



REPORT ON THE ARCHAEOLOGICAL EXCAVATION
OF
EARLY NEOLITHIC & POST MEDIEVAL FEATURES
AT
BALLINASPIG MORE 4
BALLINCOLLIG,
CO CORK

LICENCE NO: 02E0947

BY

ED DANAHER & LYDIA CAGNEY

OCTOBER 2004

CORK
COUNTY COUNCIL



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ARCHAEOLOGICAL CONSULTANCY
SERVICES LIMITED



PROJECT DETAILS

Project	Archaeological Excavation
Archaeologists	Ed Danaher and Lydia Cagney
Client	Cork County Council, County Hall, Cork
Road Scheme	N22 Ballincollig Bypass
Site	Ballinaspig More 4
Townland	Ballinaspig More
Parish	St. Finbars
Nat. Grid Ref.	162921, 068992
R.M.P. No.	N/A
Licence No.	02E0947
Planning Ref.	N/A
Project Date	April 2002
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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 no. 01E0546. This involved excavating a two-metre wide test trench along the centre line of the proposed route with offset trenches to the edge of the road-take every 25m on alternate sides. Eleven sites discovered during the course of this investigation were subsequently excavated. This was in addition to the five sites of archaeological potential identified through the archaeological impact assessment.

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 no. 02E0058. During this phase of the project, an area was exposed in the townland of Ballinaspig More and was cleaned back in order to establish the nature and extent of any deposits present. Twenty-seven features were spread over an area measuring 50m north–south by 25m east–west. Of these, nineteen were identified as being post-medieval in date, with the remainder having a possible prehistoric date. These consisted of pits and a number of postholes.

Excavation of a number of these features revealed Early Neolithic pottery while ¹⁴C analysis of charcoal from one of the pits returned a date of 3960–3700BC. Archaeological excavation of this site, which was designated as Ballinaspig More 4, was conducted under a separate licence issued by *Dúchas* (02E0947).

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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. In conjunction with the vast increase in vehicle ownership and use, this 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 desktop 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, however, it was decided in consultation with the Project Archaeologist that advance testing should be carried out along the entire length of the proposed route in order to identify further potential archaeological sites before the contractor began work 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), NGR: 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 from *Dúchas*.

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 this monitoring, a potential archaeological site was identified in the townland of Ballinaspig More (O.S. six-inch sheet 73, 920mm from the western and 16mm from the southern margin; N.G.C. 162921, 68992, Figure 2). As the proposed road was to have a direct impact on the site exposed within the test trench, the area surrounding the site was subsequently stripped and full archaeological resolution was recommended. A separate licence was applied for and excavation commenced on the site under the direction of Ed Danaher (licence no. 02E0947).

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 oolites 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, Curraheen 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 multi-phased 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 Landscape

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

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 testing programme was undertaken in the months between May and August and November and December 2001 under licence no. 01E0546. The proposed road will run for a distance of approximately 12km through previously undeveloped countryside. This necessitated trial trenching over that distance and included slip roads, roundabouts, etc. The width of the road-take 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 Ballinaspig More, several features were uncovered c.0.5m below the sod, including a small number of features pertaining to the Neolithic and the remains of post-medieval agricultural activity. An area measuring 30m east–west by 60m north–south was cleaned back to establish the nature and extent of any deposits present. The majority of these

features were concentrated west of the area of Neolithic activity. The later features were represented by two possible post-medieval drainage ditches, the northern extent of cultivation furrows and several pits which were distributed sporadically throughout the site.

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 context 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 features were exposed, they were each planned, photographed and sectioned and the remaining deposits removed. The cut and fills of each feature were sectioned, photographed and recorded. The cuts were subsequently emptied of their remaining fills and then photographed and recorded.

As this excavation was of a previously unrecorded site, 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 of this work, more specific research questions were asked:

- d) what was the function of the features?
- 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 with the earliest.

C42 Substratum. A compact, orangey-brown silty clay. This glacial moraine was the predominant sediment present throughout the site. It was mixed with intermittent patches of pinkish sandy soil which were dispersed throughout the site.

Pit 1

- C3** C3 was the cut of a possible cremation pit. It had a subcircular shape in plan, with a sharp break in slope at its top; all sides were vertical with a gradual break of slope, terminating at a rounded uneven base. It measured 0.56 x 0.50 x 0.12m. This feature may have been truncated by agricultural activity, and its original depth may, therefore, have been deeper. C3 accommodated a heavily-burnt material (C2) which contained two sherds of prehistoric pottery. Located 1.8m northeast of C5. Above C42, below C2, C1.
- C2** Pit fill. C2 was a reasonably compact, dark-brown/black silty clay. It had a large charcoal content and a moderate number of small stones. It also contained small fragments of cremated bone and two sherds of prehistoric pottery, one of which was a rim-sherd from possible coarseware. This deposit measured 0.56m north-south, 0.50m east-west and had a maximum depth of 0.12m. Above C3, C42 and below C1.

Posthole 1

- C5** Cut of posthole. Subcircular in plan with a sharp break of slope at the top while gradual at base. The sides sloped gently, with a sharp break of slope at its southern edge and a gradual break of slope at its northern side tapering to an uneven base. It had maximum dimensions of 0.28m east-west, 0.24m north-south and a maximum depth of 0.10m. It was filled with a charcoal-rich deposit (C4). Located 1.8m southwest of C3. Above C42 and below C4, C1.
- C4** Fill of posthole. This deposit was a loosely compacted dark-brown/black silty clay. It was a charcoal-rich deposit and also contained one subangular stone in the southeastern extent of the feature as well as occasional rounded pebbles. Two sherds of prehistoric pottery were located within this fill. It was an homogenous deposit and filled the entire cut of C5. The deposit measured 0.24m (north-south) x 0.28m (east-west) x 0.12m deep. Above C5, C42 and below C1.

Posthole 2

- C8** Cut of posthole. C8 had a subrectangular shape in plan. It had a sharp break of slope at its top and base, with vertical sides tapering to a blunt, irregular base. Its maximum dimensions measured 0.48 x 0.30m and it had a depth averaging 0.15m. It was filled with C7. Located 3.3m northeast of C3. Above C42 and below C1, C7.
- C7** Posthole fill. This was a dark-brown/black silty clay which contained moderate charcoal flecking and occasional small stones. This charcoal-rich deposit was probably the remains of a post burnt *in situ*. It measured 0.48m east-west, 0.30m north-south and had a maximum depth of 0.15m. Above C8 and C42 and below C1.

Posthole 3

- C18** Cut of posthole. This posthole was positioned c.0.17m southwest of C20. It had a subcircular shape in plan, with a sharp break in slope at its top and almost vertical sides. These terminated at a reasonably blunt base with a sharp break in slope. Its maximum dimensions measured 0.36 x 0.48m with a depth averaging 0.30m. Located 0.2m southwest of C20. Above C42 and below C1, C17.
- C17** Fill of posthole. C17 was a fairly compact dark-brown silty clay with moderate charcoal and small stone inclusions. It contained four large packing stones which were arranged in an order that would accommodate a rectangular rather than a circular post. This deposit

measured 0.45 x 0.32m and had a maximum depth of 0.36m. Above C18, C42 and below C1.

Posthole 4

- C20** Cut of posthole. This was located *c.*0.17m northeast of C18. It had a roughly circular shape in plan. It had a sharp break of slope at its top with steep concave sides terminating at a rounded base with a gradual break in slope. It measured 0.24m north–south, 0.26m east–west and had a maximum depth of 0.15m. It contained one fill (C19) and may have been contemporary with C18. Located 0.2m northeast of C18. Above C42 and below C1, C19.
- C19** Fill of C20. This was the fill within a possible posthole. It was a reasonably compact mid-brown silty clay with occasional small stones near the base. It filled the entire cut of C20 and measured 0.24 x 0.26m with a maximum depth of 0.15m. Above C20, C42 and below C1.

Furrow 1

- C10** Cut. Rectilinear in plan. The break of slope was barely perceptible at the top and base of all edges; the sides were practically non-existent due to having a severe incline between the top and the base, the latter being reasonably smooth and rounded. Its dimensions measured 1.6 x 0.60m with a maximum depth of 0.06m. This feature was aligned north-northwest to southeast and it was situated at the southern extent of the site. Above C42, below C1 and C9.
- C9** Fill. This deposit was the stony fill of a modern linear feature, possibly a result of agricultural activity. It consisted mainly of gravel (50–60%) and larger stones (20%) *c.*0.20m in diameter, with the remainder of the deposit consisting of brown silty clay. It filled the entire cut of C10. Above C10, C42 and below C1.

Furrow 2

- C12** Cut. Rectilinear in plan. Its break in slope was imperceptible at its top and base. The sides were shallow, sloping gradually from the top. The base was generally smooth and flat. Its dimensions measured 2.80 x 1.90m with an average depth of 0.10m. Similar to C10, this feature may have originally had a greater depth, but was possibly at some stage truncated by farm machinery. Aligned north–south. Above C42, below C1 and C11.
- C11** Fill. This was a mid-to-dark-brown silty clay with *c.*20% gravel. Evidence of burning could be seen in the charcoal-stained patches dispersed throughout this deposit. Larger stones were present in a moderate quantity; these averaged *c.*0.05m in diameter. Dimensions: 2.80 x 1.90 x 0.10m. Above C12, C42 and below C1.

Drainage Ditch 1

- C14** Cut. C14 was the cut of a modern drainage ditch running east–west along the centre of the site. Three sections were excavated through this feature, revealing a sharp break of slope at the top and base, with vertical sides. It had a minimum depth of 0.18m at its western extent, and a maximum depth of 0.30m at its eastern end. It measured 16m in an east–west direction and its width varied from 0.60m to 1.06m. Above C42 and below C13, C1.
- C13** Ditch fill. This deposit was the homogenous fill within C14. It measured *c.*0.98m wide north–south and had an average depth of 0.24m. It was a grey-brown silty sand with

frequent charcoal flecks and a moderate quantity of stones measuring 0.01–0.02m in size. It also contained occasional animal bone inclusions. Above C14, C42 and below C1.

Drainage Ditch 2

- C33** Cut of furrow/drainage ditch. This was a north–south aligned feature with a rectilinear shape in plan. It measured 7.6m along its north–south axis, 1.24m east–west and had a maximum depth of 0.35m. It had a sharp break of slope at top of its eastern side, while being more gradual at its west. Its eastern side was vertical with a sharp break of slope at its base and a gradual break of slope at its top. Its western side tapered towards its base which was smooth with a gradual break of slope. It contained an homogenous fill (C32).
- C32** Fill of drainage ditch. C32 was the homogenous fill contained within C33. It was a fairly compact, grey-brown silty clay with occasional charcoal flecks and frequent small stones. It filled the entire cut of C33. Above C33, C42 and below C1.

