its proximity may have been an earlier occurence.

Spreads of heat-affected stone in charcoal-rich soil testify to the use of hot-stone technology at various periods in the past (Buckley 1991). They are known as burnt mounds or *fulachta fiadh*. Pits or wooden troughs are found under or near the burnt spread. The heat-affected stones would originally have formed a mound, but this has normally disappeared as a result of ploughing or other agricultural activities. They survive as a layer, which often overlies a thin spread of silty clay containing small traces of charcoal.

Burnt mounds are always found beside a water source. It is generally agreed that the stones were used for heating water. There are a number of references in ancient Irish literature to water being heated in wooden troughs by dropping in heated stones. (O'Drisceoil 1990). In these accounts they are mainly used for cooking, but have a subsidiary use for bathing. Practical experiments based on the reconstruction of excavated examples (O'Kelly 1954, Lawless 1990) have confirmed that cooking in this manner is feasible. Nevertheless, there has been disagreement as to their function. Barfield and Hodder (1987) suggested that their primary use was as steam baths, but also listed a range of uses, mainly industrial, suggested by previous writers.

A problem with the literary references is that they date from the 9th century AD onward. Radiocarbon dates have shown, however, that the majority of Irish burnt mounds date from the Bronze Age (Brindley, Lanting & Mook, 1989-90).

In this site, both layers were present, though the clay layer was harder and less silty in consistency than is usual. The three pits were relatively small, but one was associated with a line of stake-holes, another typical characteristic of this type of monument. They suggest that some of the pits had a wicker superstructure or shelter.

Excavations at the site are complete and no further work is recommended. All post excavation archaeological work is now complete for this site and this report constitutes the final report on this excavation. A digital copy of the archive is available at the post excavation offices of Valerie J Keeley Ltd., Brehon House, Kilkenny Road, Castlecomer, Co. Kilkenny. The original paper archive for this excavation will rest with the Road Design Offices of Kilkenny County Council.

7.0 ACKNOWLEDGEMENTS

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9.0 SPECIALIST APPENDICES

9.1 Charcoal Identification by Ellen OCarroll

9.1.1 Results

Three charcoal samples were submitted for identification. The remaining samples were recommended for AMS dating, presented in Table 6.

S#	C#	Wt	Species	Comment
26	C71	0.1g	Hazel	
3	C3	6.4g	Alder (5g), Ash (0.7g), Blackthorn (0.1g) Oak (0.4g)	Some insect channels
25	C70	14g	Oak	Charcoal in poor condition

Table 6: Charcoal identifications from Raheenagurren West.

9.2 Plant Remains by Mary Dillon

9.2.1 Non-Technical Summary

Six samples were submitted from a site consisting of a burnt mound, troughs, a pit, isolated post-holes and an area of plough-furrows. Charred seeds and cereals were present in the samples.

9.2.2 Introduction

This report details the results of examination of samples from a site at Raheengurreen West, Co. Wexford (Site 24; A003/042). Excavation was directed by Thaddeus C. Breen on behalf of Valerie J. Keeley Ltd. The site comprised of a burnt mound, troughs, a pit, isolated post-holes and an area of plough-furrows. Six samples from the site were analysed for plant remains.

9.2.3 Methodology

The samples were processed by the client using a modified Ankara type flotation system and the floating remains ("flots") were collected in a 300 µm sieve. After drying, the flots were sorted for plant material (generally without the aid of magnification) in order to select suitable samples for further analysis. While preliminary sorting without magnification is acceptable, final sorting of flots should be carried out with a microscope to avoid biasing the sample. After sorting, the selected material was sent to Eachtra Archaeological Projects for further analysis. The samples were analysed using a binocular microscope (magnification ranges x8 – x100). The results of identification are presented in Tables 7 at the end of this report. Nomenclature and taxonomic orders follows Stace (1997). Scientific names are mainly confined to the identifications tables in order to facilitate easy reading of the text.

9.2.4 Results

Four samples from three contexts (C3, C18 & C71) produced plant remains (See Table 7). Nine indeterminate cereals were recorded. Preservation was poor and it was not possible to identify these grains to type. One weed from the knotgrass family, a common weed favouring disturbed and cultivated ground, was also present. Six fragments of hazelnut shell, a common find on archaeological sites of all ages, were recorded. It is unusual for burnt mound/*fulacht fiadh* sites to produce cereal remains. For example, the burnt mound/*fulacht fiadh* site at Clogh, Co. Wexford (Site 4) and that at Raheengurreen West (Site 25), excavated under the same road project, produced no plant remains. However, a site at Coolnastudd West, Co. Wexford (Site 16: A003/024) produced two charred barley grains.

9.2.5 References

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

Context	**3**	**71**	**18**	**3**
Sample	**2**	**26**	**4**	**3**
Hazel nut shell fragments (*Corylus avellana* L.)			6	
Indeterminate seeds from the Knotgrass family (Polygonaceae)		1		
Indeterminate cereal grains			5	4

Table 7: Plant remains from Site 24.

9.3 Osteological Report by Carmelita Troy

9.3.1 Summary

This document is submitted as a report for the post-excavation treatment and analysis of cremated remains retrieved from Site E3488, in the townland of Raheenagurren West, Co. Wexford and details the processing and analytical procedures which were undertaken, to complete the report. The excavation was undertaken on behalf of Wexford County Council in compliance with Ministerial Directions issued for the N11 Gorey-Arklow Link, under the National Monuments Amendment Act 2004. The contract comprises archaeological excavations along the line of the proposed new road.

Excavation of the area consisted of the remains of a burnt mound measuring 20 m by 13 m. Two small troughs were found under it with a pit nearby. Some isolated post-holes were found and an area of plough-furrows.

This site contained one feature with a minute quantity of burnt bone (0.3 g). Due the fragmentary nature and the small quantity of the bone it is impossible to identify it as being human. The burnt bone was fully oxidised, with evidence for temperatures of over 800°C.

9.3.2 Introduction

This document is submitted as a report on the osteological analysis of human remains recovered during archaeological excavation at Raheenagurren West, Co. Wexford under the direction of Thaddeus Breen of Valerie J. Keeley Ltd, for Wexford County Council in advance of the construction of the N11 Gorey to Arklow Link. The analysis was carried out on burnt remains from burnt spread (003) which contained a minute quantity of cremated bone.

9.3.3 Methodology

Following procedures laid down by McKinley (1994b; 2004), and Gejvall (1969), the remains from each burial were assessed for:

- Weight
- Degree of fragmentation
- Skeletal elements
- Demographic data - sex, age, minimum number of individuals
- Pathology data
- Efficiency of cremation

9.3.4 Results

In all, one feature containing burnt bone was fully excavated, see Table 8, below.

Context	Sample No	Feature Type
C3	001	Burnt spread

Table 8: Size of samples processed for cremation analysis.

Identification and Quantification of Cremated Bone: Cremated bone deposits have frequently been found to contain both human and animal bone remains. It is often not possible to identify whether the bone is human or animal, particularly if the fragments are very small. However, it is clear from the analysis of many cremated bone deposits that the deposition of both types of bone together is usually intentional and, therefore, it is imperative to approach the assessment of the cremated bone present holistically, as well as to attempt to identify human and animal elements.

An assessment of the quantity of bone recovered may indicate the state of preservation of the associated feature in which the bone was interred or, if recovered from a relatively undisturbed context, may provide valuable information regarding cremation processes. This may relate not only to the actual pyre technology itself but also to the collection and ritual deposition of bone after the process was complete. McKinley (1993) found that modern cremation processes resulted in the production of between 1227.4 g and 3001.3 g of bone. From this she inferred that the cremation of a whole body and deposition of the remains in an archaeological context would realistically produce between 1001.5 g and 2422.5 g of cremated human bone.

Identification of particular elements of the human body serves to confirm the presence of human material and also may give an insight into any particular areas of the body which may have been purposefully collected following cremation. The absence of elements, especially those that are smaller, may be due to the lack of their survival as a result of fragmentation during the cremation, post-depositional preservation conditions or their loss during cremation itself.

The table below summarises the results of the quantification analysis:

Context	Total Weight of Cremated Bone (g)	Total Weight of Identifiable Human Fragments (g)	MNI
C3	0.3	0	0

Table 9: Summary of the quantification analysis.

The very low weight of the burnt bone from Raheenagurren West precludes any meaningful analysis.

