





REPORT ON THE ARCHAEOLOGICAL EXCAVATION OF A FINAL NEOLITHIC/EARLY BRONZE AGE PIT (SUSPECTED CREMATION) AT CARRIGROHANE 4, BALLINCOLLIG, CO. CORK

Licence No: 02E0890

BY ED DANAHER

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CORK COUNTY COUNCIL



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PROJECT DETAILS

Project Archaeological Excavation

Archaeologist Ed Danaher

Client Cork County Council, County Hall, Co. Cork

Road Scheme N22 Ballincollig Bypass

SiteCarrigrohane 4TownlandCarrigrohaneParishCarrigrohaneNat. Grid Ref.160918, 071035

RMP No. N/A

Licence No. 02E0890

Planning Ref. N/A

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NON-TECHNICAL SUMMARY

The N22 Ballincollig Bypass scheme involves the construction of a new dual carriageway between Bishopstown (Ballinaspig More townland) and Ovens (Knockanemore townland) and covers an area of 750,000 square metres. A programme of advance archaeological investigation was undertaken prior to construction under licence number 01E0546 and involved excavating a 2m wide test trench along the centre line of the proposed route with offset trenches to the edge of the roadtake every 25m on alternate sides. In addition to the five sites of archaeological potential identified through the archaeological impact assessment, eleven sites identified during the course of this investigation were subsequently excavated.

With this phase of the project completed, March 2002 saw the commencement of the topsoil removal which was accompanied by a programme of archaeological monitoring of same under licence number 02E0058. During this monitoring, a shallow circular pit with dimensions of 0.68m east—west, 0.66m north—south and a maximum depth of 0.11m was uncovered. This pit consisted of a dark charcoal-stained fill, which contained 65 sherds of prehistoric (Beaker) pottery and charcoal inclusions. This feature was damaged during topsoil stripping, disturbing much of its contents. Located to the south of it were two rectilinear pits of a non-archaeological nature, both consisting of sterile homogenous fills. Archaeological excavation of these features was conducted under a separate licence to *Dúchas* (02E0890).

Charcoal analysis retrieved from the site revealed that oak, alder and some scrub (*prunus*) were the predominant wood species present on site. Carbon dating of a sample of alder/*prunus* returned a Final Neolithic/Early Bronze Age date of cal BC 2600–2300. 65 sherds of pottery representing two Beaker vessels were retrieved from the site. This pottery assemblage is a significant discovery as it has produced a vessel 'with very wide comparisons in well-dated Irish contexts' (Grogan and Roche, appendix 7.3). Together with Barnagore 2 and Curraheen 1 it is one of the first Beaker assemblages to be found in Co. Cork and will assist in our understanding of prehistoric society in this region.

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1. INTRODUCTION

The village of Ballincollig forms a linear settlement on either side of the N22 road about 10km west of Cork City. In recent years, new housing developments have created a huge increase in population. This, in conjunction with the vast increase in vehicle ownership and use, means that the roadway through the village has become a major bottleneck on the important route westwards from Cork. Recently, Cork County Council decided to investigate the options available for creating a new road to bypass the village. Alternative routes were identified and environmental impact studies commissioned to report on the best option. Included within these reports was a study into the archaeological impact of the proposed development. This included both a desk-top evaluation and field walking. Five sites (Sites A–E) of archaeological potential were recommended for investigation in advance of construction. Separate reports have been prepared on these sites which were investigated under separate licences (01E0442–446). In addition to this advance investigation, archaeological monitoring of topsoil stripping during construction works was recommended.

Prior to the advance investigation commencing, however, it was decided in consultation with Cork County Council that advance testing should be carried out along the entire length of the proposed route in order to identify further potential archaeological sites in advance of the contractor commencing on site. This would allow early detection and resolution of any archaeology uncovered and would help minimise delays to the main contract. The necessary testing was carried out under licence number 01E0546 issued by *Dúchas* The Heritage Service to Donald Murphy. The testing was carried out in the townlands of Knockanemore, Carrigane, Barnagore, Lisheens, Greenfield, Maglin, Ballynora, Carrigrohane, Curraheen and Ballinaspig More (OS six-inch sheet 73 (140, 105) to Sheet 74 (097, 040), NGC: 154698, 070005 (west end) to 163941, 069195 (east end); Figures 1–2).

During this testing eleven potential archaeological sites were identified and excavated under individual licences to *Duchas*. Subsequent to this phase of the development, a programme of archaeological monitoring of the topsoil removal began in March 2002 in the above-mentioned townlands. During the initial stages of the monitoring, three features were identified in the townland of Carrigrohane (Ordnance Survey six-inch sheet 73, 726mm from west and 205mm from south margins; National Grid Co-ordinates 160918, 071035; Figure 2). As the proposed road was to have a direct impact on these features, the area around it was subsequently stripped and archaeological resolution was recommended. A separate licence was applied for and excavation commenced on the site under the direction of Ed Danaher (Licence No. 02E0890).

This project was funded by the Irish Government and part funded by the European Union under the National Development Plan 2000–06. The total archaeological cost was administered by the National Roads Authority through Cork County Council, as part of the Authority's commitment to protecting our cultural heritage.

2. THE SITE IN THE LANDSCAPE

2.1 Geography, Geology and Land Use

The village of Ballincollig is sited on the border of East and Mid Cork. The bypass, which runs south of this village in a roughly east—west direction, is situated in a topography of mainly flat terrain between two ridges (Figures 3–6). Placing this area within its broader biogeographical region of central and southeast Ireland, we see a landscape that is characterised by very large areas of lowlands, mostly on limestone, with ridges of acid rocks forming uplands. Much of the land in this region is suitable for a variety of uses (Cooney 2000a).

Devonian Old Red Sandstone and Carboniferous Limestone underlie this area. The oldest rocks in South Cork are Devonian (approximately 355–410 million years) and are mainly red and green sandstone, siltstones and mudstones. In Cork and Kerry, the Old Red Sandstone accumulated in what is called the Munster Basin which resulted in one of the thickest sequences of Old Red Sandstone found in the world (Sleeman and Pracht 1994). Carboniferous Limestone is the most abundant rock type in Ireland. It varies in texture, colour and components from fine calcite mud to calcite ooliths or coarse corals and shells and from compact calcareous blue limestone to hard blue-grey siliceous variety to black softer shaly beds of the 'Calp' formation. The majority of Irish limestone originated in the Carboniferous period of the Palaeozoic era 286–360 million years ago (*ibid*).

Within the area of land impacted by this development is a limestone outcrop, the Cork Syncline, that travels east-northeast—west-southwest through the eastern end of the area underlying Ovens. The Waulsortian Limestones and Little Island Formation are present along this syncline. In general, the low-lying ground in this area is underlain by limestone with the remainder of this area and higher ground underlain by the Old Red Sandstone.

Glacial deposits of South Cork are composed largely of Devonian and Carboniferous sandstone and shale with small amounts of Carboniferous limestone in places with limestone content higher in low-lying areas, especially in the east of this area where there is a considerable amount of limestone bedrock. Glacial deposits are thin (1–3m) on the ridges and thicker (up to 30m) in the valley bottoms. There is an occurrence of thick sand and gravel deposits on the ridge eastward from Watergrasshill which were deposited by melt waters when the tops of the ridges emerged through the ice surface as it gradually melted. "Thick ice marginal glacial deposits are to be found

in the Ovens area with thick melt water sands and gravels occurring between these and Cork harbour" (Sleeman and Pracht 1994). The Barnagore Neolithic house was sited within this area of Ovens.

The landscape of County Cork has a series of valleys and ridges running east to west with the main valleys being those of the rivers Lee, Blackwater, Bandon and Bride. Cork has more rivers than any other county in Ireland with approximately 1,200km of main channel rivers and 2,000km of streams and drains. The Lee River Valley contains the only remaining area of alluvial woodland in Ireland as well as being one of only a few examples in Western Europe with native broad-leaved woodlands being associated with the steeper slopes of its river valleys. The Maglin, Curragheen and Twopot Rivers (as well as numerous streams) are also present within the hinterland of the roadway with numerous sites being located close to these. The Bronze Age settlement at Ballinaspig More 5 was sited to the west of the Twopot River, while the multiphased settlement at Curraheen 1 was situated to the north of Maglin River. Numerous *fulachta fiadh*, including Ballinaspig More 7, were also unearthed in close proximity to these waterways.

Brown Podzolic is the main soil type found in County Cork and is especially suitable for pasture. 71% (532,500ha.) of the total land area was farmed in County Cork with the greatest use being pasture along with hay, silage and crops. The boggy marshy soils that are present within many of the townlands impacted by the development, such as Curraheen and Greenfield, have a very limited use potential while the widespread presence of *fulachta fiadh* within the townland of Curraheen would suggest that this might have also been the case in prehistory. However, this may not be true of the other townlands.