Pit 2

- C16** Cut of pit. C16 was the cut of an oblong-shaped pit. It had two rounded corners at its northern and southern ends. It had a sharp break in slope at its top, which graduated to vertical sides terminating at a rounded base with a gradual break in slope. The base and sides also contained small angular and rounded stones within it. Its dimensions measured *c.* 1m north–south, 0.38m east–west and it had a maximum depth of 0.23m. It was situated at the southwestern extremity of the site. Above C42 and below C15, C1.
- C15** Fill of pit. This fill was contained within C16. It was a relatively loose silty clay with frequent stone and gravel inclusions (up to 45%), measuring *c.* 0.03m. Very occasional flecks of charcoal were contained throughout this fill, which filled the entire cut of C16. It measured 1m north–south, 0.38m east–west and had a maximum depth of 0.23m. Above C16, C42 and below C1.

Pit 3

- C22** Cut of pit. This pit had an oval shape in plan with dimensions measuring 0.72m north–south, 0.50m east–west and a maximum depth of 0.18m. It had a sharp break of slope around the top of all edges. The western side was slightly oblique, tapering gently toward the base, while the eastern and southern sides were more concave. The base was smooth and regular with a sharp break of slope at its southern and eastern sides, while the northern and western ends had a sharper break in slope. It was aligned in a north–south direction and was positioned 2.06m south of C9. Above C42, below C1, C21 and C38.
- C38** Primary fill of C22. This was a moderately compact, silty sand deposit containing approximately 40% stones which were rounded and subrounded pebbles. There were also occasional charcoal flecks and fibrous root activity. Its maximum dimensions measured 0.72m north–south, 0.52m east–west and it had a depth of 0.18m. Above C22, C42 and below C21, C1.
- C21** Secondary fill of pit. This was a moderately compacted mid–dark-brown silty clay. It contained frequent charcoal flecks, occasional pebbles and occasional fibrous root activity. It measured 0.72m north–south, 0.50m east–west and had an average depth of 0.07m. Above C38, C22, C42 and below C1.

Pit 4

- C24** This context was the cut of a large subrectangular pit located in the northeastern quadrant of the site. It had a sharp break of slope at the top of the eastern and western sides, while the northern and southern sides were more gradual. The sides were relatively vertical at the east and west, while sloping at the north and south, the latter being irregular. The base had a gradual break of slope on all sides with the exception of the southern side. It was relatively smooth with a few undulating depressions, stone sockets and stone inclusions. This feature contained two fills (C23) and (C39). Above C42, below C23, C39 and C1.
- C39** Pit-fill; the primary deposit within C24. It was a moderately compacted, orangey-brown, clayey sand. It contained a moderate quantity of small subangular stones and moderate charcoal staining which may have filtered through from the context above C23. This deposit was more concentrated to the north of C24 and was banked up against the western and southeastern sides. It measured 1.14m east–west, 1.60m north–south and had a maximum depth of 0.03m. Above C24, C42 and below C1, C23.
- C23** Pit-fill; the secondary deposit within C24. It was a compact mid-brown sandy clay with moderate angular stone inclusions. Three larger stones were also included within this fill; these were fire-cracked and measured 0.23 x 0.16 x 0.04m. Sporadic chunks of charcoal were also present in this fill; these did not occur in a large enough quantity for sampling. This deposit measured 2.27m north–south, 1.57m east–west and had a maximum depth of 0.14m. Above C39, C24 and below C1.

Post-pit 1

- C26** Cut of post-pit. C26 was a possible posthole with a subcircular shape in plan. It measured 0.77m north–south, 0.34m east–west and had a maximum depth of 0.15m. Its break of slope was sharp around the top of all sides except at the south where it was gradual. The sides were sloping gently inwards, terminating at the base which was inclined downwards from the south; the sides had a sharp break of slope at the north, east and west, while being gradual at the south. The base had a stakehole/small posthole (C35) cut into it. This smaller posthole, later cut into C26, may have accommodated a smaller post, stake or packing stone which could have been used to support the larger one placed in C26. This feature was in close proximity to C30 and C31. Above C42, below C35, C34, C25 and C1.
- C35** Cut within C26. C35 was the cut of a small posthole/stakehole or packing stone. It was cut into the base of the larger posthole (C26) possibly in order to place a small post or packing stone with which to support the larger post. It measured 0.12m north–south, 0.13m east–west and had a maximum depth of 0.12m. It was deeper at its western side and more deeply inclined in this direction. Above C26, C1 and below C34, C25.
- C34** Fill of C35. This was the earliest deposit within the possible post-pit (C26). It was a dark-brown silty clay with moderate charcoal inclusions (flecking). It measured 0.12m north–south, 0.13m east–west and had maximum dimensions of 0.12m north–south by 0.12m east–west by 0.1m deep. Above C35, C42 and below C26, C1.
- C25** This is the uppermost fill within the post-pit (C26). It was a loose greyish-brown silty clay. It appeared to be somewhat oxidised on the surface, but this may have occurred in more recent times due to its late occurrence in the stratigraphic sequence. It measured 0.12m north–south, 0.12m east–west and had a maximum depth of 0.12m. Above C34, C35, C26, C42 and below C1.

Posthole 5

- C31** C31 was the cut of a subcircular posthole measuring 0.36m north–south and 0.26m east–west, with a maximum depth of 0.20m. It had a sharp break in slope at its top and base with vertical sides which terminated at a smooth rounded base. This cut contained an homogenous fill (C30) and was positioned approximately 0.37m southeast of C26. Above C42, below C30 and C1.
- C30** Fill. This deposit was a loosely compacted light-brown silty clay with infrequent charcoal flecks and occasional small subrectangular pebbles. It was the homogenous fill within C31 which was the cut of a possible posthole located c.0.44m southeast of C26. It measured 0.36m north–south, 0.26m east–west and was 0.20m deep. Above C31, C42 and below C1.

Pit 5

- C37** This context was the cut of a suboval pit which had a maximum measurement of 2.74m east–west, 2.88m north–south and an average depth of 0.49m. It contained three fills: C40, C41 and C36. It had a sharp break of slope at its top with vertical sides at its west and sloping sides at its east; these tapered to a smooth flat base with a sharp break of slope at its eastern side and a gradual break at its west. It was located southeast of C29 and was probably contemporary with it. Above C42 and below C40, C41, C36, C1.
- C41** Pit-fill. C41 was the primary deposit within C37. It lay immediately above an area of oxidisation which formed part of the base (C37) of this pit. This deposit was predominantly composed of charcoal and was concentrated at the eastern and western sides while being extremely shallow at its centre. Its maximum dimensions measured 2.69m east–west and 1.87m north–south, while its depth varied from 0.003m to 0.17m. Above C37, C42, and below C36, C40, C1.
- C40** This deposit was the secondary fill within C37. It was a mid-to-dark-brown clayey silt with a medium compaction. It contained moderate angular stones and occasional charcoal flecks. It measured 1.58m north–south, 0.50m east–west and 0.20m deep. It was positioned at the eastern extent of C37 being banked up against its side, while abutting C36 on its western side. Above C41, C42 and below C1 and C36.
- C36** This deposit was a reasonably loose orangey-brown silty clay. It was the tertiary fill within C37. It contained occasional stones and charcoal flecking. It measured 2.88m north–south, 2.16m east–west and had a depth ranging from 0.2m around the perimeter to 0.49m at the centre. This deposit was banked up against C40 but probably occurred later due to its higher position in the stratigraphic sequence. It may have been a result of the redeposition of subsoil or deliberate backfilling after a single episode of burning; this is evident from the mixture of subsoil and only slight silting within this deposit. Above C40, C41, C37 and C42.

Burnt Spread

- C29** This deposit was a loose black clayey silt with occasional small stones and charcoal flecks. It measured 5.15m north–south and 3.2m east–west. Its depth varied, being thickest at its centre (0.13m) and becoming thinner as it radiated outwards towards its periphery (0.06m). This feature may have represented a single episode of burning. A thin lens of oxidised subsoil underlay this deposit at its centre, suggesting that this was the core area of burning while the outer area may have been deposited during burning. It was located in close proximity to C36 and was probably associated with it. Above C42, below C1.

Topsoil

- C1** Topsoil. Moderately compact orangey-brown silty clay with moderate small stone inclusions.

There were a number of non-archaeological contexts found on this site.

Bore Hole

- C44** Non-archaeological cut. This feature was exposed as a circular pit containing a dark-brown deposit (C43). Upon investigation, it was discovered to have been a recent machine-cut bore hole which may have been used for geological investigation.
- C43** This deposit was more than likely the result of modern geological investigation. It was a sterile deposit and filled the entire cut of C44. Above C44, below C1.

Natural Depression

- C28** This context was the result of a natural depression in the substratum and was of no archaeological significance. The assigned fill number (C27) was a survival of the topsoil to a lower stratum owing to the depression. It was situated c.0.20m west of C43 and C44, which were similar in character to the aforementioned contexts.
- C27** C27 was a sterile modern deposit within C28. It was a loose light-brown sandy silt which measured 1.60m north–south, 0.80m east–west and had a maximum depth of 0.10m. Above C28, below C1

4.3 Stratigraphical Report Summary

This section phases the site based on the stratigraphical sequence provided above. The outlined information is a summarised version of the stratigraphical evidence.

Phase 1: Bedrock, Devonian Sandstone

Bedrock, Devonian Sandstone (river and floodwaters deposited onto what was an arid desert-like environment some 410–355 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 in the Carboniferous cycle between 370 and 310 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 and silty clay 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, 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 (10,000–2000BC)

No surviving evidence.

Phase 4: Site Occupation (Early Neolithic) – Neolithic Pit and Associated Features

A single pit (C3) and the adjacent remains of two truncated postholes represent Neolithic activity at the eastern extremity of the site. Pit 1 (C3) yielded two sherds of Western Neolithic pottery and occasional fragments of cremated bone. This was a shallow pit located c.1.5m north of Posthole 1 (C5) and 2.3m south of Posthole 2 (C8). Posthole 1 (C5) also contained two similar sherds of pottery. Posthole 2 (C8) was located c.2.3m north of Pit 1 (C3) and contained a heavily-burnt deposit at its centre which was visible in section and may have been the remains of a post burnt *in situ*.

These features were located c.60m east of the main concentration of features on the site and represented the earliest phase of activity associated with this site. ¹⁴C analysis of charcoal (alder) from the pit (C3) returned an Early Neolithic date of 3960–3700BC.