Bone Fragmentation: The observation and quantification of bone fragmentation is essential in assessing its impact on the quality of the overall data retrieved from the analysis of cremated bone. It may also be an indicator of practices carried out during the cremation process and give an insight into pyre technology. Usually bone fragmentation can be assessed by sorting all bone fragments into three sieve fractions (10 mm, 5 mm, 2 mm) and comparing the proportion of bone in each fraction (McKinley 2004); but due to the nature of the samples it

was deemed more appropriate for the material to be wet-sieved through a flotation tank. Measurement of the maximum bone fragment was also recorded from each context.

Bone fragmentation can occur for several reasons, e.g. from the raking of the remains during the cremation process, or the collection and the subsequent interment of the remains; this can make it difficult, to assess whether bone was deliberately fragmented as part of the cremation ritual (McKinley 1994b). It is, however, generally believed that both the excavation and post-excavation processes can lead to the largest amount of damage caused to the remains (Lange et al. 1987; McKinley 1994b).

The bone recovered from Raheenagurren West E3488 was from the 5 mm fraction and the maximum fragment size was 9.44 mm.

Efficiency of the Cremation: Effective cremation of a human body requires two basic elements: burning at high temperatures and the exposure of the body at these high temperatures for a sufficient length of time. Differences in temperature and length of exposure time will result in variation in how the bone is burned. Complete burning will result in complete oxidation of the organic element of bone, leaving the mineral portion remaining (McKinley 1994a; Lange et al. 1987).

Walker and Miller (2005) report that generally, the range of colours (black, blue, grey and white – Plate 1) seen in burnt bone relates to the temperature to which the bone was exposed as seen in Table 10 below:

Colour	Temperature
Brown/Orange	Unburnt
Black	Charred (c.400°C)
Blue/Grey	Incompletely Oxidised (c.500-700°C)
White	Completely Oxidised (>800°C)

Table 3: Range of colours in burnt bone related to the temperature.

Illus. 3: Range of colours of cremated bone – black, blue, grey and white.

The colour may vary from bone to bone as different elements of the body may be exposed to different temperatures for different lengths of time. It is, therefore, essential to record any differences in colouration according to skeletal elements affected and to the aspect of the element (i.e. interior, exterior) affected. The extent of the burning or oxidation of the bone represents the relative success of the cremation processed applied and contemporary knowledge of pyre technology.

The results of the analysis of colour variation in the fragments of bone indicate that the deposit contained bone that had been exposed to heat at a sufficient temperature (i.e. above 800°C) for a sustained amount of time in order to completely oxidise the bone.

9.3.5 Discussion

The very low weight of the Raheenagurren West sample precludes any meaningful demographic or depositional analysis. The burnt bone could not be identified to source, whether human or animal.

Small amounts of bone are easily carried on the wind from funerary pyres, cooking places and waste pits. Deliberate scattering of remains and the dumping of waste pyre material are also possibilities. Redeposited pyre

debris can comprise of charcoal, burnt stone, fuel ash slag and cremated bone as well as burnt pyre goods which are burnt with the body as opposed to grave goods which are deposited with the remains during burial (McKinley 1997). The burnt spread which produced burnt bone in Raheenagurren West also contained high levels of charcoal and burnt stones.

9.3.6 Conclusion

The burnt deposit from Raheenagurren West E3488 cannot be identified conclusively as being human due to its fragmentary nature and minute quantity. The bone was completely oxidised to over 800°C.

9.3.7 References

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Lange, M, Schutkowski, H, Hummel, S and Herrmann, B 1987 *A Bibliography on Cremation*, PACT 19. Strasbourg: Parliamentary Assembly of the Council of Europe.

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McKinley, J I 1994a 'Bone fragment size in British cremation burials and its implications for pyre technology and ritual', *Journal of Archaeological Science,* 21, 339-342.

McKinley, J I 1994b *The Anglo-Saxon Cemetery at Spong Hill, North Eltham Part VII: The Cremations East Anglian Archaeology Report No 69,* Dereham: Field Archaeology Division Norfolk Museum Services.

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Walker. P L and K P Miller 2005 'Time, temperature and oxygen availability: an experimental study of the effects of environmental condition on the colour and organic content of cremated bone' *American Journal of Physical Anthropology,* 40, 222.

9.3.8 Catalogue of Burnt Bone

Burnt Spread (003)
Age Category: -
Sex: -
Total Weight of Bone: 0.3 g
Total Weight of Identifiable Bone: 0 g

Maximum Fragment Size: 9.44 mm

MNI: 0

Recognisable Elements: -

Efficiency of Cremation:

Cut	Fill	Spit	Total Weight (g)	Black (%)	Blue-Grey (%)	White (%)
-	C3	-	0.3	-	-	100%

Bone Fragmentation:

Cut	Fill	Spit	Total Weight (g)	10mm Fraction (g)	5mm Fraction (g)	2mm Fraction (g)
-	C3	-	0.3	-	0.3	-

9.4 Radiocarbon Dating by SUERC Radiocarbon Laboratory

9.4.1 Results

One radiocarbon determination was undertaken for this site, from this excavation. Results of calibration of radiocarbon date are given in Table 11. Calibration was carried out by SUERC, Scotland. Given are intervals of calendar age, where the true ages of the samples encompass with the probability of c.68% and c.95%. The calibration was made with the OxCal software.

Lab Code	Sample Ref	Radiocarbon Age (BP)	Calibrated Age *68.2% probability*	Calibrated Age *95.4% probability*
SUERC-31374 (GU-22926)	Hazel (*Corlyus* sp.) charcoal from trough C72, fill C71 (Sample14).	2220 ± 30	370-200 cal BC 370-340 BC (7.8%) 310-200 BC (60.4%)	380-200 cal BC 380-200 BC (95.4%)

Table 11: Calibrated Radiocarbon Determinations.

9.4.2 Radiocarbon Certificate

Scottish Universities Environmental Research Centre
Director: Professor A B MacKenzie Director of Research: Professor R M Ellam
Rankine Avenue, Scottish Enterprise Technology Park,
East Kilbride, Glasgow G75 0QF, Scotland, UK
Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE

10 December 2010

Laboratory Code	SUERC-32374 (GU-22926)
Submitter	Anna Dunphy VJK Ltd. Post Excavation Facility Ballyhimmin Business Centre Kilkenny Road, Castlecomer Co. Kilkenny, Ireland
Site Reference	Raheenagurren West Site 24
Context Reference	71
Sample Reference	26
Material	Charcoal : Hazel
$\delta^{13}C$ relative to VPDB	-26.3 ‰
Radiocarbon Age BP	2220 ± 30

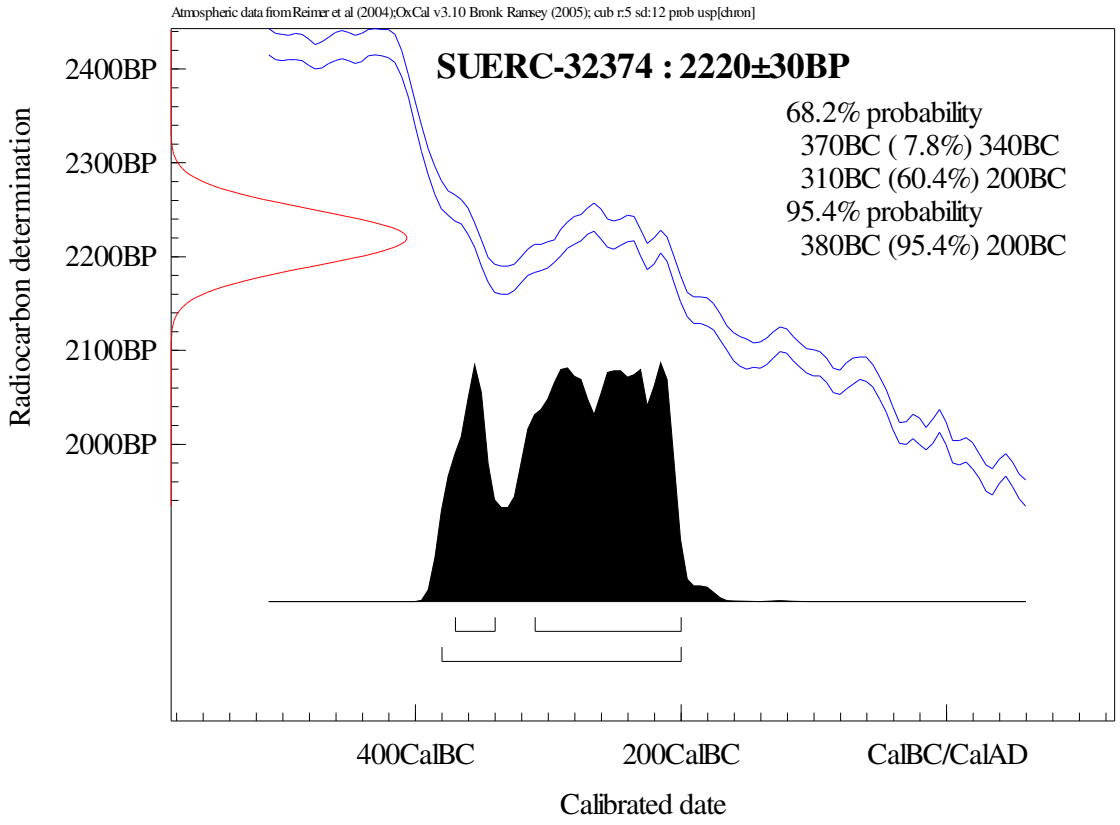
N.B.

1. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.
2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
3. Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or Telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- Date :-

Checked and signed off by :- Date :-

Calibration curve



9.4.3 References

Reimer, PJ, MGL Baillie, E Bard, A Bayliss, JW Beck, CJH Bertrand, PG Blackwell, CE Buck, GS Burr, KB Cutler, PE Damon, RL Edwards, RG Fairbanks, M Friedrich, TP Guilderson, AG Hogg, KA Hughen, B Kromer, G 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, IntCal04 terrestrial radiocarbon age calibration, 0-26 cal kyr BP, *Radiocarbon*, **46** (3) 1029 – 1058

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10.0 EXCAVATION RECORD

A: LIST OF CONTEXTS

Context No.	Type	Description
1	Natural	Subsoil boulder clay.
2	Topsoil	Dark brown silty clay loam
3	Deposit	Spread of heat-affected stone and charcoal.
4	Deposit	Fill of possible post-hole.
5	Deposit	Fill of depression with Iron ore inclusions.
6	Fill of C7	Fill of possible post hole.
7	Post-hole	Circular cut. slightly oval, 0.39m – 0.32m in diameter, and 0.31m in depth and contained a post-pipe, 0.17m in diameter, within the backfill (C4). The packing fill, (C6), contained some pebbles, which may have been packing stones.
8	Deposit	Lower burnt mound deposit of gravel & silty clay. Deposit between C001 and C003.
9	Fill of C10	Silty clay
10	Plough furrow	Linear feature orientated NE-SW
11	Fill of C12	Silty clay
12	Plough furrow	Cut of furrow.
13	Deposit	Crescent-shaped burnt spread
14	Deposit	Second fill of (C13).
15	Cut	Cut of (C13) and (C14).
16	Fill of C15	1.50m from south baulk.
17	Cut	Cut of (C16).
18	Cut	Fill of burnt stone feature 1.5m from south baulk.
19	Stake-hole	
20	Cut	Fill of linear feature truncating (C17).
21	Furrow	Cut of linear feature area truncating (C017).
22	Fill of C19	Re-deposited natural over burnt feature. (Lens)
23	Fill of C24	Silty sand
24	Cut	Cut of north-south orientated furrow.
25	Plough furrow	East-west furrow crisscrossing (C24).
26	Fill of C25	Silty sand
27	Fill of C28	Silty sand
28	Plough furrow	Cut of poss. Plough mark north-west/south-east orientation.
29	-	*Non-archaeological*

Context No.	Type	Description
30	Trough	Cut of rectangular trough. 1.09m in length, (orientated east southeast–west northwest), 0.46m in width, and up to 0.19m in depth. The sides were not very steep and there was no marked break of slope where they met the base.
31	Fill of C32	Silty sand
32	Plough furrow	Cut, area B east.
33	Fill of C30	Dark grey to black in colour silty clay.
34	Stake-hole	Cut, north-east of (C30).
35	Fill of C34.	Silty sand
36	Stake-hole	Cut, north-east of (C30).
37	Fill of C36	Silty sand
38	Stake-hole	Cut, east of (C30).
39	Fill of C38	Silty sand
40	Stake-hole	Cut, east of (C30).
41	Fill of C40	Silty sand
42	Stake-hole	Cut, north of (C40).
43	Fill of C42	Silty sand
44	Stake-hole	Cut of truncating (C42).
45	Fill of C44	Silty sand
46	Fill of C47	Silty sand
47	Stake-hole	Cut,
53	-	Manganese deposit.
54		*Non archaeological*
55		*Non archaeological*
56	Basal fill of C30	Grey silty clay, containing some charcoal and heat-shattered stone
57	Post-hole	Cut of possible post-hole.
58	Fill of C57	Silty sand
59	Fill of C59	Silty sand
60	Plough furrow	Cut of plough furrow.
61	Deposit	Isolated deposit of fulacht material.
62	Fill of C61	Silty sand
63	Post-hole	Cut of possible.
64	Deposit	Fill of burnt spread, area C.
65		*Non archaeological*
66		*Non archaeological*
67		*Non archaeological*
68		*Non archaeological*

Context No.	Type	Description
69		*Non archaeological*
70	Lower fill of C72	Dark grey, charcoal-rich (oak), silty clay containing some heat-shattered stones and one charred seed, identified as knotgrass
71	Upper fill of C72	Grey/brown sandy material, with occasional charcoal. A sample of hazel charcoal from this upper layer returned a radiocarbon date of 380-200 cal BC.
72	Iron Age pit	Circular pit C72 to the south of this excavation, measured 0.87m in diameter, 0.33m in depth, and had steep sides and a flat base
73	Deposit	Mid grey-brown stony deposit abutting west baulk
74	Deposit	Mid brown grey stony deposit to south-west of area D.
75	Deposit	Mid brown grey stony deposit to south of C74.
76		*Non archaeological*
77	Plough furrow	Cut of furrow.
78	Fill of C77	
79	-	*Non archaeological*
80	-	*Non archaeological*
81	Plough furrow	Cut of furrow north-east/south-west.
82	Fill of C81	Silty sand
83	-	Not used
84	-	Not used
85	Plough furrow	Cut of small furrow area A, north extension.
86	Fill of C85	Silty sand
87	Plough furrow	Cut of small furrow running south-east/north-west.
88	Fill of C87	Silty sand
89	Plough furrow	Cut of small furrow running south-east/north-west near (C87).
90	Fill of C89	Silty sand
91	-	*Non archaeological*
92	-	*Non archaeological*
93	-	*Non archaeological*
94	-	*Non archaeological*
95	-	*Non archaeological*
96	-	*Non archaeological*
97	-	*Non archaeological*
98	-	*Non archaeological*
99	-	*Non archaeological*
100	-	*Non archaeological*
101	Plough furrow	Cut of furrow, area A extension east.

Context No.	Type	Description
102	Fill of C101	Silty sand
103	Plough furrow	Cut of furrow in area A extension east North-west/south-east.
104	Fill of C103	Silty sand
105	Plough furrow	Cut of long furrow, north-east/south-west.
106	Fill of C105	Silty sand
107	Fill of C108	Silty clay containing occasional charcoal and heat-shattered stones
108	Post-hole	Slightly oval, (maximum diameter of 0.24m, and depth 0.16m), had concave sides, gradually sloping towards a flat base
109	Fill of C110	Silty clay containing occasional charcoal and heat-shattered stones
110	Post-hole	Slightly oval, (maximum diameter of 0.26m, and depth 0.18m, had concave sides, gradually sloping towards a flat base
111	Fill of C112	Silty sand
112	Plough furrow.	
113	Fill of C114	Silty sand
114	Plough furrow.	
115	Fill of C116	Silty sand
116	Plough furrow	Possible plough furrow north-east/south-west.
117	Fill of C118	Silty sand
118	Plough furrow	Possible plough furrow, north-south.