2.2 The Prehistoric and Early Medieval Landscapes

Compared to northern and western Ireland, very little is known about the vegetational history of southwest Ireland. Only a few pollen diagrams exist for the Cork-Kerry region which can be used to reconstruct the vegetational history of this area. These include studies at Cashelkeelty (Lynch 1981), Killarney (Mitchell 1988), Dingle Peninsula (Barnosky 1988; Dodson 1990) and Valentia Island (Mitchell 1989) in County Kerry. Cork is represented by studies at Ballyally Lough and Loughine in West Cork (Buzer 1980) as well as from the Mizen Peninsula (O'Brien 1999). A picture of the prehistoric landscape in this region can be gleaned from a combination of the pollen diagrams produced from these sites and a study of the archaeological sites excavated in the area.

2.2.1 The Neolithic Landscape

Until relatively recently, it was a commonly held view that there was no Stone Age settlement in

much of counties Cork or Kerry. It was felt that the area was first colonised at the end of the Neolithic by 'Beaker using' groups from northwestern France who sought to exploit local copper resources and who were responsible for the construction of wedge tombs and stone circles, both of which are present in large numbers throughout much of this area (de Valera and O'Nuallain 1961; O'Nuallain 1984). As very few megalithic tombs, the traditional indicators for Neolithic settlement, were present in the region this was looked upon as evidence to support the view that the Southwest was not settled during this period. Only five megalithic tombs associated with the early Neolithic are present in the region (Shee-Twohig & Ronyane 1993). However, this view was altered in the 1980s with indicators of Neolithic activity being present on the Beara Peninsula (Lynch 1981).

A major turning point in the history of Neolithic study in the Southwest came about with the discovery of three Neolithic houses during the construction of gas pipelines in Munster. Two of these houses were unearthed at Tankardstown in County Limerick while the third was located at Pepperhill in County Cork. The discovery of a Neolithic house at Barnagore (Danaher 2003, 02E0384) is only the second example excavated in County Cork while the structure at Cloghers (Dunne and Kiely 1999; Kiely 2000) near Tralee in County Kerry provides the only example of a Neolithic house excavated in Kerry. Evidence of Early Neolithic activity was present in the form of pits within the multi-period site of Ballinaspig More 5, while the earliest *fulacht fiadh* present at Ballinaspig More 7 was dated to the late Neolithic/Beaker period. Apart from these sites and the presence of late Neolithic/Beaker period activity unearthed at Curraheen, no other traces of Neolithic occupation were uncovered during the course of the development and no Neolithic sites or monuments are known for this area of County Cork.

Palynological evidence of Neolithic activity was present at Cashelkeelty (Lynch 1981) where it has been suggested that openings created in pine-dominated woodlands were used for agricultural activity during the early Neolithic. It has also been suggested that Neolithic woodland clearance took place on Valentia Island (Coxon 1985; Mitchell 1989). Buzer (1980) suggests that human activity may have been responsible for a decrease in tree pollen which coincides with the rise in grasses at Ballyally Lough, County Cork. Jessen (1949) also believed that an episode of woodland disturbance at Emlaghlea Bog in County Kerry was caused by Neolithic peoples. This episode was marked by a dramatic fall in pine and oak which coincided with a rise in birch and subsequently grasses. However, the crux of the pollen evidence would suggest a pattern of minor woodland disturbance and that the human impact on vegetation was also minimal up until the late Neolithic and early Bronze Age (O'Brien 1999). Woodman (1993) has also suggested that the Southwest was a peripheral area during the Stone Age.

2.2.2 The Bronze Age Landscape

The Bronze Age is accredited with having the most significant impact on the landscape of the Southwest during the prehistoric period. This is supported by both the distribution and abundance of associated archaeological sites and monuments as well as from the regional pollen evidence.

Pollen diagrams indicate permanent woodland clearances which possibly represent an increase in agricultural activity caused by an increase in human population, particularly in the later Bronze Age. This woodland is replaced by "a cultural landscape dominated by acidic grasslands, blanket peats and agricultural land" (O'Brien 1999). Dodson (1990) recorded evidence for both pastoral and arable farming in the Dingle Peninsula. This followed an episode of woodland clearance which was dated to the late Bronze Age. An increase in cereal type pollen has also been recorded at a number of sites such as Cadogan's Bog (O'Brien 1999).

In terms of monuments dating from the Bronze Age, wedge tombs and stone circles are the most visible, while *fulachta fiadh* are the most numerous with over two thousand examples having been recorded for County Cork alone (however, these cannot all be ascribed to the Bronze Age).

Linear developments such as this one provide a transect through the archaeological landscape of a region. The overall context of the sites encountered along this bypass is primarily Bronze Age. As the road passed through large tracts of marshy ground, *fulachta fiadh* were the most common site encountered. Within the townlands of Curraheen/Carrigrohane, a large cluster comprising three sites that have been interpreted as *fulachta fiadh* and a further nine sites which contained related features such as troughs and pits were excavated (Russell, 2004). Other clusters were present within the townlands of Ballinaspig More and Greenfield while a number of known *fulachts* were sited within the immediate hinterland of the route. Bronze Age activity in the form of pits and hearths was unearthed in the townland of Ballinaspig More while a Bronze Age roundhouse was excavated at Greenfield. Cremation pits were present within the townlands of Carrigrohane, Barnagore, Greenfield and Ballinaspig More while other pits of Bronze Age date were also excavated within these townlands.

A puzzling aspect of this locale is the apparent lack of wedge tombs. A group of around fifty tombs is present on the ridge and valley topography of the upper Lee valley basin and surrounding landscape of Mid Cork (O'Brien 1999) some twenty kilometres west of Ballincollig while isolated examples are located c.10km to the north of the village. However, none are present within its immediate hinterland. There are two possible explanations which may account for the apparent void in the landscape of these monuments. First, centuries of intensive farming may have destroyed all traces of these tombs and second, an alternative approach to the treatment of the dead may have been practised which would have left little trace in the archaeological record.

Radiocarbon analysis of the cremation pits excavated in association with this development has provided a range of dates spanning from Early to Late Bronze Age. Similarly, there is an absence of stone circles in this area. These monuments share a common distribution pattern to wedge tombs, being located to the west and northwest of the study area.

2.2.3 The Iron Age and Early Medieval Landscape

Evidence from the pollen record from around the country suggests that there was a significant decrease in agricultural activity during the Iron Age. However, the opposite was true of the early medieval period which saw an intensification of agriculture. Pollen diagrams from the Beara Peninsula (Lynch 1981) would appear to support this trend while in contrast, the pollen record from the Mizen Peninsula (O'Brien 1999) suggests that agricultural activity and woodland clearance continued into the early medieval period.

Only a few traces of Iron Age activity were revealed within this development. At Ballinaspig More 5, two structures of Iron Age date were unearthed while at Curraheen 1 & 5 a number of excavated pits were dated to this period. However, their presence is of major significance. The Iron Age is possibly the most obscure period in Irish prehistoric archaeology. At present, there is little evidence of a significant Iron Age presence in the Cork and Kerry region. Settlement sites are few and far between as well as being difficult to identify (Woodman 2000) while the material culture of this period, which has been used to indicate Iron Age activity in other regions of the country, is almost non-existent.

On the other hand, evidence for early medieval settlement is commonplace within the locale. Ringforts are known for the townlands of Ballinaspig More, Curraheen, Knocknaemore and Maglin while souterrains are present within the townlands of Lisheens, Barnagore and Knockanemore. A settlement site of early medieval date was excavated at Curraheen while a hearth of similar date was unearthed at Lisheens. The site at Curraheen also revealed traces of earlier activity dating from the late Neolithic/Beaker period while a late prehistoric date of 395–100BC was also ascertained.

3. HISTORICAL BACKGROUND

3.1 Ballincollig

Ballincollig is a small town and former British artillery depot situated in the Lee Valley five miles west of Cork City. The town is perhaps most famous for its Gunpowder Mills which were built by Charles Leslie in 1793. The mills were purchased by the British Board of Ordnance in 1804 and

under its control the mills were extended and the present canal was dug (Power 1997, pp.437–40). Workers' houses and the adjacent Ballincollig Cavalry Barracks were also erected at this time. The mills were abandoned by 1828 but purchased and re-opened in the 1830s by Tobins of Liverpool. It was later amalgamated into Curtis and Harvey. At its peak in the mid 1870s, the mills were said to have employed up to 500 people. The site and complex is now owned by Cork County Council which has restored one Incorporating Mill and built a visitor centre nearby.