Phase 5: Post-medieval Agricultural Activity (c.17th–20th century): Cultivation Furrows, Drainage Ditches and Associated Features

Two postholes were situated c.53m west of the Neolithic activity at the easternmost extent of the main concentration of features. Posthole 3 (C18) was positioned 0.17m northeast of Posthole 4 (C20). They contained similar fills, and it is quite likely that they were contemporary. Posthole 3 (C18) was the larger of the two and contained four large packing stones which were arranged around the sides of the feature, leaving a cavity which would have accommodated a rectangular rather than a circular post. No finds or diagnostic samples were retrieved from either of these features. Therefore, any relationship between these features has not been ascertained.

Posthole 5 (**C31**) and post-pit 1 (**C26**) were positioned in close proximity to each other, but were otherwise located in isolation, roughly at the centre of the site. Post-pit 1 (**C26**) had a small stake/posthole (**C35**) cut into its base; presumably the post/stake accommodated by this would have been packed by a series of stones in the larger cut (**C26**) in order to keep it in place. Posthole 5 (**C31**) was located 0.44m southeast of Post-pit 1 (**C26**) and contained an homogenous fill. These features were probably associated, but did not appear to form part of a structure.

Several linear features were exposed at the southern extent of the site. These were aligned in a north–south direction and were probably the result of modern or post-medieval activity. They may have represented the northern extent of cultivation furrows which would have continued south beyond the limit of the road-take. Linear Feature 1 (**C10**) was located 0.10m west of Linear Feature 2 (**C12**). It contained a single fill, 60% of which comprised gravel and larger stones averaging 0.20m in diameter. Linear Feature 2 (**C12**) had a similar morphology to **C10**; its fill, however, had a greater soil composition (silty clay) with up to 20% gravel and larger stones. Both of these features were shallow, having an average depth of 0.8m and they may have been truncated by more recent agricultural activity.

Two possible drainage ditches were present on the site. The more substantial of these, Drainage Ditch 1 (**C14**), was aligned east–west and covered a distance of 16m in this direction. Its depth varied, reaching its maximum at its eastern extent. This ditch contained one fill which was interrupted by an interface of charcoal *c.*0.1m from its surface. It otherwise comprised of a high silt content toward its upper surface, and frequent quantities of stone and gravel towards the base. Drainage Ditch 2 (**C33**) extended from under the southwestern limit of excavation and terminated in close proximity to the eastern extent of **C14**. It was oriented in a north–south direction and measured 7.6m along this axis. This ditch was less substantial than Ditch 1, and may have been truncated by it at some stage.

Pit 2 (**C16**) was located *c.*0.10m west of the northern extent of Ditch 2 (**C33**). This was an isolated pit and may have been a product of agricultural activity. Pit 3 (**C22**) appeared to represent a fire-spot of some kind. It was located at the southeastern extent of the site *c.*0.2m southwest of **C10**. It was a shallow feature containing two fills, one of which had a largely stone and gravel composition. Given its proximity to the linear features (possibly furrows) and the similar composition of the deposits within these features, it would be reasonable to conclude that they were contemporary and possibly associated.

Pit 4 (**C24**) was situated at the northeastern extent of the site. It had a subrectangular shape in plan and contained two fills. This pit had a similar morphology and similar fills to Pit 5 (**C37**) and the

burnt spread (C29) located c.50m to its west. It was also positioned at the same distance south of the now disused railway line.

Pit 5 (C37) was located c.3m south of the railway line and was separated from the burnt spread (C29) by a distance of c.0.60m (east–west). This pit had an average diameter of 2.81m and contained three fills: the earliest (C41) comprised mostly of charcoal; this was followed by a clayey-silt interface (C40); finally, the latest fill, which was the predominant one within this feature, consisted of mainly redeposited subsoil (C36). This stratigraphic sequence may be an indicator that this pit was the product of a single episode of burning, followed by a brief period of silting and the subsequent, deliberate, backfilling or redeposition of subsoil. The low silt to subsoil ratio within the tertiary fill of this feature may also be indicative of this.

The burnt spread (C29) is most likely the result of activity similar to that associated with Pit 5. This feature was represented by a single deposit which overlay the subsoil. A thin lens of oxidised clay was present beneath the centre of C29 which may be indicative of the core area of burning. This feature differed from Pit 5 (C37) in that the event probably occurred at the surface rather than having been cut into the subsoil (C42). It is most likely, however, also a product of a single episode of burning.

Non-archaeological Features

The remainder of the features on the site appeared to be either non-archaeological in nature, such as the result of natural depressions in the subsoil, or as in the case of the possible borehole, a product of geological investigation.

4.4 Interpretation and Discussion

In this section, the results of the excavation will be reviewed, offering interpretations and attempting comparisons with similar sites excavated around the country. The questions presented under the excavation methodology subheading are also addressed here. Finally, the subsequent sections will place the interpretation of the Ballinaspig More 4 excavation within a broader regional and national context, and the significance of this evidence will be examined.

Ballinaspig More 4 was situated in an area that comprised relatively even terrain with good agricultural soil. It was located east of the Twopot River at a height of c.21m above sea level, which traversed the land separating Ballinaspig More 5 (02E1033) and Ballinaspig More 4. This also marked the boundary between two farms in this townland. The location of this river has possibly been one of the contributory factors in making this area a favourable location for

settlement from the Early Neolithic through the Bronze Age, Iron Age and medieval period to the present day. Evidence of Neolithic, Bronze Age and Iron Age settlement activity in Ballinaspig More townland is interspersed with medieval activity in the form of a ringfort which is situated just south of the road-take, and a post-medieval dwelling within the site at Ballinaspig More 5. Local sources have provided us with information regarding land usage in this area in recent historical times. Whereas agricultural activity was noted to have had the predominant impact on the site throughout the twentieth century, the construction of the 1885 railway line also appears to have had a significant impact on the land in the area during this time.

The earliest archaeological remains on the site were represented by a pit containing sherds of Western Neolithic Round Bottomed Bowl pottery (Cleary, Appendix 7.3) and several fragments of cremated bone. Similar pottery was found in a nearby posthole. This posthole contained two sherds of Western Neolithic ware, and was located 1.8m southwest of the pit, while another adjacent posthole contained what appeared to be the remains of a post burnt *in situ*. As already outlined in subsection 4.3 Stratigraphical Report Summary, it is most likely that the features visible within this section of the eastern extremity of the site were truncated some time prior to development work, quite possibly by agricultural activity. Therefore, only an inconclusive interpretation can be obtained relating to the function and role of these features.

In relation to the Neolithic activity unearthed within the road-take, two sites of contemporary date were discovered. The first of these was an Early Neolithic rectangular house located within the townland of Barnagore that was excavated by one of the authors under licence 02E0384. The second was in close proximity to Ballinaspig More 4. Substantial confirmation of the occupation and usage of this area during the Neolithic can be observed west of the Twopot River at Ballinaspig More 5. Here, within this multi-phased site, at least two concentrations of features pertaining to the Neolithic were located with many containing occupational debris in the form of pottery sherds, stone tools, cereal grains and charred hazelnut shells. Most of these features were contemporary with the pit and postholes excavated at Ballinaspig More 4. This suggests that the Neolithic settlement within this townland may have covered a large area extending both east and west of the Twopot River.

Other pits of similar dimensions and containing similar deposits to Pit 1 (C3) have been found on numerous sites throughout the country. At Ballyconneely, County Clare, excavation of a prehistoric site revealed a large number of pits, some of which contained Early Neolithic pottery and highly processed cremated animal bone (Read *pers comm*). Excavation of an Early Neolithic causewayed enclosure at Magheraboy, County Sligo (Danaher forthcoming), revealed in excess of fifty pits within the interior of the site. Many had similar dimensions to the pit excavated at Ballinaspig More 4 and also contained broken sherds of Early Neolithic pottery and small

fragments of cremated bone. Some of the cremated bone from this site was identified as deriving from sheep and goat. The minute traces of cremated bone from Ballinaspig More 4 were too small to identify, and in light of the above evidence it would be rash to assume they were human. It is possible that similar activity carried out within the Ballyconneely and Magheraboy sites was also conducted at Ballinaspig More 4, albeit on a much smaller scale.

The remainder of the deposits on the site were most likely post-medieval in date and were probably the result of agricultural activity such as drainage and cultivation.

5. ARCHIVE CONTENTS

5.1 The Context Register

- C1** Topsoil. Moderately compact orangey-brown silty clay with moderate small stone inclusions.
- C2** Pit-fill. C2 was a reasonably compact, dark-brown/black silty clay. It had a large charcoal content and a moderate number of small stones. It also contained small fragments of cremated bone and two sherds of Early Neolithic pottery, one of which was a rim-sherd from a Western Neolithic bowl. This deposit measured 0.56m north–south, 0.50m east–west, and had a maximum depth of 0.12m. Above C3, C42 and below C1.
- C3** C3 was the cut of a possible cremation pit. It had a subcircular shape in plan, with a sharp break in slope at its top; all sides were vertical, with a gradual break of slope, terminating at a rounded uneven base. It measured 0.56 x 0.50 x 0.12m. This feature may have been truncated by agricultural activity, and its original depth may, therefore, have been deeper. C3 accommodated a heavily burnt material (C2) which contained two sherds of prehistoric pottery. Located 1.8m northeast of C5. Above C42 and below C2, C1.
- C4** Fill of posthole. This deposit was a loosely compacted dark-brown–black silty clay. It was a charcoal-rich deposit and also contained one subangular stone in the southeastern extent of the feature as well as occasional rounded pebbles. Two sherds of Early Neolithic pottery were located within this fill. It was an homogenous deposit and filled the entire cut of C5. Dimensions: 0.24m north–south x 0.28m east–west x 0.12m deep. Above C5, C42 and below C1.
- C5** Cut of posthole. Subcircular in plan with a sharp break of slope at top while gradual at base. The sides sloped gently, with a sharp break of slope at its southern edge and a gradual break of slope at its northern side tapering to an uneven base. It had maximum dimensions of 0.28m east–west, 0.24m north–south and a maximum depth of 0.10m. It was filled with a charcoal-rich deposit (C4). Located 1.8m southwest of C3. Above C42 and below C4, C1.
- C6** Non-archaeological.
- C7** Posthole fill. This was a dark-brown/black silty clay which contained moderate charcoal flecking and occasional small stones. This charcoal-rich deposit was probably the remains of a post burnt *in situ*. It measured 0.48m east–west, 0.30m north–south and had a maximum depth of 0.15m. Above C8, C42 and below C1.
- C8** Cut of posthole. C8 had a subrectangular shape in plan. It had a sharp break of slope at its top and base with vertical sides tapering to a blunt, irregular base. Its maximum

dimensions measured 0.48 x 0.30m and it had a depth averaging 0.15m. It was filled with C7. Located 3.3m northeast of C3. Above C42 and below C1, C7.