B: ARTEFACT REGISTER

Find	Context	Material	Type	Description	Feature	Cut
1	C2	Stone	Flint flake	Small irregular flint flake	Topsoil	-
2	C2	Stone	Flint flake	Very heavily patinated flint pebble flake	Topsoil	-
3	C2	Metal	Iron Nail	Iron nail, badly corroded.	Topsoil	-
4	C2	Stone	Flint core	Small patinated and heavily weathered irregular core	Topsoil	-
5	C2	Stone	Flint core	Large pebble core made on a flint pebble with several impurities - with one large flake removed - probably a test piece?	Topsoil	-
6	C2	Stone	Flint flake	Small irregular weathered flint chunk with partially rolled edges	Topsoil	-
7	C2	Stone	Flint lithic	Small irregular flint chunk - core portion	Topsoil	-
8	C2	Stone	Flint flake	Broken large fine flint flake with dorsal flake scar (core edge preparation)	Topsoil	-
9	C2	Ceramic	Post-medieval pottery	Potsherd with orange fabric and internal brown glaze. Blackware 18th century Staffordshire	Topsoil	-
10	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
11	C3	Stone	Flint lithic	Broken large fine flint flake with dorsal flake scar (core edge preparation)	Burnt Mound	
12	C2	Stone	Flint flake	Irregular broken flint flake portion	Topsoil	-
13	C2	Stone	Flint flake	Heavily weathered and patinated flint flake portion	Topsoil	-
14	C2	Stone	Flint core	Small pebble flint core and flaked part of the way around - irregular with the flakes having been struck from one direction only	Topsoil	-
15	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-

Find	Context	Material	Type	Description	Feature	Cut
16	C3	Stone	Spindle whorl	Disc-shaped stone spindle whorl of grey-green sandstone. Both faces are smooth and there are traces of damage both old and new across the surfaces. The upper face has a modern crack running out from the edge of the perforation to the edge of the whorl. The lower face is slightly more uneven with traces of heavy wear where the face has been roughed. The sides are very smooth. measures 49mm in diameter, weighs 33g and is 8mm in thickness	Burnt Mound	
17	C3	Stone	Flint flake	Flint flake with very recent edge damage/secondary working and damage/fracture	Burnt Mound	
18	C3	Stone	Flint flake	Small weathered and patinated pot-lid flake	Burnt Mound	
19	C3	Stone	Flint lithic	Large irregular naturally shattered flint chunk	Burnt Mound	
20	C3	Stone	Flint knife	Heavily patinated and weathered broken tip of flint tool made on a flake - secondary working is located on the right lateral dorsal edge, the right lateral ventral edge and around the tip. The fracture face is also patinated indicating the piece was broken in antiquity. Possibly a large projectile or knife	Burnt Mound	
21	C3	Stone	Flint flake	Small tiny flake	Burnt Mound	
22	C3	Stone	Flint core	Small weathered and patinated core portion with at least two flake scars	Burnt Mound	
23	C3	Stone	Flint flake	Broken flint flake portion	Burnt Mound	
24	C3	Stone	Flint flake	Small irregular pebble flint flake with a ventral face scar	Burnt Mound	
25	C8	Stone	Natural	Flint. Non-archaeological.	Burnt Mound	
26	C8	Stone	Flint lithic	Small patinated flake chunk	Burnt Mound	
27	C8	Stone	Flint piecer	Small flake tool - piercer - relatively fresh with the secondary working located on opposing lateral dorsal edges forming a tip/point which is slightly worn	Burnt Mound	
28	C3	Stone	Flint flake	Small irregular flake portion	Burnt Mound	
29	C3	Stone	Natural	Flint. Non-archaeological.	Burnt Mound	
30	C3	Stone	Flint flake	Small irregular flake portion	Burnt Mound	

Find	Context	Material	Type	Description	Feature	Cut
31	C3	Stone	Flint flake	Small irregular flake with pointed platform	Burnt Mound	
32	C3	Stone	Flint lithic	Weathered and patinated flint chunk	Burnt Mound	
33	C3	Stone	Flint lithic	Small irregular weathered and patinated flake chunk	Burnt Mound	
34	C3	Stone	Flint lithic	Small pebble flint flake chunk	Burnt Mound	
35	C3	Stone	Flint Scraper	Endscraper made on an irregular pebble flake with semi-steep secondary working confined to an area of dorsal distal edge	Burnt Mound	
36	C3	Stone	Flint lithic	Small irregular flake chunk	Burnt Mound	
37	C8	Stone	Flint flake	Small irregular pebble flint flake - weathered and heavily patinated	Burnt Mound	
38	C2	Ceramic	Post-medieval pottery	Rimsherd with orange fabric and both internal and external brown glaze. Tankard rim sherd brown earthenware English	Topsoil	-
39	C2	Stone	Flint lithic	Fresh but patinated irregular flint chunk	Topsoil	-
40	C2	Stone	Flint lithic	Fresh but patinated irregular flint chunk	Topsoil	-
41	C8	Stone	Flint flake	Large irregular flake removed from a weathered core	Burnt Mound	
42	C8	Stone	Flint lithic	Large pebble flake - broken - quarter portion of pebble with an indeterminate platform but possibly planar	Burnt Mound	
43	C8	Stone	Flint core	Flat dual platformed pebble flint core with flake scars on opposing faces	Burnt Mound	
44	C2	Stone	Flint flake	Large irregular flint flake chunk with oxide mineral/sediment concretion	Topsoil	-
45	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
46	C8	Stone	Natural	Flint. Non-archaeological.	Burnt Mound	
47	C8	Stone	Flint flake	Heavily patinated and coarse form of flint pebble flake - almost quartzitic in mineralogy	Burnt Mound	
48	C2	Stone	Flint flake	Small flint pot-lid flake from pebble with 'eye' pattern	Topsoil	-
49	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
50	C2	Stone	Flint core	Irregular flint core spall/chunk	Topsoil	-

Find	Context	Material	Type	Description	Feature	Cut
51	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
52	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
53	C2	Stone	Flint core	Large irregular flint core spall chunk - likely natural	Topsoil	-
54	C2	Stone	Flint lithic	Large irregular pebble flint chunk - likely natural	Topsoil	-
55	C8	Stone	Flint flake	Broken irregular pebble flint flake struck from a weathered and worked pebble core	Burnt Mound	
56	C8	Stone	Natural	Flint. Non-archaeological.	Burnt Mound	
57	C8	Stone	Flint core	Irregular flint core spall/chunk	Burnt Mound	
58	C2	Ceramic	Post-medieval pottery	Potsherd with orange fabric and internal brown glaze. Brown glazed earthenware 17th/18th century English	Topsoil	-
59	C8	Stone	Flint blade	Small simple modified blade with fine secondary working/edge nibbling along left lateral dorsal edge	Burnt Mound	
60	C8	Stone	Flint flake	Large irregular flint flake chunk - possibly core rejuvenation	Burnt Mound	
61	C8	Stone	Flint flake	Large weathered and patinated pebble flint flake	Burnt Mound	
62	C8	Stone	Flint flake	This piece is a fine finishing flake with many flake scars on dorsal face and likely is an axe edge trimming/reworking flake	Burnt Mound	
63	C78	Ceramic	Post-medieval pottery	Potsherd with orange fabric and internal brown glaze. 18th English brown/red glazed earthenware		PF8
64	C102	Stone	Flint flake	Irregular flint flake	Plough furrow	C101
65	C115	Metal	Iron object	Iron object, badly corroded.	Plough furrow	C116
66	C2	Stone	Flint flake	Small irregular pebble flint flake - weathered and heavily patinated	Topsoil	-
67	C2	Stone	Flint scraper	Endscraper made on a pebble flint flake. The secondary working occurs on the dorsal distal end and is quite steep and there is slight edge working of the dorsal right lateral edge. The flint is quite dense and coarse possibly due to the degree of patination	Topsoil	-
68	C2	Stone	Flint lithic	Chunk of flint pebble	Topsoil	-

Find	Context	Material	Type	Description	Feature	Cut
69	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
70	C2	Stone	Flint lithic	Irregular flint chunk	Topsoil	-
71	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
72	C2	Stone	Flint lithic	Weathered and heavily patinated small flint chunk	Topsoil	-
73	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
74	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
75	C2	Stone	Flint flake	Small irregular flint flake chunk	Topsoil	-
76	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
77	C2	Stone	Flint flake	Small natural debitage flake	Topsoil	-
78	C2	Stone	Flint lithic	Large angular flint chunk naturally shattered	Topsoil	-
79	C2	Stone	Flint core	Small indeterminate pebble core with at least three flake scars removed from one direction	Topsoil	-
80	C2	Stone	Flint lithic	Naturally damaged irregular pebble	Topsoil	-
81	C2	Stone	Flint lithic	Small irregular flint flake chunk	Topsoil	-
82	C2	Stone	Flint lithic	Irregular flint flake chunk	Topsoil	-
83	C2	Stone	Flint flake	Weathered irregular flint flake - may be pot-lid flake	Topsoil	-
84	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
85	C2	Stone	Flint flake	Weathered and slightly burnt portion of flint flake	Topsoil	-
86	C2	Stone	Flint lithic	Irregular and quite weathered flint pebble chunk	Topsoil	-
87	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
88	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
89	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
90	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-
91	C2	Stone	Natural	Flint. Non-archaeological.	Topsoil	-