The entire complex stretches some 2.5km along the south bank of the River Lee and covers an area of 52.6 hectares. It is divided into three sections: a Refining Area (a small off-centre area associated with initial refining of raw materials); Incorporating Mills (at the east end of the complex) and Finishing Area which consists of structures associated with the post-incorporating processes at the west end. All structures are ruinous and some are overgrown and inaccessible. Two maps of the complex survive, one by the Board of Ordnance from 1828 and a second from 1876. The main canal which was recently restored takes a curving course along the full length of the complex and provided a safe route for transport and water for numerous millraces serving individual units. The canal was taken off the River Lee at the west end of the complex. Leslie's original straighter canal still survives in part.

One of the greatest Confederate commanders of the American Civil War, General Patrick Roynane Clebourne, was born in Ballincollig in 1828. He advocated emancipation of the American slaves and was a member of the Fenian Brotherhood. Less than a mile southwest of the village lies the ruins of Ballincollig Castle, a large rock castle of the Barrets (a more detailed description is given below). This castle dates from the reign of Edward III (1327–77) and was garrisoned by Cromwell and by James II in the seventeenth century.

4. ARCHAEOLOGICAL EXCAVATION

An advance programme of testing was undertaken in the months between May and August and November and December 2001 under licence 01E0546. The proposed road will run for a distance of approximately 12km through previously undeveloped countryside. This necessitated trial trenching over that distance including locations of slip roads, roundabouts etc. The width of the roadtake was generally *c*.50m with variations where slip roads etc occurred.

Following the completion of the testing programme in December 2001 and the resolution of sites in February 2002, the initial stages of topsoil stripping began during March 2002. An archaeological monitoring programme was put in place to accompany this topsoil stripping. During monitoring in the townland of Carrigrohane (Figure 1), three features were uncovered c.0.4m below the sod. These were situated c.800m northeast of Carrigrohane 3 (02E0431). An

area measuring 10m east—west by 22m north—south was cleaned back by hand to establish the nature and extent of any deposits present. A shallow circular pit consisting of a dark charcoal-stained fill which contained frequent sherds of prehistoric (Beaker) pottery was uncovered. This feature was damaged during topsoil stripping, disturbing much of its contents. Located to the south of it were two rectilinear features consisting of sterile homogenous fills.

4.1 Excavation Methodology

An open area total excavation strategy was undertaken. The recording techniques employed were based on a recording system that best suited a rural environment as outlined in Barker (Barker 1977). This was supplemented by the recording system outlined in the Museum of London Archaeological Service Site Manual (Spence 1990). Although designed for an urban rescue situation, this was still beneficial. A single-context recording system was used with phase plans and single contexts plans being combined to record the site. Bulk samples were taken of all archaeological deposits.

Following the discovery of archaeological deposits during topsoil stripping, the site was fenced off and cleaned back by hand to determine the nature and extent of the deposits present. Once the three pits were exposed, the cut and fills of each pit were sectioned, photographed and recorded. The cut was subsequently removed of its remaining fills and then photographed and recorded.

As this excavation was of a rescue nature, the objective of which was the recording of the archaeological site prior to its destruction by the construction of the N22 Ballincollig Bypass, its principal goals were to:

- a) establish the stratigraphical sequence of the site;
- b) determine the various phases of activity within the site;
- c) establish the date of the site.

These objectives constituted the research framework of the excavation. During the post-excavation phase, more specific research questions were asked:

- d) what was the function of the pit?
- e) what can be interpreted from the stratigraphic information uncovered?
- f) how did the site compare to other excavated sites from around the country?

4.2 Stratigraphical Report

This section details each unit in the stratigraphical sequence, starting at the earliest.

C8 Substratum: moderately-compact light-orange/brown clayey sand (clay 40%, sand 60%). The predominant sediment present throughout the site.

Feature 2

- Ct of natural feature: rectilinear in plan. Sharp to gradual break of slope at top on all sides, gradual at base. No definite cut, irregular on all sides. Irregular and uneven base. Dimensions: 2.44m L x 1.24m W x 0.54m D. This feature is non-archaeological and natural. Fill number 4. Above C8, below C4 and C1. It was situated less than 6m south of pit C3 and 0.5m west of pit C7 which ran parallel to it.
- C4 Fill of C5: loose orange-grey-brown clayey sand which contained moderate gravel inclusions. Apart from these inclusions, this feature was sterile and appeared to be a variation within the subsoil. Dimensions: 2.44m L x 1.24m W x 0.54m D. Above C5 and C8, below C1.

Feature 3

- C7 Cut of natural feature: rectilinear in plan. Sharp to gradual break of slope at top on all sides, gradual at base. No discernable cut, irregular on all sides. Irregular and uneven base. Dimensions: 2.86m L x 1.42m W x 0.42m D. Non-archaeological feature. Fill number 6. Above C8, below C5 and C1. It was aligned north–south, running parallel to C5.
- Fill of C7: loose light-grey/brown silty sand with 50% gravel inclusions. Apart from these inclusions, it was sterile. Dimensions: 2.86m L x 1.42m W x 0.42m D. Above C7 and C8, below C1.

Pit 1

- Cut of pit: circular in plan. Sharp break of slope at top, gradual at base. All sides were gently sloping and tapered to a gently rounded base. Dimensions 0.68m L x 0.66m W x 0.11m D. Fill number 2. Above C8, below C1 and C2. Cut of possible cremation pit of Beaker date dug into subsoil C8 which was damaged by machine during topsoil stripping.
- C2 Fill of pit C3: loosely compact dark-brown/black sandy silt (sand 20%, silt 80%). Contained moderate charcoal and small stone inclusions of less than 80mm in diameter as well as ninety-two sherds of prehistoric pottery, possibly Beaker. Dimensions 0.68m L x 0.66m W x 0.11m. Above C3 and C8, below C1. This deposit was truncated by machine during topsoil stripping. Therefore, its depth would have been greater in antiquity.
- C1 Topsoil: moderately-compact dark-brown silty clay which contained occasional small stone inclusions.

4.3 Stratigraphical Report Summary

This section will phase the site based on the stratigraphical sequence provided above. The information outlined will be a summarised version of the stratigraphical evidence.

Phase 1

Bedrock, Devonian Sandstone (river and floodwaters deposited onto what was an arid desert-like environment some 355–410 million years ago) and Carboniferous Limestone. The predominant bedrock in this region is limestone. It was deposited during the formation of the North Munster Shelf during the Carboniferous cycle between 310 and 370 million years ago. This limestone was a product of the consolidation of plant and animal remains which had disintegrated on the seabed to form layers of sedimentary rock rich in calcium carbonate (Mitchell and Ryan 1997). These geological successions would have been contemporary with the Devonian sandstone and mudstone groups. Limestone appeared to have been quarried from a pit situated west of the cremation pit.

Phase 2

Glacial moraine (substratum). Clayey sand deposits representing glacial moraines which form at the edge of glaciers and, as sedimentological contexts, are often the location of prehistoric human occupations. This sediment, being the predominant one throughout the site, was a product of the Quaternary period which ranged in time from the beginning of the Ice Age (1.6 million years ago) to the present day, and is the final stratum in the geological timescale. Following the end of the last Ice Age almost eleven thousand years ago, temperatures rose, resulting in the colonising of these bare soils by herbaceous species such as grasses, meadowsweet and dock.

Phase 3

Environmental stabilisation/soil formation (10,000 to 2000BC): no surviving evidence.

Phase 4

Prehistoric burial (Beaker/Bronze Age, Cal BC 2600–2300): formation of a cremation pit.

Located at a height of 23.5m above OD this site comprised two non-archaeological (C5 and C7) and one archaeological feature (C3), the latter a possible cremation pit which was cut into the boulder clay (C8). The two natural anomalies were both aligned north—south and were situated within a metre of each other. Both were completely irregular in form and neither showed signs of being manmade. The smaller of these features (C5) measured 2.44m north—south, 1.24m east—west and had a maximum depth of 0.54m. As previously mentioned, this feature was natural in origin and defined the extent of overlying deposit C4. This deposit was a loose grey-brown clayey

sand which contained moderate gravel inclusions. It differed from the substratum (C8) in colour and contained a higher content of stone. Otherwise, it was very similar and is interpreted as a variation within this former sediment.

Feature C7 was present less than a metre east of C5 and had maximum dimensions of 2.86m north—south, 1.42m east—west and a depth of 0.42m. This feature did not contain any manmade cut and, as with C5, it was natural in origin, defining the extent of naturally occurring deposit C6 above the subsoil C8. This latter deposit consisted of a loose light-grey/brown silty sand with 50% gravel/small stone. No other inclusions were present. No evidence was present to determine whether these pits were formed prior to or after the manmade pit C3.