- C9** This deposit was the stony fill of a modern linear feature, possibly a result of agricultural activity. It consisted mainly of gravel (50–60%) and larger stones (20%) *c.*0.20m in diameter. It filled the entire cut of C5. Above C10, C42 and below C1.
- C10** Cut, rectilinear in plan. The break of slope was barely perceptible at the top and base of all edges; the sides were practically non-existent due to having a severe incline between the top and the base, with the latter being reasonably smooth and rounded. Its dimensions measured 1.6 x 0.60m with a maximum depth of 0.06m. This feature was aligned north-northwest to southeast and was situated at the southern extent of the site. Above C42 and below C1 and C9.
- C11** Fill. This was a mid-to-dark-brown silty clay with *c.*20% gravel. Evidence of burning could be seen in the charcoal-stained patches dispersed throughout this deposit. Larger stones were present in a moderate quantity and averaged *c.*0.05m in diameter. Dimensions: 2.80 x 1.90 x 0.10m. Above C12, C42 and below C1.
- C12** Cut, rectilinear in plan. Its break in slope was imperceptible at its top and base. The sides were shallow, sloping gradually from the top. The base was generally smooth and flat. Its dimensions measured 2.80 x 1.90m with an average depth of 0.10m. Similar to C10, this feature may have originally had a greater depth but was possibly at some stage truncated by farm machinery. Aligned north–south. Above C42, below C1 and C11.
- C13** Ditch fill. This deposit was the homogenous fill within C14. It measured *c.*0.98m wide north–south, and had an average depth of 0.24m. It was a grey-brown silty sand with frequent charcoal flecks and a moderate quantity of stones measuring 0.01–0.02m in size. It also contained occasional animal bone inclusions. Above C14, C42 and below C1.
- C14** C14 was the cut of a modern drainage ditch running east–west along the centre of the site. Three sections were excavated through this feature, revealing a sharp break of slope at the top and base with vertical sides. It had a minimum depth of 0.18m at its western extent, and a maximum depth of 0.30m at its eastern end. It measured 16m in an east–west direction and its width varied from 0.60m to 1.06m. Above C42 and below C13, C1.
- C15** Fill of pit. This fill was contained within C16. It was a relatively loose silty clay with frequent stone and gravel inclusions (up to 45%), measuring *c.*0.03m. Very occasional flecks of charcoal were contained throughout this fill which filled the entire cut of C16. It measured 1m north–south and 0.38m east–west, and had a maximum depth of 0.23m. Above C16, C42 and below C1.
- C16** C16 was the cut of an oblong-shaped pit. It had two rounded corners at its northern and southern ends. It had a sharp break in slope at its top which graduated to vertical sides terminating at a rounded base with a gradual break in slope. The base and sides also contained small angular and rounded stones. Its dimensions measured *c.*1m north–south, 0.38m east–west and it had a maximum depth of 0.23m. It was situated at the southwestern extremity of the site. Above C42 and below C15, C1.
- C17** Fill of posthole. C17 was a fairly compact dark-brown silty clay with moderate charcoal and small stone inclusions. It contained four large packing stones which were arranged in an order that would accommodate a rectangular rather than a circular post. This deposit measured 0.45 x 0.32m and had a maximum depth of 0.36m. Above C18, C42 and below C1.
- C18** Cut of posthole. This posthole was positioned *c.*0.17m southwest of C20. It had a subcircular shape in plan, with a sharp break in slope at its top, and almost vertical sides. These terminated at a reasonably blunt base with a sharp break in slope. Its maximum

dimensions measured 0.36 x 0.48m with a depth averaging 0.30m. Located 0.2m southwest of C20. Above C42 and below C1, C17.

- C19** This was the fill within a possible posthole (C20). It was a reasonably compact mid-brown silty-clay with occasional small stones near the base. It filled the entire cut of C20 and measured 0.24 x 0.26m and had a maximum depth of 0.15m. Above C20, C42 and below C1.
- C20** Cut of posthole. This was located c.0.17m northeast of C18. It had a roughly circular shape in plan. It had a sharp break of slope at its top with steep concave sides terminating at a rounded base with a gradual break in slope. It measured 0.24m north-south, 0.26m east-west and had a maximum depth of 0.15m. It contained one fill (C19) and may have been contemporary with C18. Located 0.2m northeast of C18. Above C42 and below C1, C19.
- C21** Secondary fill of pit. This was a moderately compacted mid-dark-brown silty clay. It contained frequent charcoal flecks, occasional pebbles and occasional fibrous root activity. It measured 0.72m north-south, 0.50m east-west and had an average depth of 0.07m. Above C38, C22, C42 and below C1.
- C22** Cut of pit. This pit had an oval shape in plan with dimensions measuring 0.72m north-south, 0.50m east-west and a maximum depth of 0.18m. It had a sharp break of slope around the top of all edges. The western side was slightly oblique, tapering gently toward the base, while the eastern and southern sides were more concave. The base was smooth and regular with a sharp break of slope at its southern and eastern sides, while the northern and western ends had a sharper break in slope. It was aligned in a north-south direction and was positioned 2.06m south of C9. Above C42, below C1, C21 and C38.
- C23** Pit-fill. This deposit was the secondary deposit within C24. It was a compact mid-brown sandy clay with moderate angular stone inclusions. Three larger stones were also included within this fill; these were fire-cracked and measured 0.23 x 0.16 x 0.04m. Sporadic chunks of charcoal were also present in this fill; these did not occur in a large enough quantity for sampling. This deposit measured 2.27m north-south, 1.57m east-west and had a maximum depth of 0.14m. Above C39, C24 and below C1.
- C24** This was the cut of a large subrectangular pit located in the northeastern quadrant of the site. It had a sharp break of slope at the top of the eastern and western sides, while the northern and southern sides were more gradual. The sides were relatively vertical at the east and west, while sloping at the north and south, the latter being irregular. The base had a gradual break of slope on all sides with the exception of the southern side. It was relatively smooth with a few undulating depressions, stone sockets and stone inclusions. This feature contained two fills (C23 and C39). Above C42, below C23, C39 and C1.
- C25** This is the uppermost fill within the post-pit C26. It was a loose greyish-brown silty clay. It appeared to be somewhat oxidised on the surface, but this may have occurred in more recent times due to its late occurrence in the stratigraphic sequence. It measured 0.12m north-south, 0.12m east-west and had a maximum depth of 0.12m. Above C34, C35, C26, C42 and below C1.
- C26** Cut of post-pit. C26 was a possible posthole with a subcircular shape in plan. It measured 0.77m north-south, 0.34m east-west and had a maximum depth of 0.15m. Its break of slope was sharp around the top of all sides except at the south where it was gradual. The sides were sloping gently inwards, terminating at the base which was inclined downwards from the south. The sides had a sharp break of slope at the north, east and west, while being gradual at the south. The base had a stakehole/small posthole (C35) cut into it. This smaller posthole, later cut into C26, may have accommodated a smaller post, stake or packing stone which could have been used to support the larger one placed in C26. This

- feature was in close proximity to C30 and C31. Above C42, below C35, C34, C25 and C1.
- C27** C27 was a sterile, modern deposit within C28. It was a loose light-brown sandy silt which measured 1.60m north–south, 0.80m east–west and had a maximum depth of 0.10m. Above C28, below C1
- C28** This context was probably the result of a natural depression. It contained one natural deposit within it.
- C29** This deposit was a loose black clayey silt with occasional small stones and charcoal flecks. It measured 5.15m north–south and 3.2m east–west. Its depth varied, being thickest at its centre (0.13m) and becoming thinner as it radiated outwards towards its periphery (0.06m). This feature may have represented a single episode of burning. A thin lens of oxidised subsoil underlay this deposit at its centre, suggesting that this was the core area of burning while the outer area may have been deposited during burning. It was located in close proximity to C36 and was probably associated with it. Above C42 and below C1.
- C30** Fill. This deposit was a loosely compacted light-brown silty clay with infrequent charcoal flecks and occasional small subrectangular pebbles. It was the homogenous fill within C31, which was the cut of a possible posthole located *c.*0.44m southeast of C26. It measured 0.36m north–south, 0.26m east–west and 0.20m deep. Above C31, C42 and below C1.
- C31** C31 was the cut of a subcircular posthole measuring 0.36m north–south, 0.26m east–west, and had a maximum depth of 0.20m. It had a sharp break in slope at its top and base with vertical sides which terminated at a smooth rounded base. This cut contained an homogenous fill (C30) and was positioned approximately 0.37m southeast of C26. Above C42, below C30 and C1.
- C32** Fill of drainage ditch. C32 was the homogenous fill contained within C33. It was a fairly compact grey-brown silty clay with occasional charcoal flecks and frequent small stones. It filled the entire cut of C33. Above C33, C42 and below C1.
- C33** Cut of furrow/drainage ditch. This was a north–south aligned feature with a rectilinear shape in plan. It measured 7.6m along its north–south axis, 1.24m east–west and had a maximum depth of 0.35m. It had a sharp break of slope at top of its eastern side, while being more gradual at its west. Its eastern side was vertical with a sharp break of slope at its base and a gradual break of slope at its top. Its western side tapered towards its base, which was smooth with a gradual break of slope. It contained an homogenous fill (C32).
- C34** Fill of C35. This was the earliest deposit within the possible post-pit (C26). It was a dark-brown silty clay with moderate charcoal inclusions (flecking). It measured 0.12m north–south, 0.13m east–west and had maximum dimensions of 0.12m north–south, 0.12m east–west and 0.1m deep. Above C35, C42 and below C26, C1.
- C35** Cut within C26. C35 was the cut of a small posthole/stakehole or packing stone. It was cut into the base of the larger posthole (C26) possibly in order to place a small post or packing stone with which to support the larger post. It measured 0.12m north–south, 0.13m east–west and had a maximum depth of 0.12m. It was deeper at its western side and more deeply inclined in this direction. Above C26, C1 and below C34, C25.
- C36** This deposit was a reasonably loose orangey-brown silty clay. It was the tertiary fill within C37. It contained occasional stones and charcoal flecking. It measured 2.88m north–south, 2.16m east–west and had a depth ranging from 0.2m around the perimeter to 0.49m at the centre. This deposit was banked up against C40 but probably occurred later due to its higher position in the stratigraphic sequence. It may have been a result of the

redposition of subsoil or deliberate backfilling after a single episode of burning. This is evident from the mixture of subsoil and only slight silting within this deposit. Above C40, C41, C37 and C42.