Find	Context	Material	Type	Description	Feature	Cut
92	C2	Stone	Flint flake	Small natural debitage flake	Topsoil	-
93	C2	Stone	Flint flake	Small irregular (triangular-shaped) pebble flint flake of coarse flint	Topsoil	-
94	C18	Stone	Flint flake	Very fine small flint flake (now in two pieces) with dorsal flake scarring - suggests fine trimming flake from a near-finished implement	Isolated pit	C19

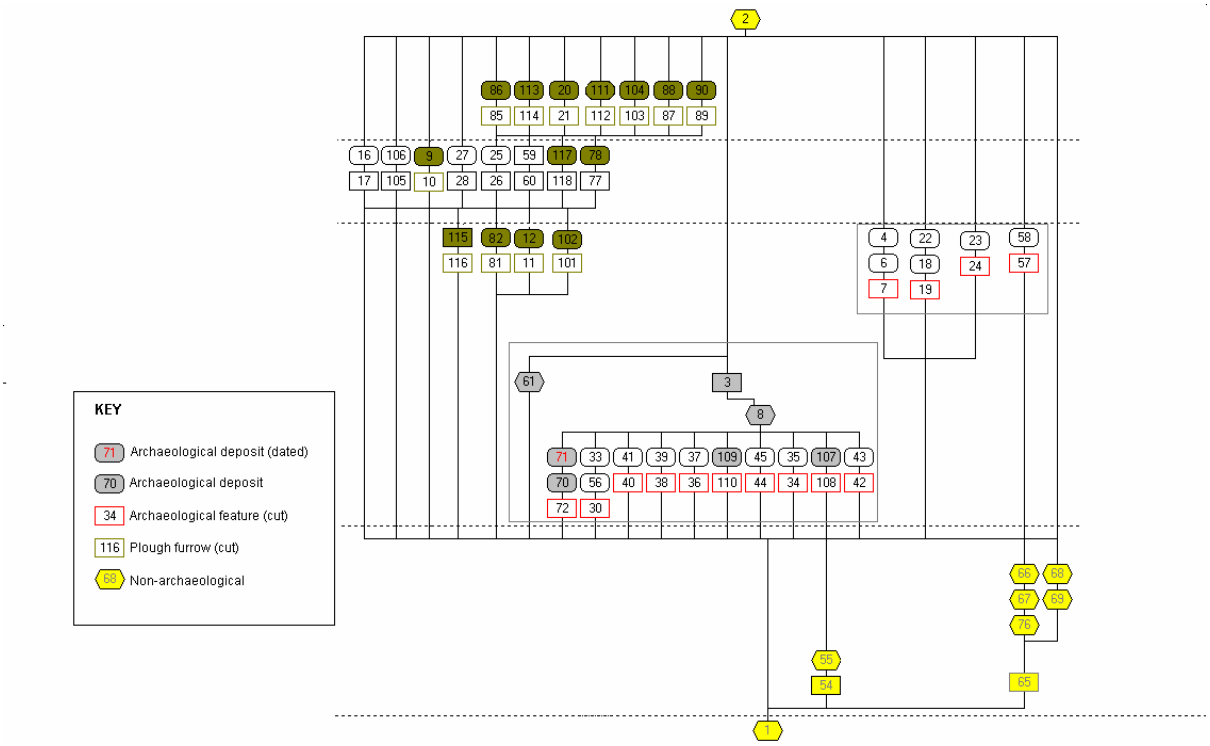
C: SAMPLE REGISTER

Sample No.	Context No.	No. of Bags	Type	Description
1	C3	1	Animal bone	Burnt animal bone.
2	C3	1	Soil sample	Soil from area around bone.
3	C3	1	Soil sample	Soil from area B, context 3.
4	C18	1	Soil sample	Soil from pit, **(C18)**, with burnt stone.
5	C27	1	Soil sample	Soil from furrow beneath **(C3)**.
6	C8	1	Soil sample	Soil from area A, **(C8)**.
7	C29	1	Soil sample	Sample of **(C29)**.
8	C49	1	Soil sample	Sample of **(C49)**.
9	C53	1	Soil sample	Sample of ?iron ore truncating **(C30)**:
10	C33	1	Soil sample	Sample of fill of possible trough **(C30)**
11	C11	1	Soil sample	Soil Sample of **(C11)** linear furrow
12	C55	1	Soil sample	Soil from pit in area B **(C55)**.
13	C56	1	Soil sample	Sample of secondary fill of pit in area C **(C30)**.
14	C58	1	Soil sample	Sample from possible post-hole **(C57)**
15	C61	1	Soil sample	Soil from possible field drain.
16	C62	1	Soil sample	Sample from possible post-hole **(C62)**
17	C64	1	Soil sample	Soil from burnt area **(C64)**
18	C14	1	Soil sample	Soil from burnt area **(C15)**
19	C66	1	Soil sample	Sample of **(C66)**
20	C67	1	Soil sample	Sample of **(C67)**
21	C68	1	Soil sample	Sample of **(C68)**
22	C69	1	Soil sample	Sample of **(C69)**
23	C76	1	Soil sample	Soil from possible post-hole
24	C107	1	Soil + charcoal	Sample of **(C70)**, fill of **(C72)**
25	C70	1	Soil + charcoal	Sample of **(C71)**, fill of **(C72)**
26	C71	1	Soil + charcoal	Sample of **(C71)** fill of **(C72)**
27	C109	1	Soil sample	Soil from possible post-hole **(C110)**

D: LIST OF QUANTITIES

Context Sheets	Context Register	Drawing Register	Sample Register	Finds Register	Photo Register
118	2	1	3	2	1

E: STRATIGRAPHIC MATRIX



Title	Notes	Job/Exc No.	Compiled by	CAD reference	Client
Location of Site 24 on the Ordnance Survey Discovery mapping		A003/042 E3488	GW	1177-05-400/Tera3	Wexford County Council
		Date Sept 11	**Scale** 1:50000	**Drawing No.** Figure 1	**Project** N11 Gorey - Arklow Resolution

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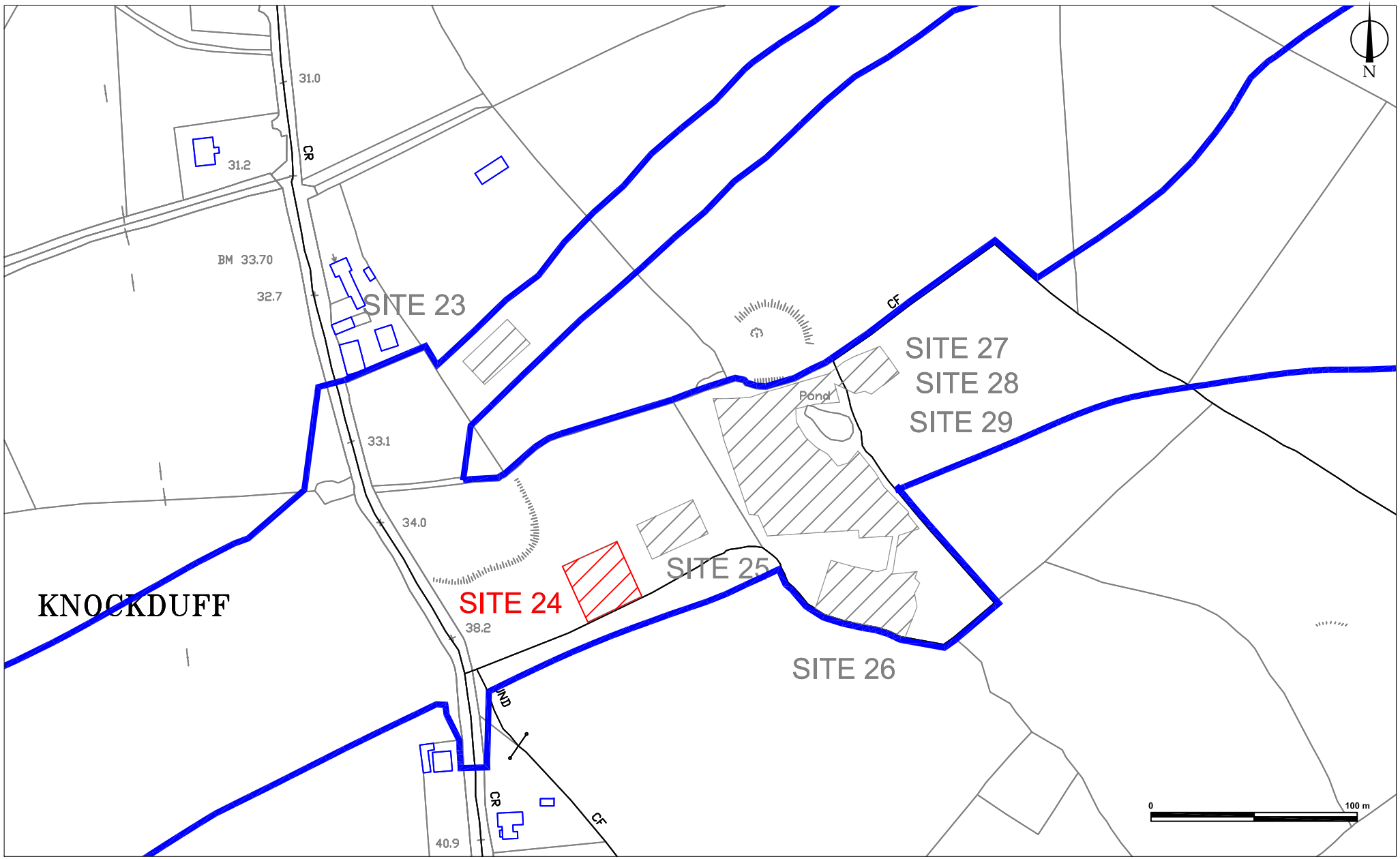