Situated just over eight metres north of these natural deposits was circular pit C3 which had a diameter of 0.66m and a depth of 0.11m. It consisted of a sharp break of slope at top and gradual break of slope at base. Its sides sloped gently, tapering to a slightly rounded base. This pit was the truncated remains of a possible cremation pit dug into the natural C8. The upper portion of this feature was damaged during topsoil stripping, disturbing its contents. Pit C3 was filled with a loosely-compact dark-brown/black sandy silt (C2). It contained sixty-five sherds of Beaker pottery, moderate charcoal and small stone inclusions with concentrations of these materials present to the north and east. The stones were mainly limestone with occasional inclusions of quartz present, all with a diameter of less than 0.08m. No cremated bone was present but as this deposit had been disturbed, any trace of it may have been removed/destroyed prior to excavation. The dimensions of this deposit were the same as the pit it filled.

4.4 Interpretations and Discussion

In this section, the results of the excavation will be reviewed and interpretations offered, while comparisons to other pits of Beaker origin excavated around the country will be attempted. The questions presented under the excavation methodology subheading will be tackled here. Finally, the subsequent sections will place the Carrigrohane 4 excavation into a broader regional and national context and the significance of this evidence will be examined.

Three features were investigated but only one appeared to be the product of human activity. This was a pit dug into the clayey sand subsoil. Excavations in the townlands of Curraheen, Greenfield and Ballinaspig More would suggest that this site formed part of a wide-ranging prehistoric presence in the area (outlined below).

When originally exposed as a result of topsoil stripping, it was initially felt that pit C3 was an isolated cremation pit while linear feature C5 located almost eight metres to the south may have been the remains of a crematorium as the orangey colour of its fill suggested that it may have

been oxidised as a result of *in situ* burning. Linear crematoria located close to a flat cemetery were excavated at Ballyvelly, Tralee, County Kerry (Dunne 2000) and linear feature C5, prior to excavation, was of similar shape and dimensions to those unearthed at Ballyvelly. However, excavation was to prove otherwise, with both linear features C5 and its neighbouring anomaly C7 being non-archaeological in nature.

On the other hand, C3 was archaeological, comprising a shallow circular pit which contained a charcoal-stained dark-brown/black sandy silt with inclusions of Beaker pottery and charcoal. This pit had been truncated during topsoil stripping, disturbing much of its contents and although no cremated bone was present, it was felt that the pit and its contents may have been associated with a burial rather than the product of domestic activity. In Ireland, most Beaker pottery has derived from settlement sites rather than funerary contexts. Fragments of Beaker pottery have been found in a small number of excavated wedge tombs and are usually associated with cremated bones, while one of the satellite tombs at Knowth contained a well-made Beaker vessel associated with the cremated remains of an adult and a child. At Kiltierney, Deerpark, County Fermanagh, three sherds of Beaker pottery were located within a cremation pit in a stone circle. Other forms of burial are extremely rare in Ireland. This is in sharp contrast with Britain where the majority of Beaker pottery is known from funerary contexts usually associated with crouched skeletons in graves (Waddell 1998, 118). This evidence alone casts doubt on any interpretation of this pit as being a Beaker cremation pit, particularly in the absence of any bone.

However, the evidence for the alternative functions for this pit are equally questionable. As previously stated, it is highly unlikely that this pit was a rubbish pit, particularly bearing in mind its apparent isolation within the landscape. No other archaeological deposits were present within this section of the roadtake which was over 30m wide and 200m long. It is possible that the pottery within this pit may have been a votive offering. Excavation of four pits at Colp West, County Meath, yielded sherds of Bronze Age pottery which were interpreted as votive offerings (Murphy 2002). However, little or no other inclusions were present within any of these four pits, which is in stark contrast to the fill of the pit at Carrigrohane 4 which contained a charcoal-rich fill that may have derived from a hearth or possibly a pyre. From the evidence at hand, it is difficult to pinpoint the exact function of this pit, though it seems plausible to suggest that it was dug in association with burial/ritual rather than for domestic reasons.

Having examined the archaeological evidence from the site, a brief background to this period and to the emergence of this new pottery innovation will be outlined. It would appear that at around 2400BC, a new type of pottery was introduced into Ireland for the first time. However, a degree of uncertainty shrouds the appearance of this Beaker pottery. Several types as well as a number of localised variations are present in Western and Central Europe. As mentioned above, in Britain

and on the Continent, these pots are frequently located in graves, mainly accompanying a single crouched inhumation. Other distinctive items from the Beaker assemblage such as barbed and tanged arrowheads, copper knives, stone bracers and buttons with a distinct V-shaped perforation were also at times present in these graves. Until relatively recently, it was felt that a distinct Beaker people moved from their homeland in Iberia or Central Europe to other parts of the Continent bringing with them a new technology—metalworking. However, the presence of this pottery, as well as other Beaker compatible material, is no longer seen as proof of the colonisation of Ireland by a 'Beaker Folk' but rather suggests that "a prestige 'cult package' or fashion [was] spread by culture contact or commerce" (Harbison 1988, 90). In simple terms, Beaker pottery may have been expressions of individual status.

Assuming that the 'Beaker People' in Ireland had made the journey from Britain, other difficulties arising from the colonisation paradigm emerge. Many of the features and customs of Beaker society in Britain are not present in Ireland. For example, an immense variation in burial traditions exists between the contemporary Beaker peoples of these two countries (described above). Also, in other areas, the features of Irish Beakers do not follow the usual pattern of development in Britain. Whereas the presence of Beaker pottery is scarce from settlement sites in Britain and the Continent, the vast majority of it in Ireland has been uncovered in association with domestic activity. Case, in a review of the evidence for Irish Beakers, noted that early Irish beakers

can be related partly to the primeval Atlantic tradition and partly to developments in north-west Europe, including Britain.... Later Beaker developments in Ireland...can be related to those in Britain and overlap with the development of Irish Bowl pottery. Beaker pottery represents a basic craft, with production of pots for everyday life. It was spread in seasonal movements, the purpose of which was at least partly a search for resources (Case 1995, 14).

Dating evidence for a number of sites excavated within the roadway in the townlands of Carrigrohane, Barnagore, Ballinaspig More and Curraheen indicate settlement or activity dating to the Final Neolithic/Early Bronze Age. These are all important discoveries as they shed new light on the distribution of this pottery style into new areas of the Southwest region.

5. ARCHIVE CONTENTS

All material is currently stored by Archaeological Consultancy Services Ltd (Unit 21, Boyne Business Park, Greenhills, Drogheda, County Louth). This material includes the paper archive (diaries, survey books, context sheets, plans, illustrations, photographs, registers, correspondence, specialist reports, etc.); the finds archive (catalogue of finds by category) and the finds themselves as well as any electronic records pertaining to the work described here. The archive is properly labelled, sorted, checked, cross-referenced and in appropriate storage.

5.1 Context Register

- C1 Topsoil: moderately-compact dark-brown silty clay which contained occasional small stone inclusions.
- C2 Fill of pit C3: loosely-compact dark-brown/black sandy silt (sand 20%, silt 80%). Contained moderate charcoal and small stone inclusions of less than 80mm in diameter as well as ninety-two sherds of prehistoric pottery, possibly Beaker. Dimensions 0.68m L x 0.66m W x 0.11m. Above C3 and C8, below C1. This deposit was truncated by machine during topsoil stripping, and its depth would have been greater in antiquity.

Pit 1

- Cut of pit: circular in plan. Sharp break of slope at top, gradual at base. All sides were gently sloping and tapered to a gently rounded base. Dimensions: 0.68m L x 0.66m W x 0.11m D. Fill number 2. Above C8, below C1 and C2. Cut of possible cremation pit of Beaker date dug into subsoil C8 which was damaged by machine during topsoil stripping.
- C4 Fill of C5: loose orangey-grey/brown clayey sand which contained moderate gravel inclusions. Apart from these inclusions, this feature was sterile and appeared to be a variation within the subsoil. Dimensions: 2.44m L x 1.24m W x 0.54m D. Above C5 and C8, below C1.

Feature 2

- Ct of natural feature: rectilinear in plan. Sharp to gradual break of slope at top on all sides, gradual at base. No definite cut, irregular on all sides. Irregular and uneven base. Dimensions: 2.44m L x 1.24m W x 0.54m D. This feature is non-archaeological and natural. Fill number 4. Above C8, below C4 and C1. It was situated less than 6m south of pit C3 and 0.5m west of pit C7 which ran parallel to it.
- Fill of C7: loose light-grey/brown silty sand with 50% gravel inclusions. Apart from these inclusions, it was sterile. Dimensions: 2.86m L x 1.42m W x 0.42m D. Above C7 and C8, below C1.

Feature 3

C7 Cut of natural feature: rectilinear in plan. Sharp to gradual break of slope at top on all sides, gradual at base. No discernable cut, irregular on all sides. Irregular and uneven base. Dimensions: 2.86m L x 1.42m W x 0.42m D. Non-archaeological feature. Fill

number 6. Above C8, below C5 and C1. It was aligned north–south, running parallel to C5.