- C37** Cut of pit. This context was the cut of a suboval pit which had a maximum measurement of 2.74m east–west, 2.88m north–south and an average depth of 0.49m. It contained three fills: C40, C41 and C36. It had a sharp break of slope at its top with vertical sides at its west and sloping sides at its east. These tapered to a smooth flat base with a sharp break of slope at the eastern side and gradual at the west. It was located southeast of C29 and was probably contemporary with it. Above C42 and below C40, C41, C36, C1.
- C38** Primary fill of C22. This was a moderately compact silty sand deposit containing approximately 40% stones which were rounded and subrounded pebbles. There were also occasional charcoal flecks and fibrous root activity. Its maximum dimensions measured 0.72m north–south, 0.52m east–west and had a depth of 0.18m. Above C22, C42 and below C21, C1.
- C39** Pit-fill. C39 was the primary deposit within C24. It was a moderately compacted orangey-brown clayey sand. It contained a moderate quantity of small subangular stones and moderate charcoal staining which may have filtered through from the context above C23. This deposit was more concentrated to the north of C24 and was banked up against the western and southeastern sides. It measured 1.14m east–west, 1.60m north–south and had a maximum depth of 0.03m. Above C24, C42 and below C1, C23.
- C40** This deposit is the secondary fill within C37. It was a mid-to-dark-brown clayey silt with a medium compaction. It contained moderate angular stones and occasional charcoal flecks. It measured 1.58m north–south, 0.50m east–west and 0.20m deep. It was positioned at the eastern extent of C37 being banked up against its side, while abutting C36 on its western side. Above C41, C42 and below C1, C36.
- C41** Pit-fill. C41 was the primary deposit within C37. It lay immediately above an area of oxidisation which formed part of the base (C37) of this pit. This deposit was predominantly composed of charcoal and was concentrated at the eastern and western sides, while being extremely shallow at its centre. Its maximum dimensions measured 2.69m east–west, 1.87m north–south and its depth varied from 0.003m to 0.17m. Above C37, C42 and below C36, C40, C1.
- C42** Substratum. A compact orangey-brown silty clay. This glacial moraine was the predominant sediment present throughout the site. It was mixed with intermittent patches of pinkish sandy soil which were dispersed throughout the site.
- C43:** This deposit was more than likely the result of modern geological investigation. It was a sterile deposit and filled the entire cut of C44. Above C44, below C1.
- C44** Non-archaeological cut. This feature was exposed as a circular pit containing a dark-brown deposit (C43). Upon investigation, it was discovered to have been a recent machine-cut borehole which may have been used for pump-sinking or for geological investigation.

5.2 Drawing Register

5.2.1 Plan Register

Plan No.	Description
1	Pre-excavation plan of cremation pit
2	Pre-excavation plan of C4
3	Pre-excavation plan of C7
4	Pre-excavation plan of C9
5	Post-excavation plan of C18 & C20
6	Pre-excavation plan of C21
7	Post-excavation plan of C28 & C31
8	Pre-excavation plan of C11 & C12
9	Mid-excavation plan of C13 & C14
10	Mid-excavation plan of C27 & C43
11	Mid-excavation plan of C15 & C16
12	Mid-excavation plan of C13 & C14
13	Pre-excavation plan of C36
14	Pre-excavation plan of C13
15	Mid-excavation plan of C29
16	Pre-excavation plan of C23 & C24
17	Post-excavation plan of C16
18	Post-excavation plan of C24
19	Post-excavation plan of C37

5.2.2 Section/Profile Register

Section/Profile No.	Plan No.	Description
A-B	1	Section of C17 (W-facing)
C-D	2	Section of C17 (E-facing)
O-P	3	Section of C36 (S-facing)
E-F	4	Section of C25 & C34 (N-facing)
G-H	5	Section of C30
Q-R	6	Section of C29 (S-facing)
I-J	7	Section of C23 (S-facing)
S-T	8	Section of C11 (S-facing)
U-V	9	Section of C32 (S-facing)
K-L	10	Section of C21 & C38
M-N	11	Section of C13 & C14
W-X	12	Section of C15 & C16 (S-facing)
Y-Z	13	Section of C2 (S-facing)
A1-B1	14	Section of C7 (Non-archaeological)
C1-D1	15	Section of C4 (S-facing)

5.3 Sample Register

Sample No.	Context No.	No. of bags	Type	Description
1	2	4	Soil (Bulk sample)	Fill of Pit 1 (C3)
2	4	1	Soil (Bulk sample)	Fill of pit (C5)
3	7	1	Soil	Fill of C8
4	25	1	Soil	Fill of C26
5	34	1	Soil	Fill of C35
6	30	1	Soil	Fill of C31
7	17	1	Soil	Fill of C18
8	19	1	Soil	Fill of C20
9	21	1	Soil	Fill of C22
10	23	1	Soil	Secondary fill of C24
11	39	1	Soil	Primary fill of C24
12	36	1	Soil	Fill of C37

5.4 Soil Sample Flotation Results

Feature No.	Sample No.	Sieved by	Material Recovered	Weight of soil sample before flotation
2	-	RM	None	17.5kg
4	2	RM	17 grams charcoal	4kg
7	4	RM	4 grams charcoal	3.5kg
19	10	RM	1 gram charcoal	
36	12	RM	3 seed fragments	

5.5 Finds Register

Find No.	Description
02E0947:1:1	Sherd of medieval pottery
02E0947:1:2	Piece of struck flint
02E0947:1:3	Piece of struck flint
02E0947:1:4	Metal object (heavily encrusted)
02E0947:2:1	Pot sherd (prehistoric)
02E0947:2:2	Pot sherd (prehistoric)
02E0947:4:1	Pot sherd (prehistoric)
02E0947:4:2	Pot sherd (prehistoric)

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Signed:

Ed Danaher,
Archaeologist

October 2004

7. APPENDICES

7.1 Wood Identification *by Ellen O'Carroll*

Introduction

One charcoal sample was submitted for analysis. The material was excavated from the fill of a posthole. The charcoal was sent for species identification prior to ¹⁴C dating and also to obtain an indication of the range of tree species which grew in the area. Charcoal analyses may also provide information on the utilization of certain species for various functions. Wood used for fuel at prehistoric sites would generally have been sourced at locations close to the site. Therefore charcoal identifications may, but do not necessarily, reflect the composition of the local woodlands.

Methods

The process for identifying wood, whether it is charred, dried or waterlogged is carried out by comparing the anatomical structure of wood samples with known comparative material or keys (Schweingruber 1990). The identification of charcoal material involves breaking the charcoal piece so that a clean section of the wood can be obtained. This charcoal is then identified as to species under an Olympus SZ3060 zoom stereomicroscope. The species are determined by close examination of the microanatomical features of the samples. The diagnostic features used for the identification of charcoal are micro-structural characteristics such as the vessels and their arrangement, the size and arrangement of rays, vessel pit arrangement, and also the type of perforation plates.

Results

Table 1: Results from charcoal identifications

Site no. & site type	Context no.	Sample no.	Species type	Comment
02E0947, posthole	4	2	Oak & alder	Oak (1g.), Alder (16g.)

Discussion

There were two species (oak & alder) present in the charcoal remains. The oak or alder may represent the remains of the post which once stood in the posthole, although oak is more commonly used for such load bearing tasks.

The oak identified (*Quercus* spp.) suggests that there was a supply of oak in the surrounding environment at Ballinaspig More 4. Oak makes good firewood when dried and will grow in peat when conditions are dry. Throughout all periods of prehistory and history, oak has been used for structural timbers. Oak also has unique properties of durability and strength. Sessile oak (*Quercus petraea*) and pedunculate oak (*Quercus robur*) are both native and common to Ireland. The wood of these species cannot be differentiated based on its microstructure. Pedunculate oak is found on heavy clays and loams particularly where the soil is of alkaline pH. Sessile oak is found 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) and can live to an age of about 400 years.

Alder (*Alnus glutinosa*) is a widespread native tree and occurs in wet habitats along streams and riverbanks. Alder grows regularly on fen peat. It is an easily worked and split timber and does not tear when worked. Alder is commonly identified from wood remains associated with wet/boggy areas. Alder would have been easily collected from the Twopot River that the sites were located beside.

Conclusions

The oak was probably selected for use as posts at Ballinaspig More 4, Co. Cork. It is a strong wood and is noted for its structural capabilities. The oak was probably selected from mixed woodlands.

Although the alder may also have been used as post material, it most likely represents extraneous material which fell into the posthole. The alder may have grown and been selected from nearby the Twopot River.

Note for radiocarbon dating:

All of the charcoal samples represent the inner part of a tree of unknown age and it was not possible to tell from identification how much larger the whole piece was, if at all. As a result, the old-wood effect may need to be taken into consideration when dates are returned (Warner 1979, 159–172). 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 alder rather than the oak should be sent for ¹⁴C dating. The oak has been separated from the sample for this purpose.

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7.2 Radiocarbon Dating Results

Ms. Rachel Sloane

Report Date: 5/7/2003

Archaeological Consultancy Services, Ltd.

Material Received: 4/9/2003

Sample Data	Measured	13C/12C	
Conventional	Radiocarbon Age	Ratio	
Radiocarbon Age(*)			
Beta - 178204 50 BP	5050 +/- 50 BP	-26.1 o/oo	5040 +/-
SAMPLE : 02E947F4S2			
ANALYSIS : Radiometric-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 3960 to 3700 (Cal BP 5910 to 5650)			

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.1:lab. mult=1)