Title	Notes	Job/Exc No.	Compiled by	CAD reference	Client		
Ordnance Survey map showing the location of Site 24		A003/042 E3488	GW	1177-05-400/Tera3	Wexford County Council		
		Date	Scale	Drawing No.	Project		
		Sept 11	1:2500	Figure 2	N11 Gorey - Arklow Resolution		

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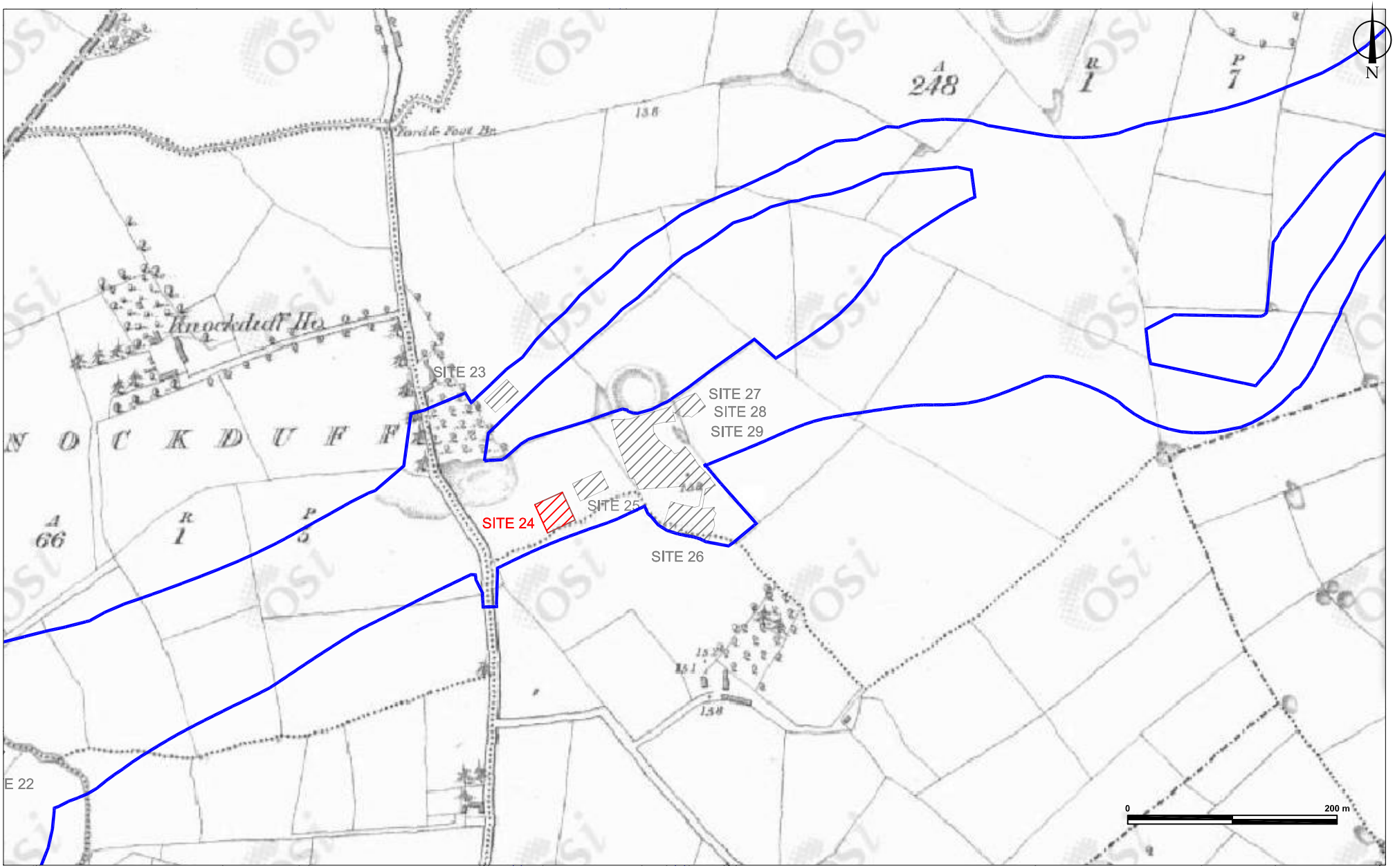

Title	Notes	Job/Exc No.	Compiled by	CAD reference	Client
1st Edition Ordnance Survey map showing the location of Site 24 and route of scheme		A003/042 E3488	GW	1177-05-400/Tera3	Wexford County Council
		Date Sept 11	**Scale** 1:5000	**Drawing No.** Figure 3	**Project** N11 Gorey - Arklow Resolution

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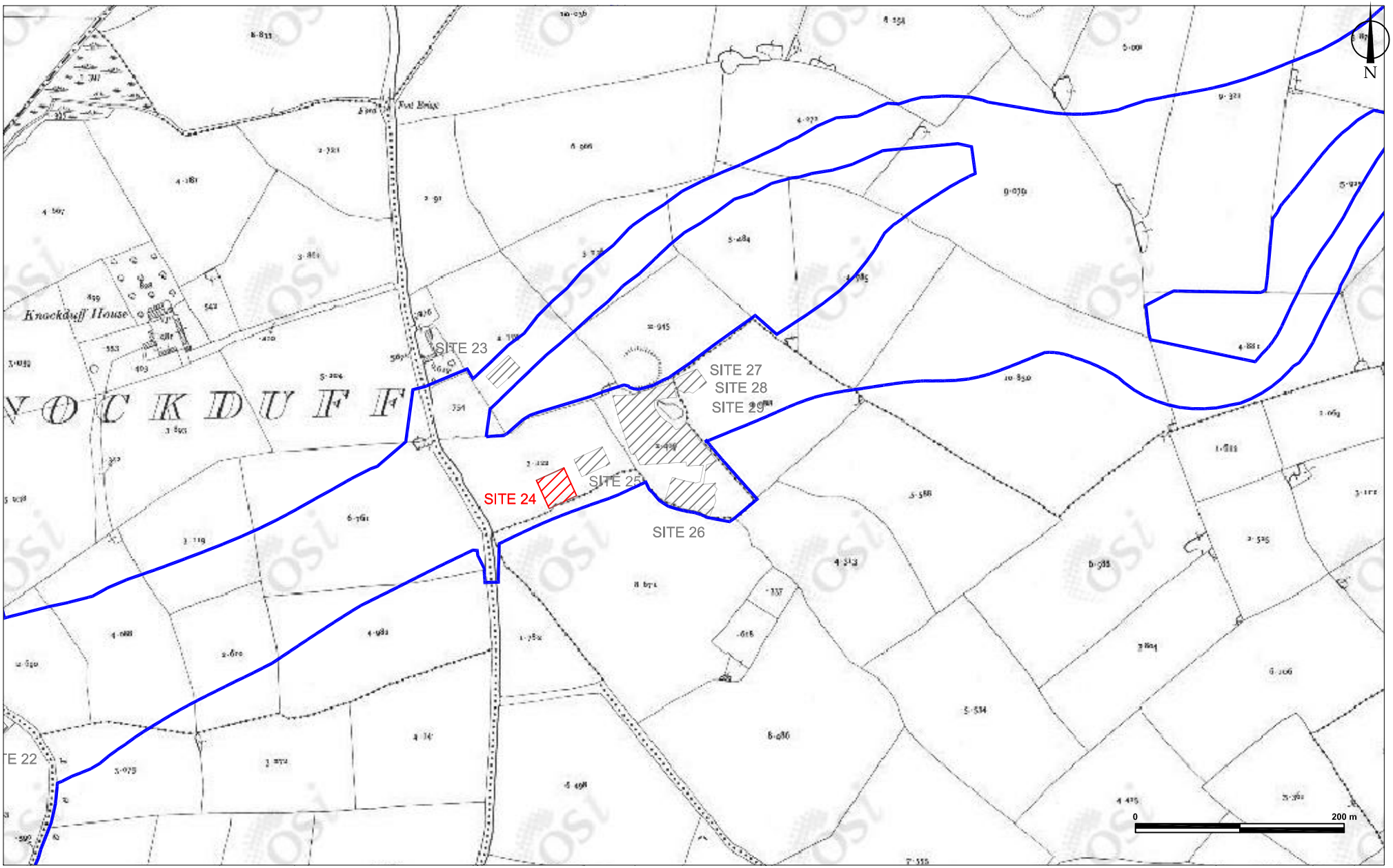