C8 Substratum: moderately-compact light-orange/brown clayey sand (clay 40%, sand 60%). The predominant sediment present throughout the site.

5.2 Drawing Register

5.2.1 Plan Register

Plan No.	Description	
1	Pre-excavation plan of C2, C3	
2	Post-excavation plan of C3	
3	Pre-excavation plan of C4, C5, C6, C7	

5.2.2 Section/Profile Register

Section/Profile No.	Plan No.	Description
A-A1	1	Section of C2, C3
B-B1	2	Section of C4, C5
C-C1	3	Section of C6, C7

5.3 Sample Register

Sample No.	Context No.	No. of Bags	Type	Description
1	2	1	Charcoal	Charcoal sample taken from C2
2	2	8	Soil	Bulk sample taken from pit C3
3	4	4	Soil	Bulk sample taken from C5
4	6	4	Soil	Bulk sample taken from C7

5.4 Soil Sample Flotation Results

Feature No.	Sample No.	Sieved By	Material Recovered	Weight of Soil Sample Before Flotation
2	2 (8 bags)	RM	25g charcoal, 2 flint fragments, nut shell fragments, 7 pottery sherds	26kg

5.5 Finds Register

Find No.	Description		
02E0890:2:1-65	Sixty-five sherds of prehistoric pottery, possibly Beaker Ware		
02E0890:1:1-2	Two fragments of flint debitage		

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Abbreviations

ICHAS	Journal of the Cork Historical & Archaeological Society.
Signed:	

Ed Danaher,

Archaeologist.

February 2005.

7. APPENDICES

7.1 Wood Species Identification by Ellen O Carroll

Introduction

One charcoal sample was submitted for identification from the fill of a circular pit which contained Beaker pottery. This feature may be the basal remains of a cremation pit of possible Beaker date.

The charcoal was sent for species identification prior to ¹⁴C dating and also to obtain an indication of the range of tree species. Charcoal analyses may also provide information on the utilization of certain species for various functions. Wood used for fuel at pre-historic sites was probably sourced at locations close to the site and therefore charcoal identifications will generally reflect the composition of the local woodlands.

Methods

The process for identifying wood, whether it is charred, dried or waterlogged involves comparing the anatomical structure of wood samples with known comparative material or keys (e.g. Schweingruber 1990). The identification of charcoal material involves breaking the charcoal piece so as to obtain a clean section of the wood. This charcoal is then identified as to species under an Olympus SZ3060 x 80-zoom stereomicroscope. All of the samples were suitable for species identification.

Results

Table 1: Results from Charcoal identifications

Site no. / Context no.	Feature type	Sample no.	Species	Comment
02E0890, 2	Beaker Cremation pit	1	Oak (1g), <i>Prunus</i> spp. (6g.) & alder (4g)	11g. Oak has been bagged separately

The identifications yielded a total of three wood species (table 1). The dominant type was Prunus and alder with a small amount of oak also identified.

Discussion

There are three species groups present in the charcoal remains (table 1). The range of species identified from this site includes large (oak) and smaller type (alder) trees and some scrub (Prunus spp.).

The genus Prunus spp. includes *Prunus spinosa* (blackthorn), *Prunus avium* (wild cherry) and *Prunus padus* (bird cherry). Wood of the genus Prunus can be difficult to differentiate microscopically. Wild cherry and blackthorn are more common in Ireland than bird cherry. There is very little archaeological evidence for the use of cherry wood in Ireland although the wild cherry tree is commonly found in many hedgerows (Nelson 1993, 167). It is a very durable wood and is as strong as oak. Blackthorn (*Prunus spinosa*) is a thorny shrub found in woods and scrub on all soil types. In a woodland situation it is more likely to occur in clearings and at the woodland edges. It is more likely that the charcoal identified from this assemblage was blackthorn rather than cherry. If this is the case then the collection of blackthorn was probably the selection of scrub from nearby to the site in hedgerows and open clearings.

Alder (*Alnus glutinosa*), which was identified from the fill of the cremation pit, is a widespread native tree and occurs in wet habitats along streams and riverbanks. Alder also grows regularly on fen peat. It is an easily worked and split timber and does not tear when worked. The Alder is commonly identified from wood remains associated with wet/boggy areas.

A small amount of oak was also identified from the fill of the cremation pit. Sessile oak (*Quercus petraea*) and pedunculate oak (*Quercus robur*) are both native and common to Ireland. The wood of these species cannot be differentiated on the basis of its microstructure. Pedunculate oak is common on heavy clays and loams particularly where the soil is of alkaline pH. Sessile oak is common on acid soils often in pure stands and although it thrives on well-drained soils it is also tolerant of flooding (Beckett 1979, 40-41). Both species of oak grow to be very large trees (30-40m). The presence of the oak suggests that there was a supply of oak in the surrounding environment at Carrigrohane. Throughout all periods of prehistory and history oak has been used as structural timbers. Oak has unique properties of durability and strength.

Conclusions

The firewood or kindling, which was used in this cremation pit, would have probably been selected from nearby fallen wood or scrub near to the sites. Alder indicates wetter conditions close by to the site while the Prunus and oak suggest dryland conditions although oak will sometimes grow in wet areas during dry periods.

Radiocarbon dating

A minimum of 5 grammes of charcoal is needed for a 14C date but 25 grammes is the preferred amount. All the charcoal samples above represent the inner part of a tree of unknown age and it was not possible to tell from identification how much larger, if at all, the whole piece was. This is particularly true in the case of oak as it can grow to an age of 300 to 400 years. The samples identified could be of a more recent date than the rings represented on the sample. The oak has been bagged separately from the sample and should not be sent for 14C dating.

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Material Received: 4/9/2003

7.2 Radiocarbon Dating Results

Ms. Rachel Sloane Report Date: 5/7/2003

Archaeological Consultancy Services, Ltd.

Sample Data Measured 13C/12C

Conventional Radiocarbon Age Ratio

Radiocarbon Age(*)

Beta - 178202 3990 +/- 60 BP -26.2 o/oo 3970 +/-

60 BP

SAMPLE: 02E890F2S1

ANALYSIS: Radiometric-Standard delivery

MATERIAL/PRETREATMENT: (charred material): acid/alkali/acid

2 SIGMA CALIBRATION: Cal BC 2600 to 2300 (Cal BP 4560 to 4250)

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.2:lab.mult=1)

Laboratory number: Beta-178202

Conventional radiocarbon age: 3970±60 BP

2 Sigma calibrated result: Cal BC 2600 to 2300 (Cal BP 4560 to 4250)

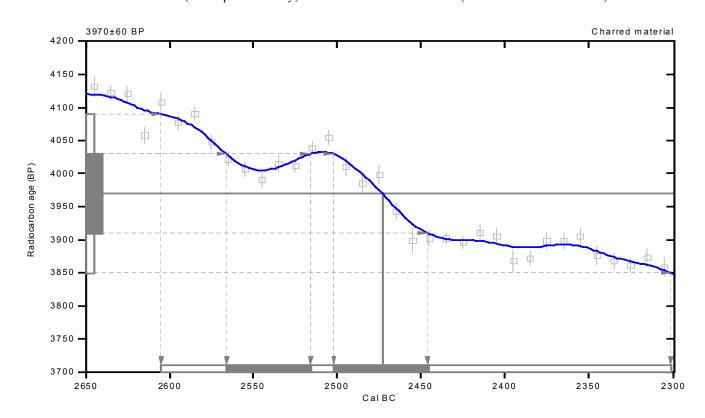
(95% probability)

Intercept data

Intercept of radiocarbon age

with calibration curve: Cal BC 2470 (Cal BP 4420)

1 Sigma calibrated results: Cal BC 2570 to 2520 (Cal BP 4520 to 4470) and (68% probability) Cal BC 2500 to 2450 (Cal BP 4450 to 4400)



References:

Database used

Calibration Database

Editorial Comment

Stuiver, M., van der Plicht, H., 1998, Radiocarbon 40(3), pxii-xiii

INTCAL98 Radiocarbon Age Calibration

Stuiver, M., et. al., 1998, Radiocarbon 40(3), p1041-1083

M ath em atic s

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2), p317-322

Beta Analytic Inc.

4985 SW 74 Court, Miami, Florida 33155 USA • Tel: (305) 667 5167 • Fax: (305) 663 0964 • E-Mail: beta@radiocarbon.com

7.3 Pottery Analysis by Eoin Grogan and Helen Roche

Summary

There are 65 sherds of pottery from the site¹. The small assemblage, from a possible cremation pit, is largely well preserved. Based on the featured sherds, fabric and decoration it is estimated two Beaker vessels are represented, dating to the Final Neolithic/Early Bronze Age (Vessels 1-2).