Laboratory number: **Beta-178204**

Conventional radiocarbon age: **5040±50 BP**

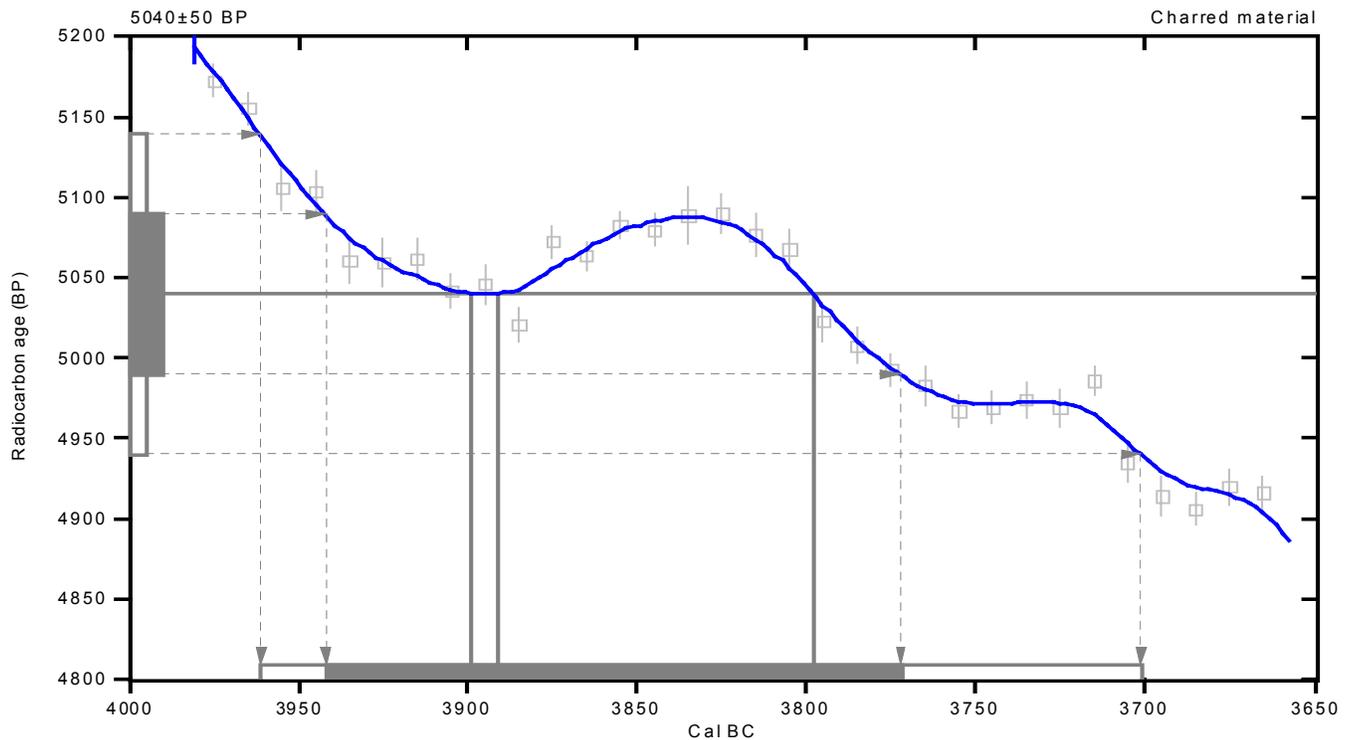
2 Sigma calibrated result: **Cal BC 3960 to 3700 (Cal BP 5910 to 5650)**
(95% probability)

Intercept data

Intercepts of radiocarbon age

with calibration curve: Cal BC 3900 (Cal BP 5850) and
Cal BC 3890 (Cal BP 5840) and
Cal BC 3800 (Cal BP 5750)

1 Sigma calibrated result: Cal BC 3940 to 3770 (Cal BP 5890 to 5720)
(68% probability)



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

Mathematics

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 Rose Cleary, Department of Archaeology, University College Cork

Description

Four sherds of pottery were recovered; two from C2 and two from C4. The exact context of the pottery is unknown but may be from pits referred to in the site documentation. The sherds are similar in fabric, although those from F2 are fired to a dark red (Munsell 10R4/8) whereas those from C2 are yellow/red (Munsell 5YR5/6).

The pottery is thin walled with a maximum wall thickness of 6mm. The sherds have a combined weight of 8.6g. The sherds from F2 are a small rim fragment and a body sherd. Those from F4 are two pieces of rim that join together and the estimated minimum rim diameter is 12cm. The fabric is tempered with crushed calcite with grains of up to 6mm, and the quantity is medium. The sherds from F2 are fired uniformly and the colour is similar across the vessel wall. The sherds from F4 are mottled and have grey cores, suggesting a rapid firing.

Discussion

The pottery is identified as Bronze Age in the site documentation. The fabric and rim form suggest that the vessels may be Neolithic, but this should be confirmed by ¹⁴C dating. The rim form is similar to Case's (1961) Western Neolithic Round Bottomed Bowl classification. Recent radiocarbon evidence places this type of pottery in the date range 4650–3100 cal B.C. (Sheridan, 1995). The fragments from Ballinaspig More are too small and have no diagnostic shoulder sherds to refine the dating to a closer Early or Middle Neolithic period.

The sherds are tempered with calcite and this was commonly used in the production of prehistoric cooking pots, particularly in the Bronze Age period (Cleary 2002). Some of the Neolithic assemblages from Lough Gur, Co. Limerick are also tempered with calcite (*ibid.*). Calcite is usually available locally in limestone areas where it occurs as veins in the local rock.

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7.4 Biological Remains by Allan Hall and John Carrott, Palaeoecology Research Services

Summary

A small quantity of biological remains recovered from the processing of a single bulk sediment sample from deposits of Bronze Age to post-medieval date at Ballinaspig More 4, encountered during monitoring works for the N22 Ballincollig bypass scheme, County Cork, were submitted for analysis.

The remains were restricted to a single charred wheat grain, a trace of barley, and a very little charcoal (to 5 mm), of no interpretative value.

Introduction

An archaeological excavation of deposits encountered during the initial stages of the monitoring programme for the N22 Ballincollig bypass scheme, County Cork, Republic of Ireland, was undertaken by Archaeological Consultancy Services Ltd (ACS).

The site at Ballinaspig More 4 comprised a possible cremation pit and features of dissociated agricultural activity representing three main phases of activity dating from the Neolithic to the post-medieval period.

A small quantity of biological remains recovered from the processing of a bulk sediment sample was submitted to PRS for analysis.

Methods

The soil sample was placed onto 1 mm nylon mesh in a sieving tank. The light organic fraction was washed over through a 2 mm sieve into a 500 micron sieve to collect the flots. The sample was put through this system twice to ensure that as much material as possible was recovered.

The sediment sample was processed by ACS prior to delivery to PRS and only the small quantities of recovered plant remains were submitted for analysis. These remains were examined and identified as closely as possible.

Results

The results are presented below. Archaeological information, provided by the excavator, is given in square brackets. The sediment description was also supplied by the excavator.

Feature: Pit C37

Context 36 [tertiary fill of pit C37]

Sample 14

Fairly loose, orangey-brown, silty clay, with occasional stones and charcoal flecking.

A single charred wheat (*Triticum*) grain, a trace of barley (*Hordeum*), and a very little charcoal (to 5 mm) were recovered.

Discussion

The submitted remains were too few to be of any interpretative value.

Retention and Disposal

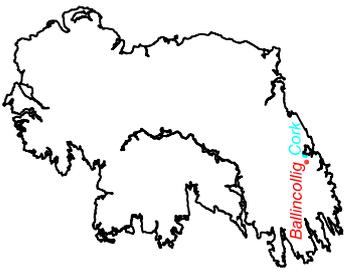
All of the material should be retained as part of the physical archive for the site.

Archive

All material is currently stored by Palaeoecology Research Services (Unit 8, Dabble Duck Industrial Estate, Shildon, County Durham), along with paper and electronic records pertaining to the work described here.

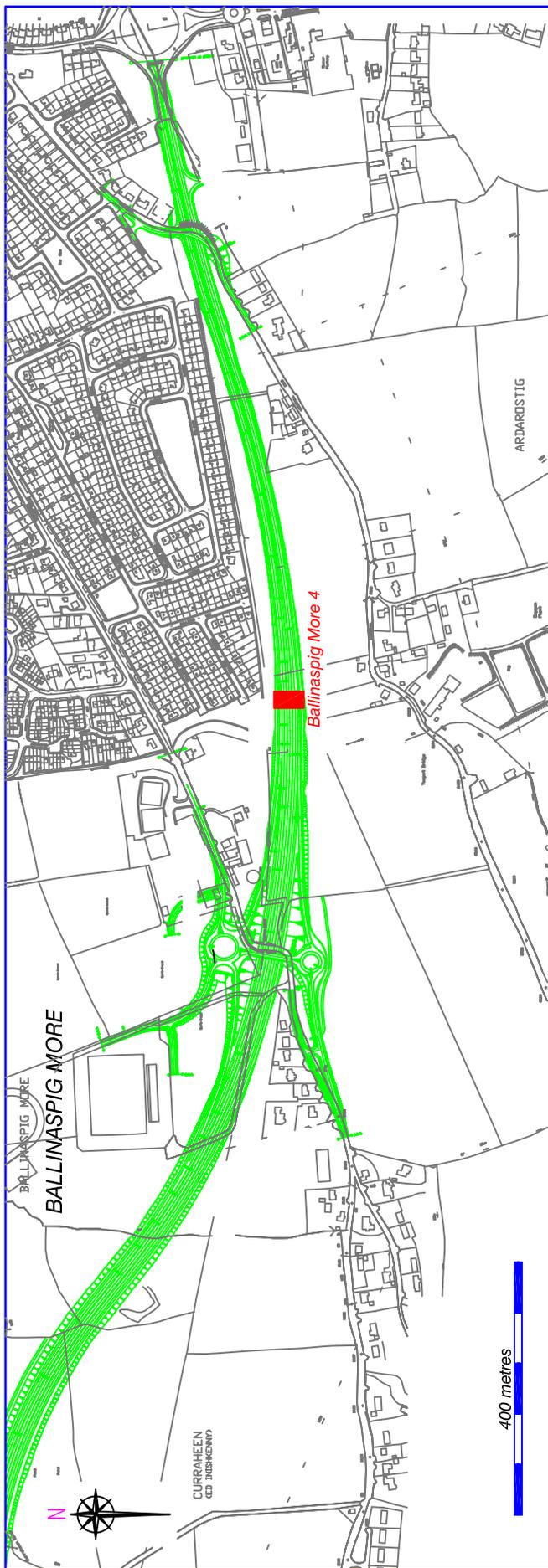
Acknowledgements

The authors are grateful to Rachel Sloane of ACS for providing the material and the archaeological information.