Title	Notes	Job/Exc No.	Compiled by	CAD reference	Client
2nd Edition Ordnance Survey map showing the location of Site 24 and route of scheme		A003/042 E3488	GW	1177-05-400/Tera3	Wexford County Council
		Date Sept 11	**Scale** 1:5000	**Drawing No.** Figure 4	**Project** N11 Gorey - Arklow Resolution

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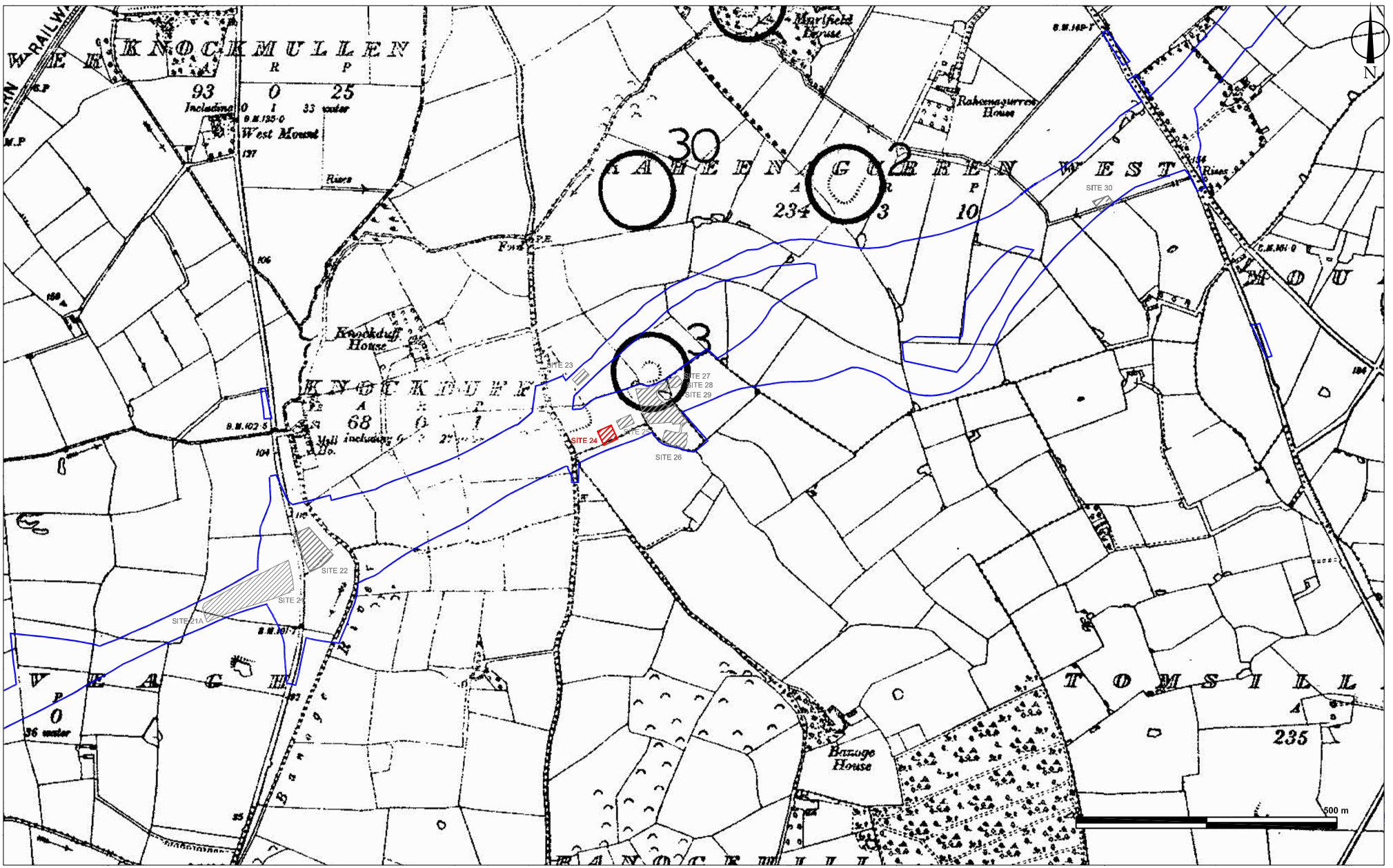

Title	Notes	Job/Exc No.	Compiled by	CAD reference	Client
RMP map showing the location of Site 24 and route of scheme		A003/042 E3488	GW	1177-05-400/Tera3	Wexford County Council
		Date Sept 11	**Scale** 1:10000	**Drawing No.** Figure 5	**Project** N11 Gorey - Arklow Resolution

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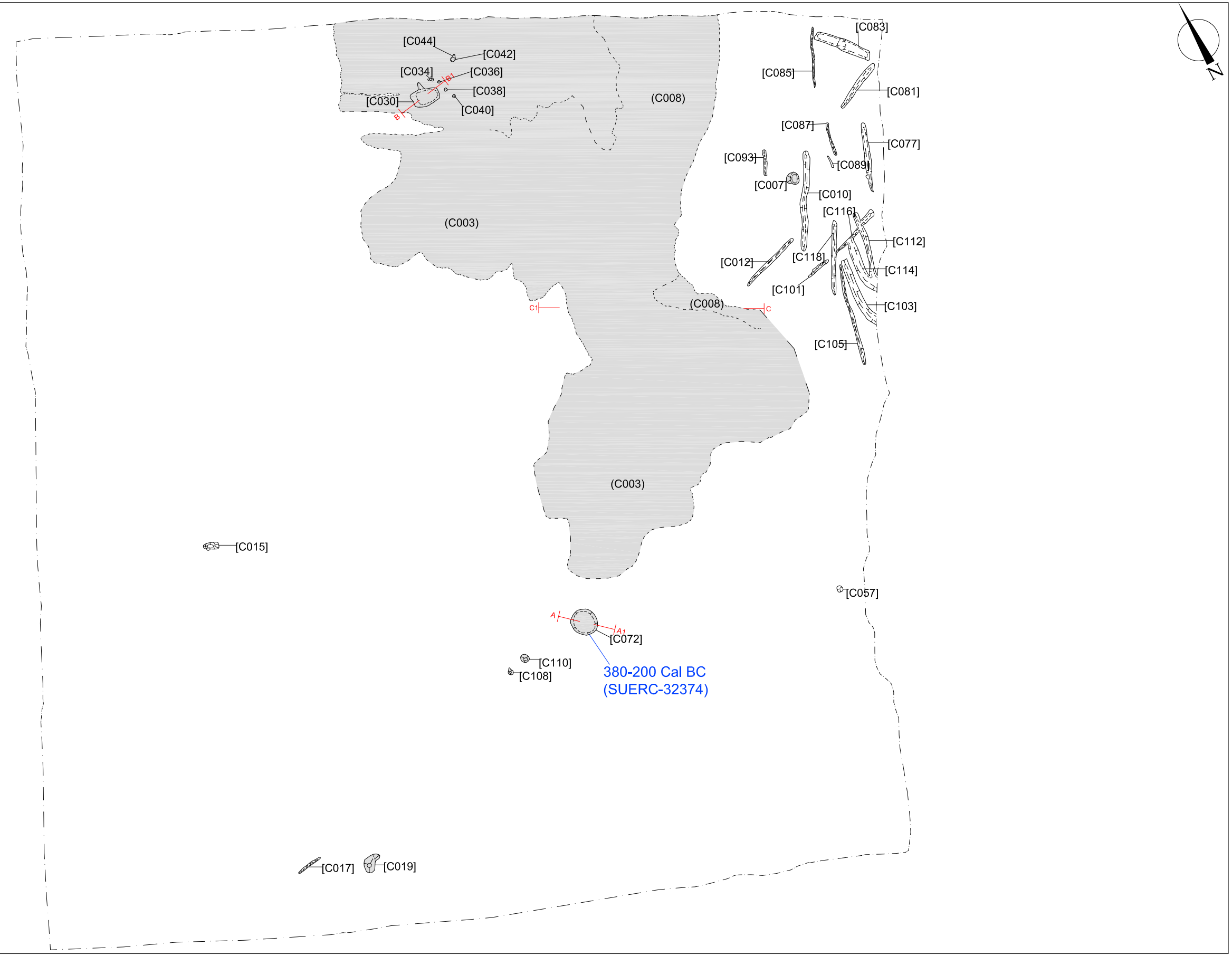