Final Neolithic/Early Bronze Age Beaker pottery

The Carrigrohane pottery is of good production quality with its good to fine fabric containing a moderate percentage of inclusions of crushed quartzite and sandstone, generally ≤ 1 mm but occasionally up to 4 by 2mm; the vessels range in thickness from 4.5-7mm. The slightly abrasive texture of some of the assemblage is due to surface wear that has removed the final finger-slip finish. The vessels appear to have had soft S-shaped profiles, with simple rounded and slightly expanded rims and gently sloping base-angles.

Vessel 1 is decorated in one of the most widely represented styles amongst Irish Beakers. This style is dominated by comb impressed designs arranged in well-defined horizontal bands. The most common of these consist of closely spaced horizontal lines alternating with blank panels that are edged with frills of short oblique fingernail, or occasionally comb, impressions. This motif occurs at Newgrange (Cleary 1983, 76, fig. 28.group 17a; fig. 26.group 16, fig. 25.group 11), Knowth concentrations C and D (Eogan 1984, 282, fig. 103.2086-9, and 297, fig. 112), as well as at Lough Gur D (Ó Ríordáin 1954, 378, pl. 37.1), L (Grogan and Eogan 1987, 407-9, fig. 47.1317, 1429), and 10 (Grogan and Eogan 1987, 452, fig. 69.407-10, 413-4). Vessels of this type have generally been assigned to Clarke's European Bell Beaker, or his Wessex/Middle Rhine types (1970). More recently, following reviews by, for example, Lanting and van der Waals (1972), there has been a greater recognition of the regional development of Beaker. Case's (1993) simpler threefold scheme, and its specific application to the Irish material, provides a straightforward medium for insular comparison (Case 1995). The Carrigrohane material, with its classic Bell Beaker profile, and simple horizontally arranged zonal ornament, conforms to his style 2, and based on analogy with other sites should belong to an early phase compatible with the dating of the assemblages in the Boyne Valley around 2400-2300 BC.

The form and fabric of Vessel 2 are entirely compatible with this date but the wear on the upper portion of the pot precludes any further assessment.

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¹ The excavation number 02E0890 is omitted throughout, only the context number followed by the find number is included.

It is evident that the two vessels had quite different pre-depositional histories. The sherds from Vessel 1 suggest a vessel that was already old when broken as they all exhibit fresh edge breaks while the surfaces are worn and the decoration partly obscured. It appears that this pot was deposited immediately after breakage. The burnt portion of Vessel 2, mainly from the lower body, also exhibits reasonably fresh edges and surfaces; on the other hand the unburnt part of this pot has very worn surfaces and edges suggesting that it was either in exposed conditions or in a context that underwent considerable disturbance before the sherds were finally deposited in the pit. These observations do not appear compatible with an analysis of the pit contents representing a funerary deposition.

Conclusions

The excavations at Carrigrohane 4 uncovered a small but important assemblage of Beaker pottery dating to the Final Neolithic/Early Bronze Age period. This is a significant addition to the relatively limited number of Beaker sites found in southwest Ireland, not least because it is has produced a vessel (No. 1) with very wide comparisons in well dated Irish contexts. As one of the first Beaker assemblages, together with Barnagore 2 and Curraheen 1, to be found in Co. Cork, this discovery has helped to substantially alter our understanding of prehistoric society in this region.

Catalogue

Numbers in square brackets (e.g. 2.[48a-b]) indicate that the sherds are conjoined.

Final Neolithic/Early Bronze Age Beaker pottery

There are 65 sherds (2 rimsherds, 37 neck-/bellysherds, 20 bodysherds, 2 base angle sherds, and 4 basesherds), as well as 12 fragments and 1 crumb, from at least two fine Beakers (Nos 1-2).

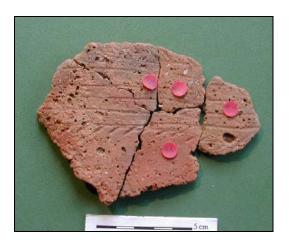
Vessel 1

Forty eight sherds (1 rimsherd: 2.63; 35 neck- or bellysherds: 2.[45-7, 49, 62], [48a-b], 6, 8, 12, 17, 23, 25, 27, 33, 34, 36, 39, 50-3, 55, 61, 64, 66-8, 84; 8 bodysherds: 2.1, 11, 13, 20-1, 69, 71, 72; 4 base sherds: 2, 3, 57-8; and 10 small fragments: 2.10, 19, 31, 40, 54, 75-6, 82, 87, 92) mainly from the upper part of a fine Beaker. This has an unexpanded upright rim with a slight external bevel, a gently curved neck and a soft S-shaped profile. The vessel had a flat base formed by a pre-formed disc that was 8cm in diameter. The well-fired fabric is hard and brittle, generally

red-buff in colour throughout and 4.5-5.5mm thick. Differential firing has resulted in some parts of the vessel having a grey core and a grey inner surface. There is a moderate content of inclusions of crushed quartzite and sandstone, generally ≤ 1 mm but occasionally up to 4 by 2mm. Many of the sherds are well preserved with sharp edge breaks but most of the surfaces are worn and other material (e.g. 2.90, 52-3, 83, 91) is heavily abraded.

<u>Decoration:</u> A single horizontal line occurs immediately beneath the rim. Below this is an edging of oblique stab marks with, beneath, a blank zone at least 2cm high. There is a well-defined band of ornament on the lower portion of the neck and extending onto the belly. This consists of six horizontal lines edged top and bottom by fringes of oblique stab marks. While worn it is probable that the lines were comb impressed. The vessel had a maximum external diameter of 15cm at the rim.

C2 - fill of Pit 1



Vessel 1: conjoined necksherds (2.[45-7, 49, 62])

Vessel 2

Seventeen worn sherds (1 rimsherd: 2.90; 2 neck- or bodysherds: 2.65, 85; 10 bodysherds: 2.4, 5, 7, 14-6, 22, 28-9, 82; 2 bodysherds from close to the base: 2.83, 91; 2 base angle sherds: 2.2, 86; 2 fragments: 2.43, 79; 1 crumb: 2.44) from a vessel with an unexpanded rounded rim and a gently curved neck, a soft S-shaped profile, and a base with a low (10mm high) foot. Although the fabric is consistent with a single vessel there are two distinct colours represented: the first group are generally red-buff throughout but some sherds are red-grey with a grey core. A second group (2.4, 5, 7, 14-6, 22, 28-9, 82) are grey to dark grey and have been burnt; these are markedly less worn than the others. There is a low level of inclusions of crushed quartzite and sandstone, generally \leq

1mm but occasionally up to 4 by 2mm. Surface wear has obscured any decoration but there appears to have been internal decoration in the form of horizontal lines on the inner face of the rim.

C2 - fill of Pit 1

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Suggested pottery for illustration

(Context	Vessel Number	Sherd Number	Draw	Photograph	Section
2	2	1	63, [45, 46, 49, 62]	✓	-	✓
2	2	2	90, 86	-	-	✓

Please note that 2.42, 56 and 78 are stones.