Archaeological Consultancy Services Ltd. Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth	Site: Ballinaspig More 4 Ballincollig Bypass, Co. Cork	Scale: 1:40000 A4
	Issued for: Archaeological Excavation Report	Date: October 2004
	Client: Cork County Council	Origin: Courtesy of RPS/IMCOS
		Drawing no.: 01_09_C148

Figure 1: Location of proposed route



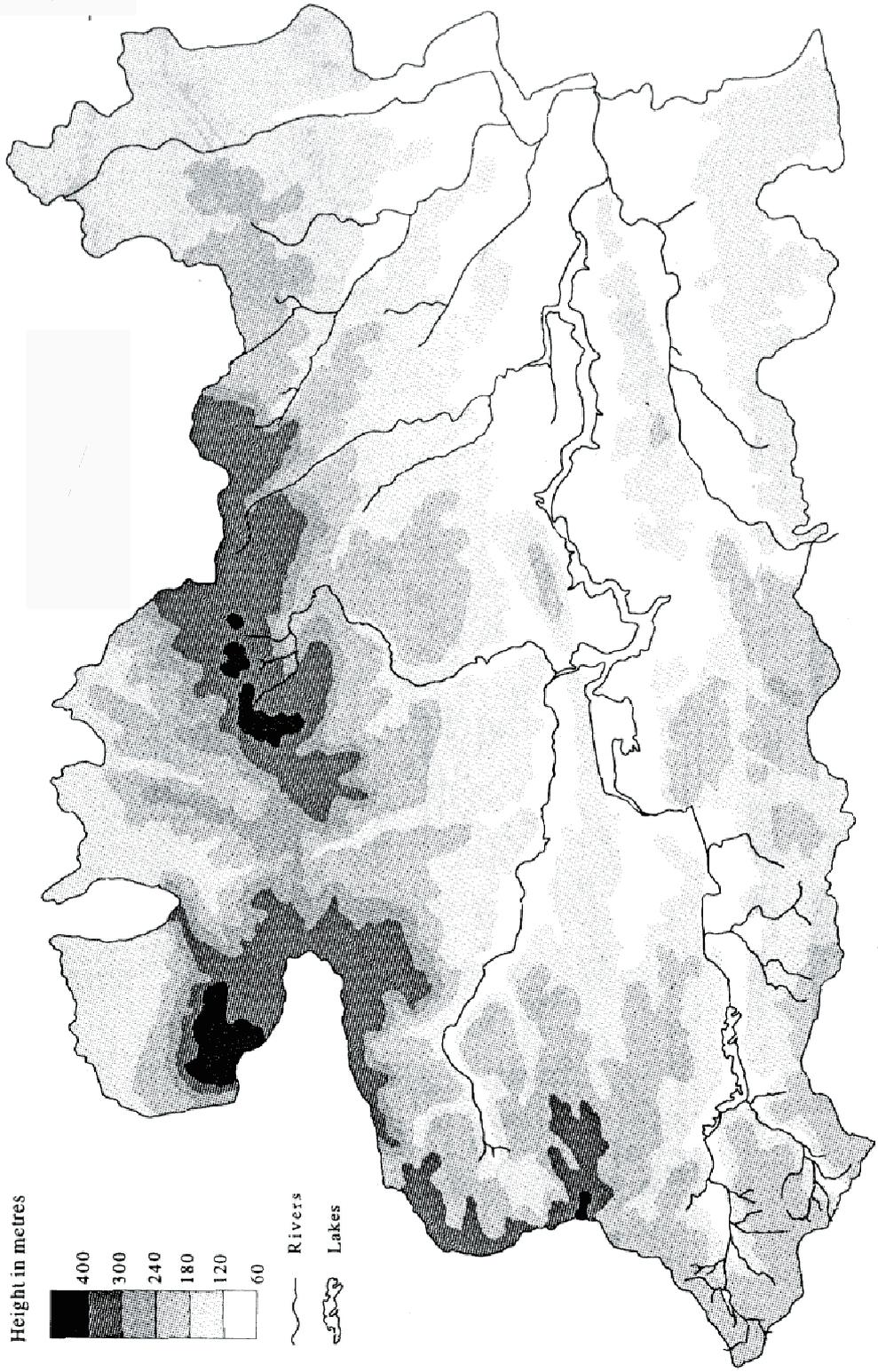
500 metres

Scale: 1: 10000 A4
 Date: October 2004
 Origin: Courtesy of RPS/MCOS
 Drawing no.: 01_09_C220

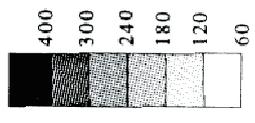
Site: Ballinaspig More 4
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Figure 2: Detailed location of site



Height in metres



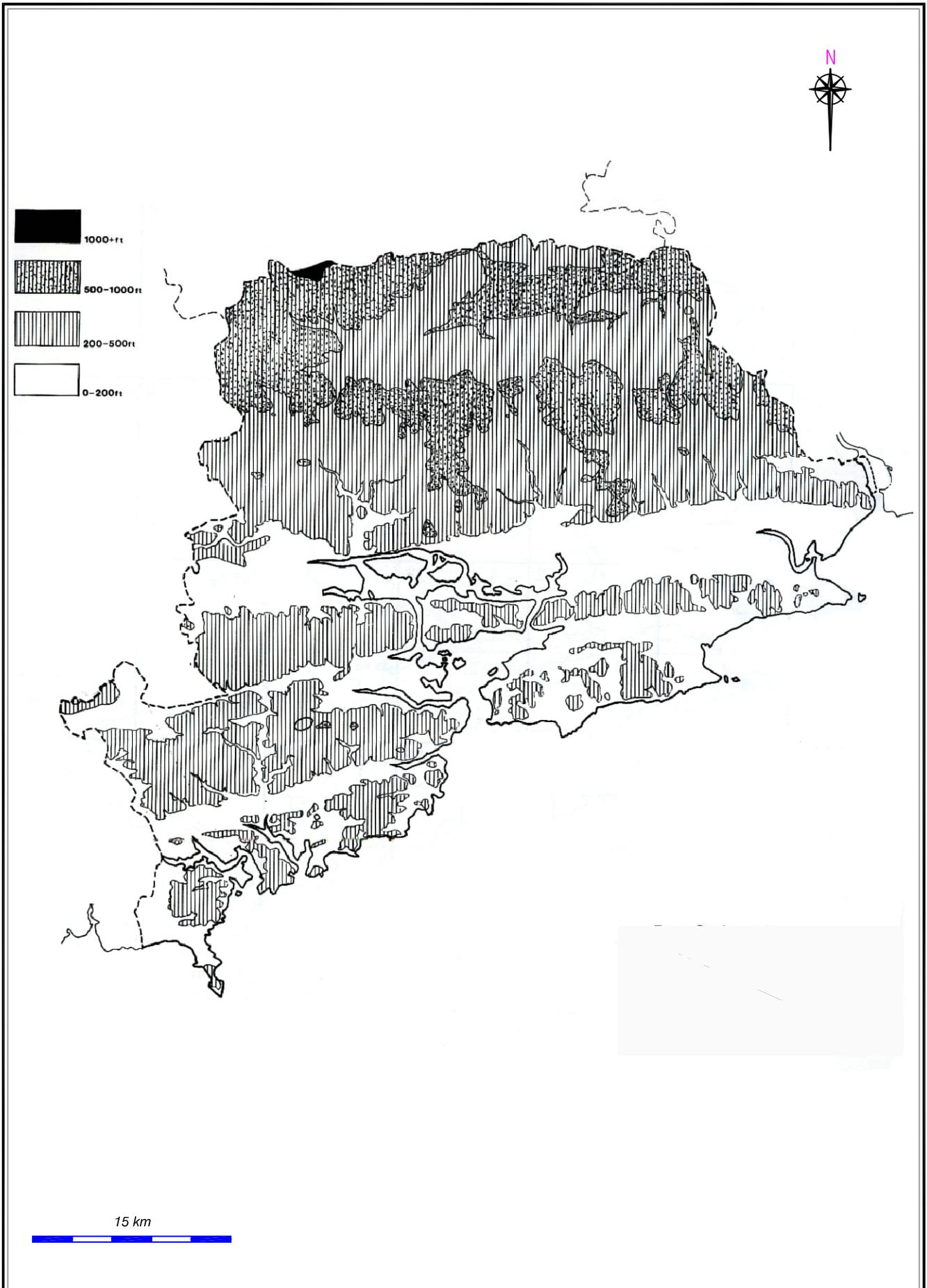
Rivers
Lakes

10 km



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Figure 4: Altitude of mid-Cork



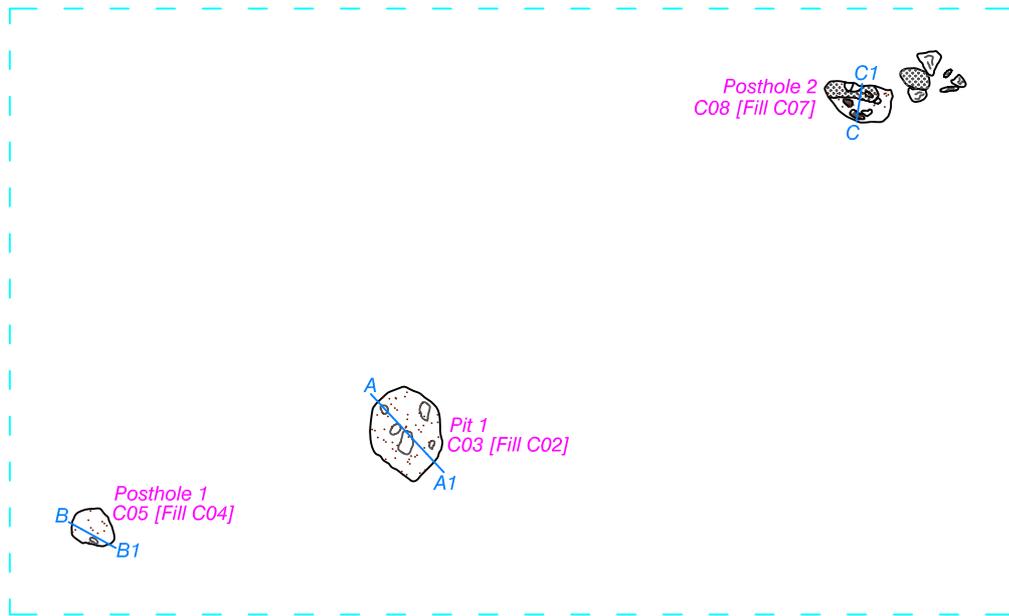
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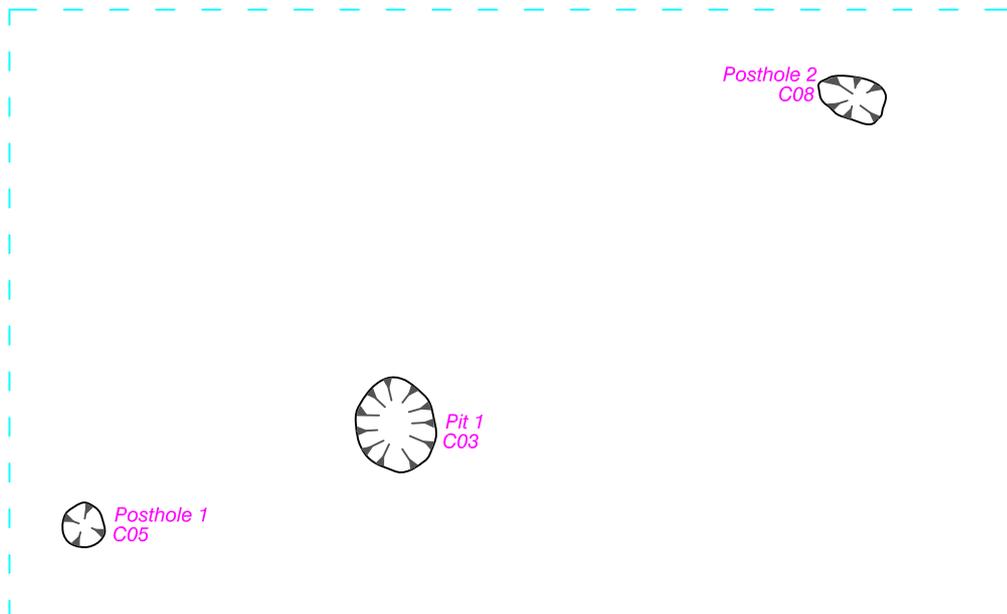
Scale: 1:400000 A4
 Date: October 2004
 Origin: Power, 1994
 Drawing no.: 01_09_C151