Title Site plan Site 24, Raheenagurren West	**Notes** Burnt Spread	**Job/Exc No.** A003/042 E3488	**Compiled by** GW	**CAD reference** 1177-05-400/Tera3	**Client** Wexford County Council	Brehon House Kilkenny Road Castlecomer Co. Kilkenny.
		Date Sept 11	**Scale** 1:125	**Drawing No.** Figure 6	**Project** N11 Gorey - Arklow Resolution	Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 Email: vjk@vjk.ie Website: www.vjk.ie

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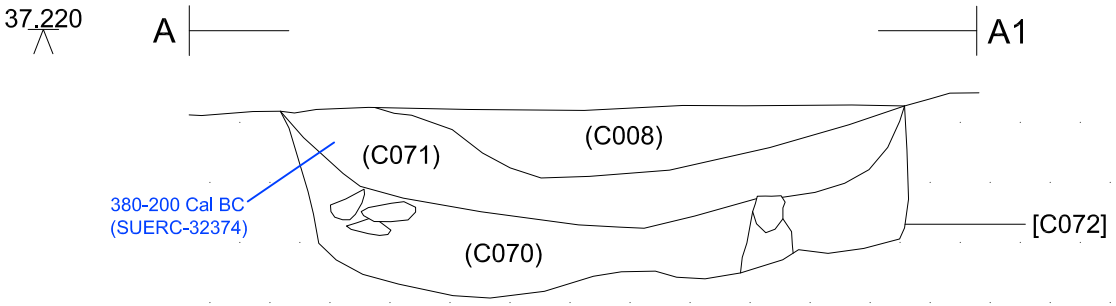
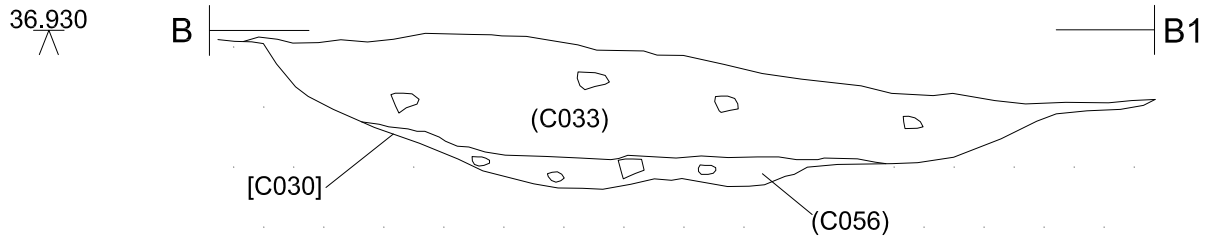


Title West facing section of Iron Age Trough [C072]	**Notes**	**Job/Exc No.** A003/042 E3488	**Compiled by** GW	**CAD reference** 1177-05-400/Tera3	**Client** Wexford County Council	VJK Valerie J. Keeley Ltd. ARCHAEOLOGICAL CONSULTANCY	Brehon House Kilkenny Road Castlecomer Co. Kilkenny.
		Date Sept 11	**Scale** 1:10	**Drawing No.** Figure 7	**Project** N11 Gorey - Arklow Resolution		Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 Email: vjk@vjk.ie Website: www.vjk.ie



Title	Notes	Job/Exc No.	Compiled by	CAD reference	Client
South facing section of undated Trough [C030]		A003/042 E3488	GW	1177-05-400/Tera3	Wexford County Council
		Date Sept 11	**Scale** 1:10	**Drawing No.** Figure 8	**Project** N11 Gorey - Arklow Resolution

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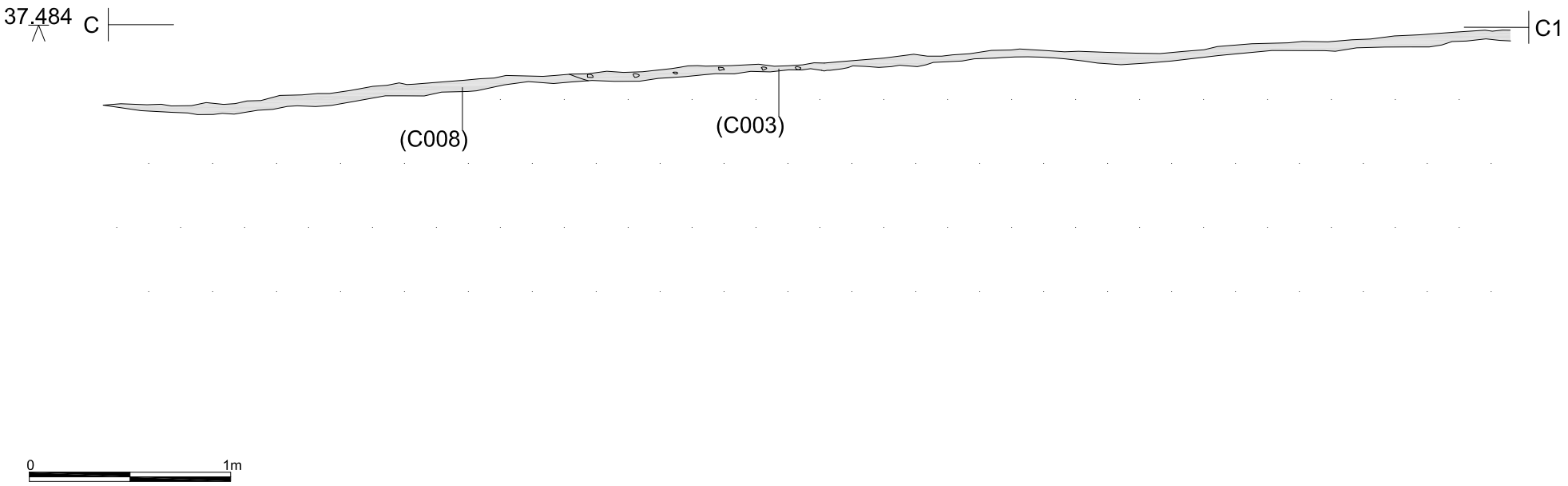

Title Northeast facing section of burnt mound spread (C003) & (C008)	**Notes** Burnt Spread	**Job/Exc No.** A003/042 E3488	**Compiled by** GW	**CAD reference** 1177-05-400/Tera3	**Client** Wexford County Council	VJK Valerie J. Keeley Ltd. ARCHAEOLOGICAL CONSULTANCY	Brehon House Kilkenny Road Castlecomer Co. Kilkenny.
		Date Sept 11	**Scale** 1:30	**Drawing No.** Figure 9	**Project** N11 Gorey - Arklow Resolution		Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 Email: vjk@vjk.ie Website: www.vjk.ie

PLATES

Plate 1: Trough C30 with stake-holes. Looking west.

Plate 2: Raheenagurrnen West, Site 24 under excavation. Looking northeast.

Plate 3: Raheenagurrnen West, Site 24 showing burnt mound C03. Looking northeast.