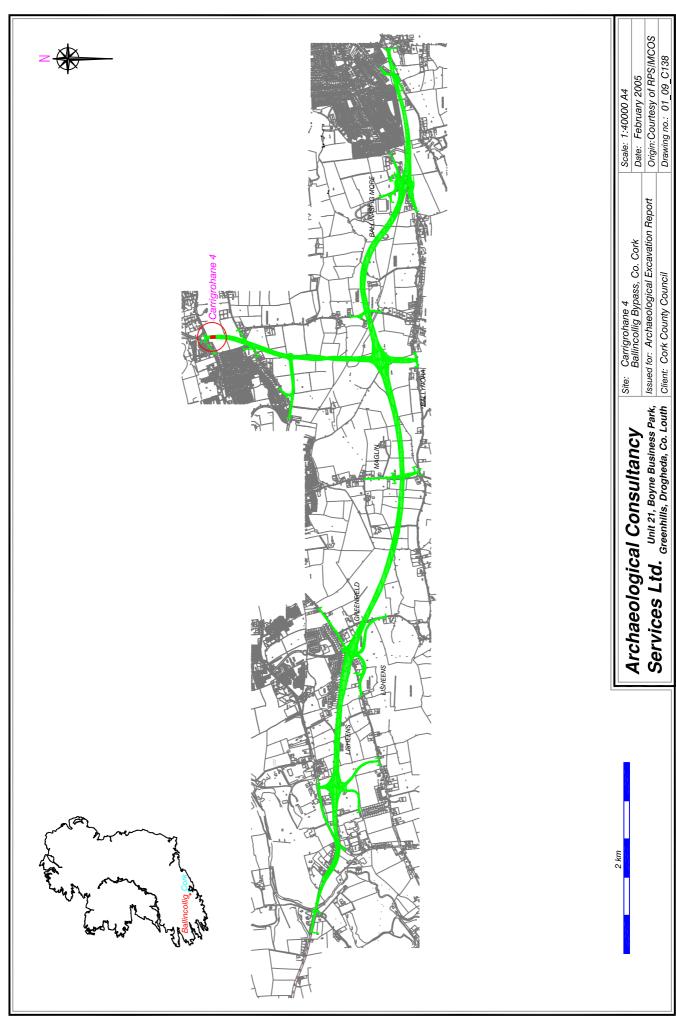


Figure 1: Location of proposed route

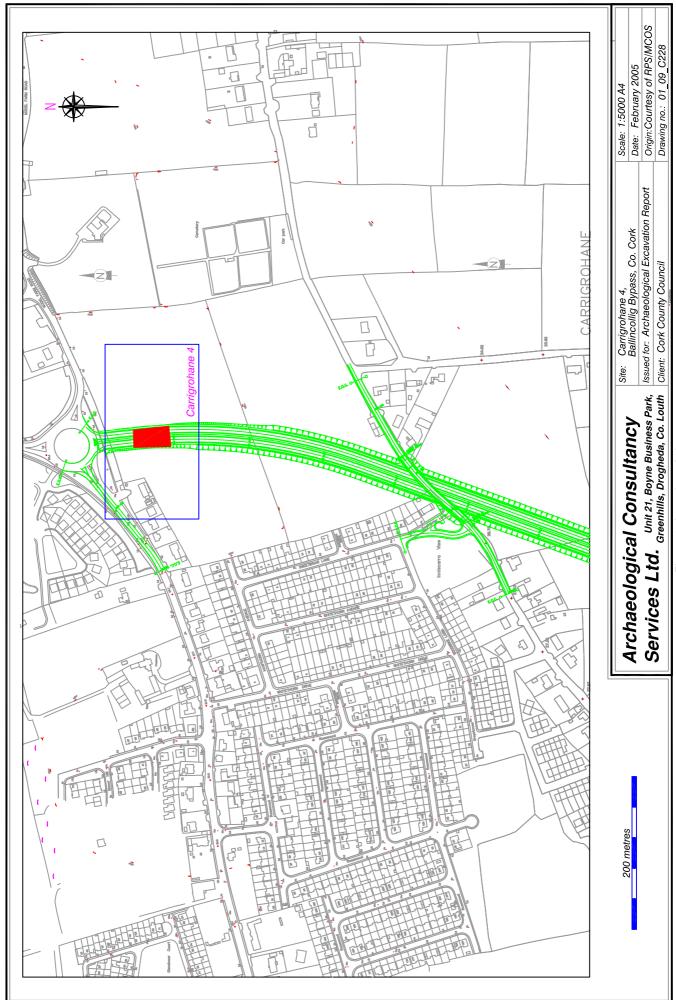


Figure 2: Location of site

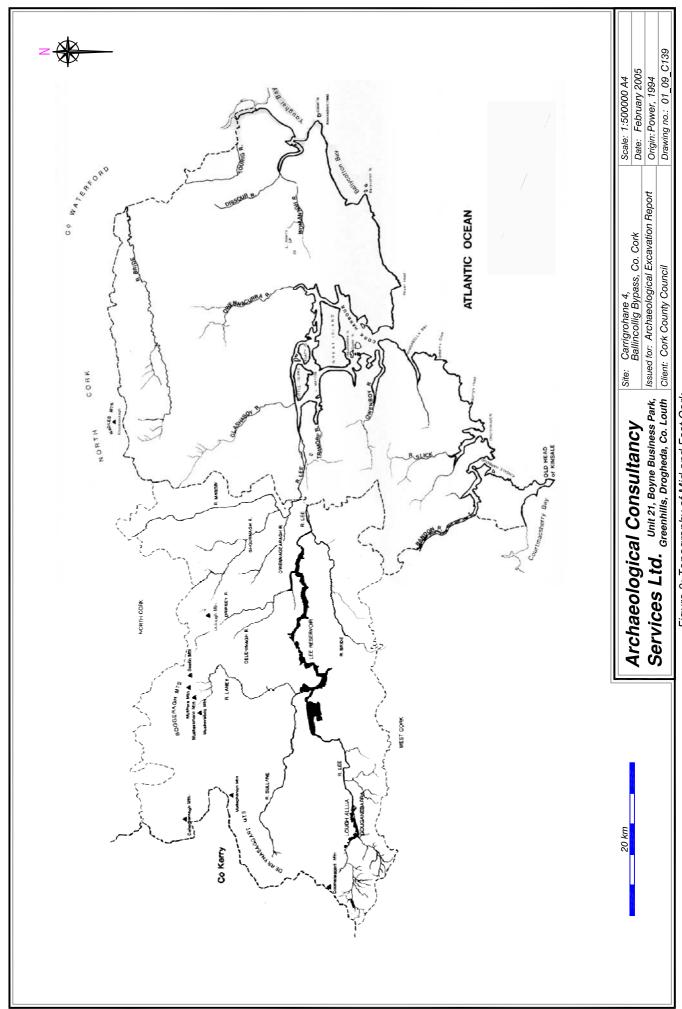
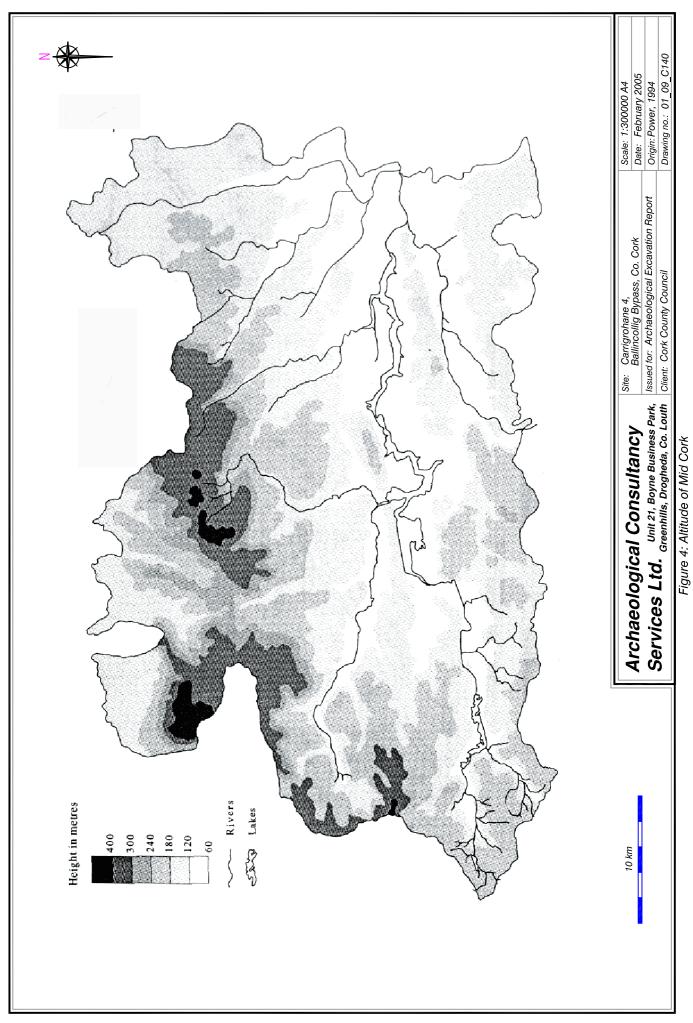
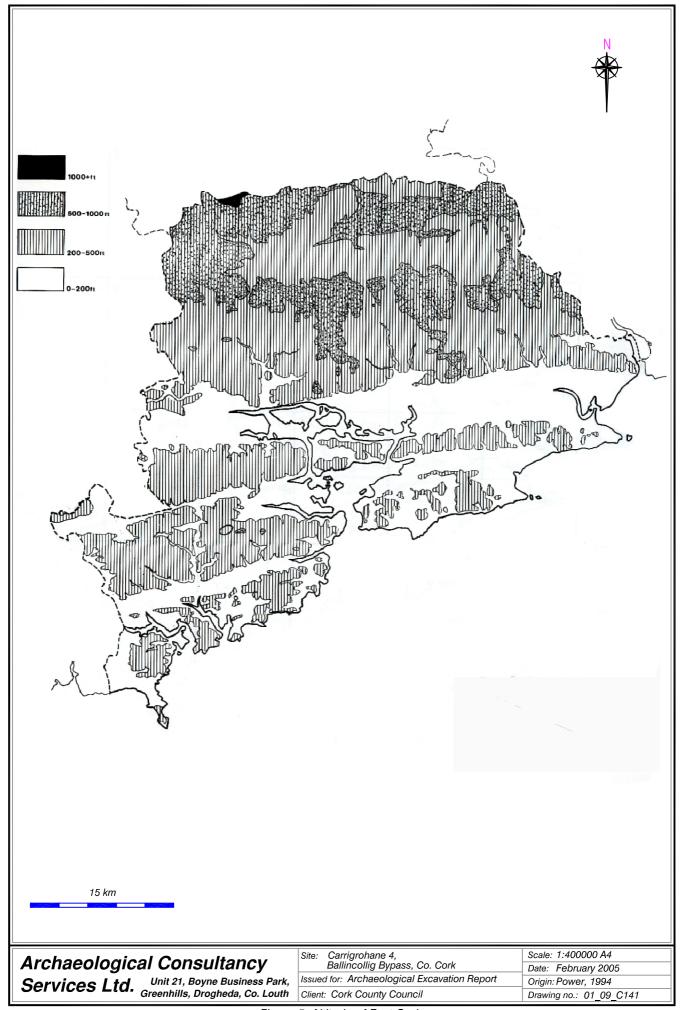