Figure 5: Altitude of east-Cork

PRE-EXCAVATION PLAN OF PIT 1, POSTHOLE 1 & POSTHOLE 2



POST-EXCAVATION PLAN OF PIT 1, POSTHOLE 1 & POSTHOLE 2



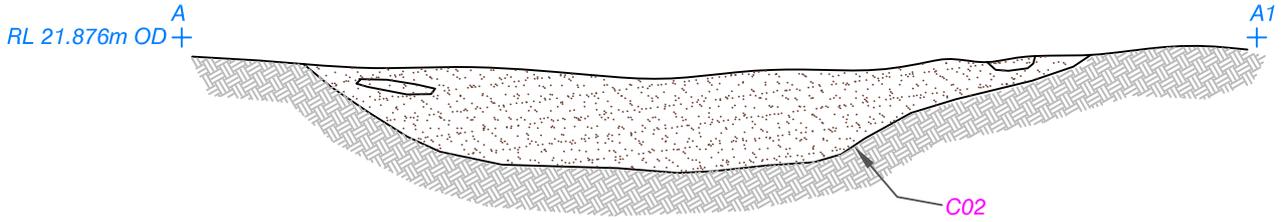
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Site: Ballinaspig More 4, Ballincollig Bypass, Co. Cork
 Issued for: Archaeological Excavation Report
 Client: Cork County Council

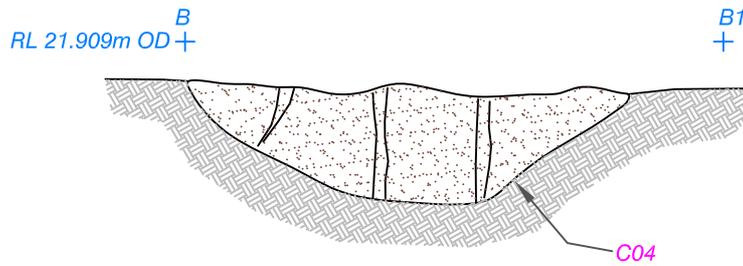
Scale: 1: 50 A4
 Date: October 2004
 Origin: ACS LTD.
 Drawing no.: 01_09_C232

Figure 7: Pre- and post-excavation plans of pit 1, posthole 1 and posthole 2

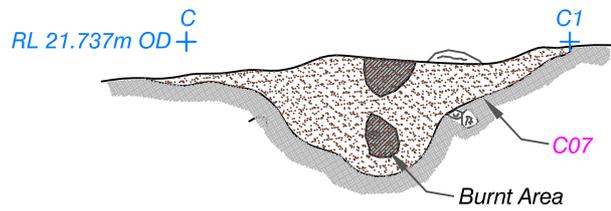
SECTION THROUGH PIT 1



SECTION THROUGH POSTHOLE 1



SECTION THROUGH POSTHOLE 2



20 cms

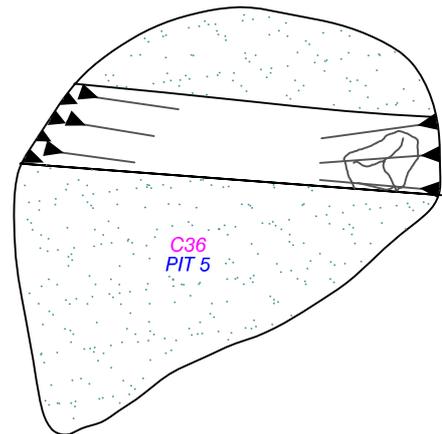
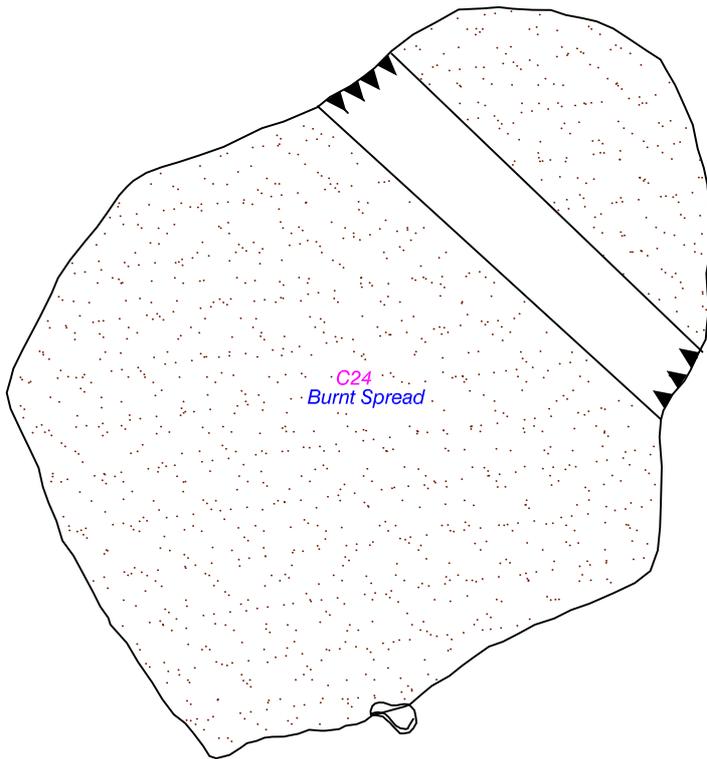
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Site: Ballinaspig More 4, Ballincollig Bypass, Co. Cork
 Issued for: Archaeological Excavation Report
 Client: Cork County Council

Scale: 1: 5 A4
 Date: October 2004
 Origin: A.C.S. Ltd.
 Drawing no.: 01_09_C233

Figure 8: Sections of Pit 1, Posthole 1 and Posthole 2

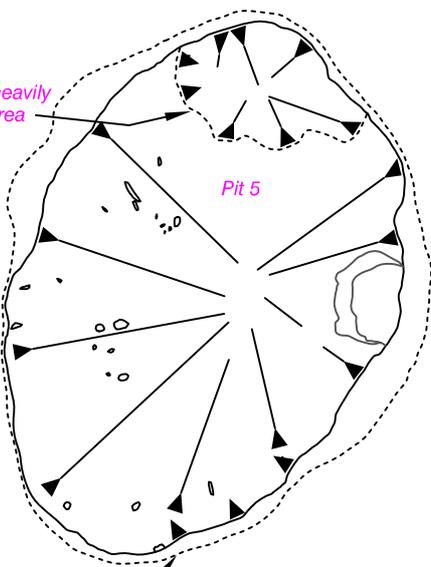
MID-EXCAVATION PLAN OF PIT 5 & THE BURNT SPREAD C24



POST-EXCAVATION PLAN OF PIT 5



Extent of heavily oxidised area



Extent of area excavated

Possible Borehole C17

2 metres



Possible Borehole C17[Fill C43]



2 metres



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Scale: 1: 50 A4
 Date: October 2004
 Origin: A.C.S. Ltd.
 Drawing no.: 01_09_C234

Figure 9: Mid-excavation plan of pit 5 and the burnt spread & post-excavation plan of pit 5



Plate 1: Pre-excavation shot of pit 1 from south

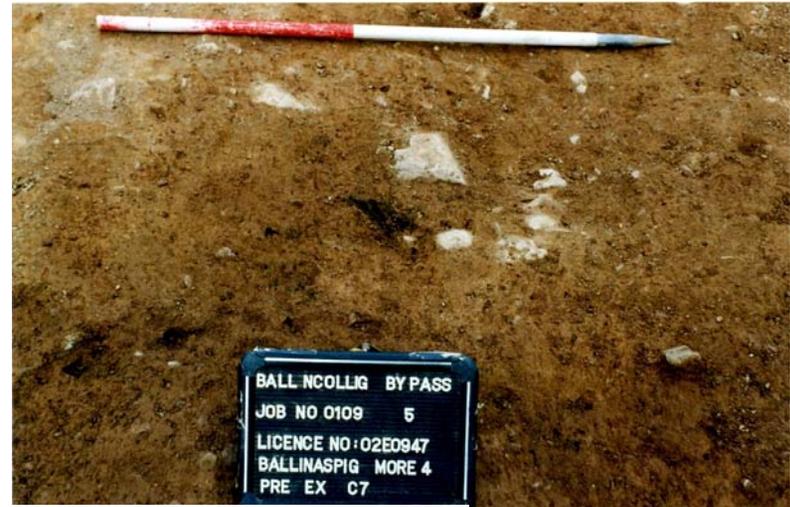


Plate 2: Pre-excavation shot of posthole 2 from south



Plate 3: Post-excavation shot of posthole 2 from south

Plate 4: Pre-excavation shot of drainage ditch 1 from west





Plate 5: Mid-excavation shot of pit 4 showing C39 from south



Plate 6: Section through pit 5 from south



Plate 7: Post-excavation of pit 5 from north

Plate 8: Post-excavation shot of pit 5





Plate 9: Shot of surrounding landscape including Ballinaspig More 5 in the background, taken from western extent of Ballinaspig More 4 with intervening Twopot River, looking south west



Plate 10: Landscape shot looking south-southwest

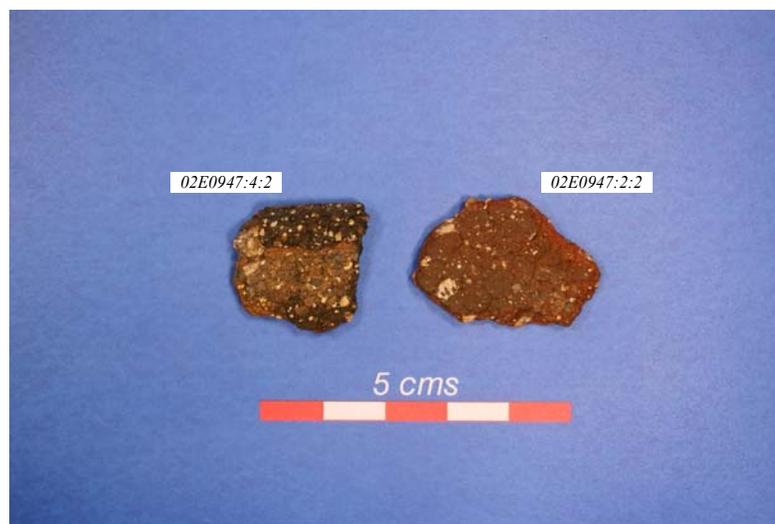


Plate 11: Finds 02E0947:4:2 & 02E0947:2:2