Figure 3: Topography of Mid and East Cork





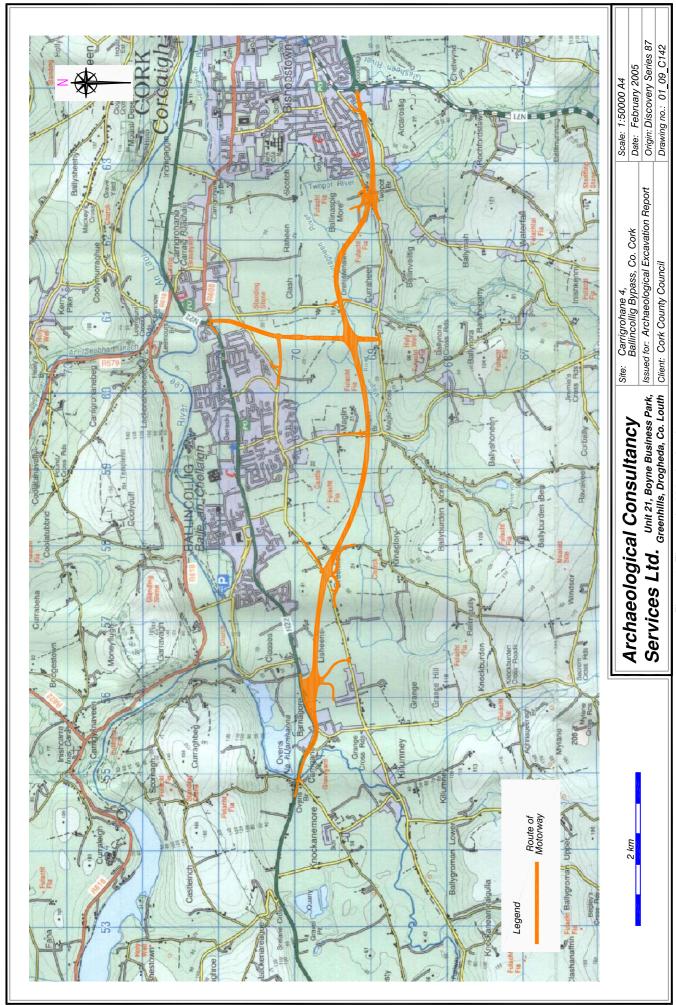


Figure 6: The road within the landscape

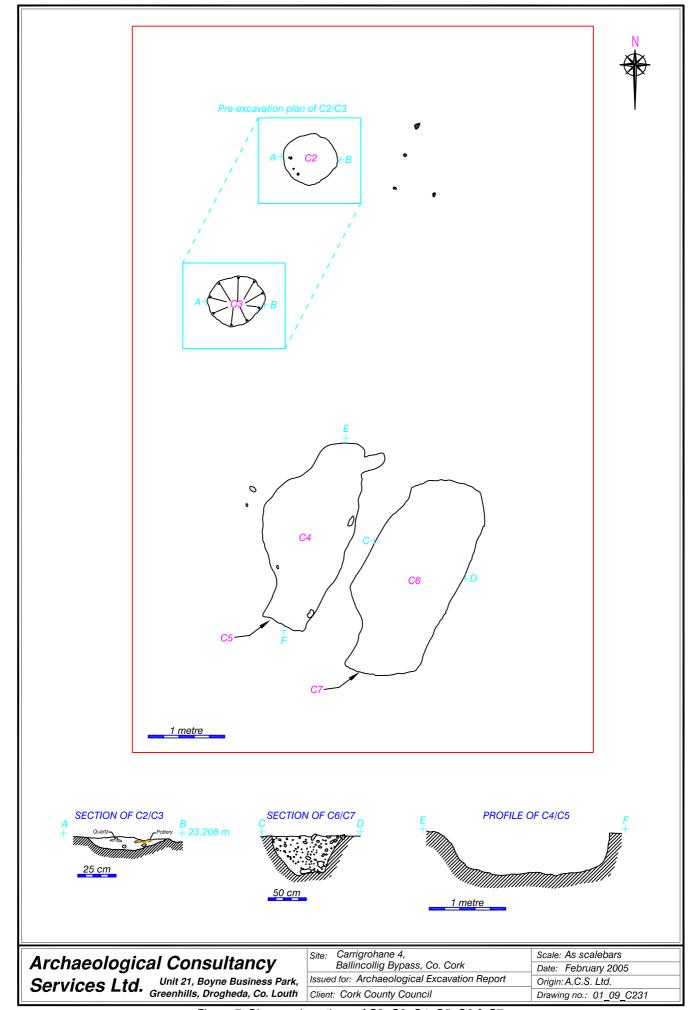


Figure 7: Plans and sections of C2, C3, C4, C5, C6 & C7

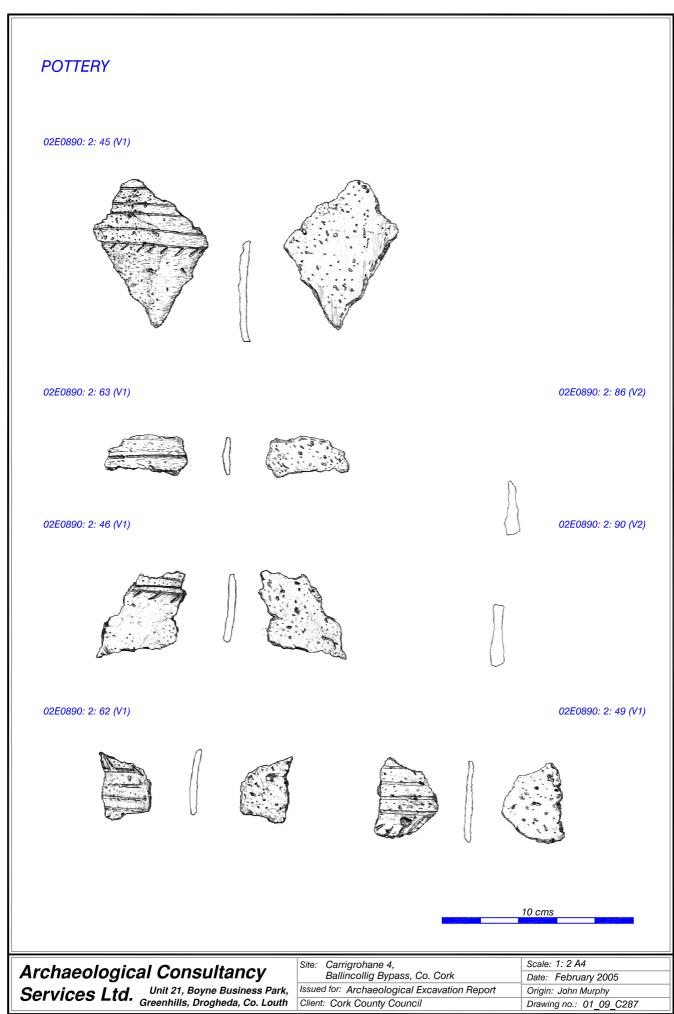


Figure 8: Drawings and sections of selected pottery sherds



Plate 1: Pre-excavation view of C2 & C3 from southwest (01_09 Car04:01).



Plate 3: Section of C2 & C3 from south (01 $_09$ Car04:03).



Plate 2: Pre-excavation view of C2 & C3 from west (01 $_09$ Car04:02).

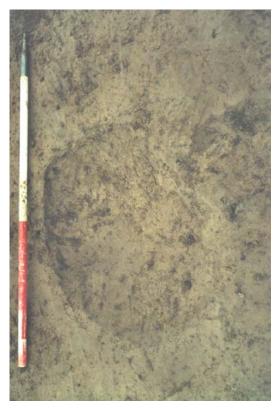


Plate 4: Post-excavation view of C3 from south (01_09 Car04:01).



Plate 5: Pre-excavation view of C4, C5, C6 & C7 from northeast (01 $_09$ Car04:05).



Plate 7: Section of C6, C7 from north (01 $_09$ Car04:07).



Plate 6: Section of C4, C5 from northwest (01_09 Car04:06).