

**N8 Rathcormac/Fermoy Bypass Scheme**  
*Archaeological Services Contract*  
*Phase 2 - Resolution*



**Final Report on Archaeological Excavation of  
Mondaniel 2**

Townland: Mondaniel, Co. Cork

Licence no.: 03E0985

Archaeological Director: Eamonn Cotter

December 2005



Cork County Council



Archaeological Consultancy  
Services Limited

## PROJECT DETAILS

<b>Project</b>	N8 Rathcormac/Fermoy Bypass Scheme
<b>Site Name</b>	Mondaniel 2
<b>Licence No.</b>	03E0985
<b>Archaeologist</b>	Eamonn Cotter
<b>Townland</b>	Mondaniel
<b>Nat. Grid Ref.</b>	179955,092906
<b>6" OS Co-ords</b>	CO44; E664, N 486
<b>Chainage</b>	8440-8600
<b>Report Type</b>	Final
<b>Report Status</b>	Approved
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<b>Distribution</b>	Ken Hanley

## **NON TECHNICAL SUMMARY**

The proposed N8 Rathcormac Fermoy By-Pass is approximately 17.5km in length and will extend from the northern end of the new N8 Glanmire-Watergrasshill Bypass in the townland of Meenane, passing to the west of Rathcormac and to the east of Fermoy and onto the northern tie-in point on the existing N8 Cork-Dublin Road at Moorepark West.

A programme of advance archaeological investigation (phase one) was undertaken in May 2002, September 2002 and July 2003 under licences 02E0713-02E0720 issued by Dúchas The Heritage Service to Donald Murphy and Deirdre Murphy. A total of forty-four sites were identified during this phase of works and they were subsequently resolved in 2003 during the second phase of the project (resolution phase). Mondaniel 2 was identified during phase 1 as two possible hearths and a pit. Archaeological resolution of this site commenced on June 23<sup>rd</sup> 2003 and was carried out by Eamonn Cotter under licence number 03E0985. Resolution of the site revealed four of charcoal production pits dating from AD 1280-1420. These pits were used for the controlled burning of wood to produce charcoal, which may then have been used to fire smelting furnaces to produce iron. A number of other features were also noted, which did not form any coherent pattern. A sherd of prehistoric pottery from an isolated pit indicated Late Bronze Age activity in the area.

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## **1 INTRODUCTION**

### **1.1 Site location** (Figs 1-4)

This report details the results of the archaeological excavation of a site on the N8 Rathcormac-Fermoy Bypass at Mondaniel 2, County Cork (Ordnance Survey six-inch sheet 44 664mm from the west margin, 486mm from the south margin; National Grid Co-ordinates 179955,092906; Figures 1–5). The site is located 1.5Km to the northwest of the village of Rathcormac, immediately east of the public road leading from Rathcormac to Ballyhooly. It lies in the barony of Barrymore and in the Parish of Rathcormac. The site will be affected by the mainline of the proposed route, which will run southwest-northeast through the centre of the field. The field was in pasture at the time of excavation.

### **1.2 Scope of the project**

This Archaeological Services Project was carried out on behalf of Cork County Council, National Roads Design Office, Richmond, Glanmire, Co. Cork. This project was funded by the Irish Government under the National Development Plan, 2000-2006. 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.

The purpose of the Archaeological Services Project was to conduct Archaeological Site Investigations within the lands made available for the scheme and to assess the nature and extent of any new potential archaeological sites uncovered. The project was carried out in two phases, Testing and Resolution.

Phase 1 of the project (archaeological testing of the route) was carried out in May and September 2002 and July 2003 under licences 02E0713-02E0720 issued by Dúchas The Heritage Service to Donald Murphy. The principal aim of this phase of the project was to test the known sites, including sites of archaeological potential identified in the EIS and through aerial photography. It sought to test for any previously unknown sites that may, by virtue of their size or complexity, lead to significant delays and costs if revealed during construction works. This phase of the project also tried to assess the archaeological risk across the scheme by examining the volume, range, complexity and distribution of archaeology identified during testing.

Phase 2 of the project (resolution) involved the resolution of all archaeological sites identified within the proposed road corridor prior to commencement of the construction of the bypass. The aim of this phase of works was to clear the entire route of archaeology in order to avoid delays and costs during construction works. This phase of the project was carried out from June-October 2003 and excavations were conducted by five licensed directors under the management of a Senior Archaeologist, Deirdre Murphy. In total forty-four sites were excavated during this phase of works

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and all excavations were carried out under separate licences issued by The Department of the Environment, Heritage and Local Government.

Following completion of fieldwork a programme of post-excavation analysis was undertaken, to help build a fuller picture of the true nature of the excavated sites, with a view towards eventual publication of the results. A dissemination strategy also forms a crucial part of this phase of the project, and it is proposed that publication of the final reports will be accompanied by public lectures/seminars delivered to local communities and the archaeological profession. Both the format and timescale for publication and seminars will be decided in consultation with the Project Archaeologist.

### **1.3 Circumstances of discovery**

Archaeological testing of this site in 2002, under Phase 1 of this project identified a number of features of archaeological potential in the area, identified as two possible hearths and a pit. Topsoil stripping around these features was recommended, with full excavation of all features exposed.

### **1.4 Date and duration of excavation works**

Topsoil stripping of the site was carried out from June 23<sup>rd</sup>-27<sup>th</sup> 2003. Excavation commenced on June 25<sup>th</sup> and continued for 12 days, finishing on July 8<sup>th</sup> 2003.

### **1.5 Size and composition of the excavation team**

The excavation team consisted of a total of 14, including one director, 2 supervisors, 6 site assistants and 5 general operatives.

## **2. THE RECEIVING ENVIRONMENT**

### **2.1. The Natural Landscape**

#### **2.1.1. Geology**

The geological structure of the East Cork area, in which the proposed road scheme is located, consists of east-west valleys separated by intervening ridges<sup>1</sup>. The major towns and smaller settlements are predominately located within the valleys and often at important river crossings. The ridges are comprised of sandstones and mudstones of the Devonian 'Old Red Sandstone', laid down 355-410 million years ago, while the valleys are floored by poorly exposed Carboniferous limestones laid down 290-355 million years ago.

One of these valleys, known in geological terms as the Cork Syncline, extends westwards from the coast just south of Youghal, to include Cork city and harbour and the lower Lee Valley. The valley

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<sup>1</sup> The following information on the geology of the area is taken from Sleeman A. G. and McConnell, B (1995) *Geology of East Cork--Waterford*, Geological Survey of Ireland.

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is flanked to the north by a parallel ridge, the Watergrasshill Anticline, which is comprised mainly of the Ballytrasna Formation, a sub-type of Devonian Old Red Sandstone consisting mainly of purple mudstone with some sandstone.

To the north of Watergrasshill lies the Bride River valley, floored by Waulsortian limestone, which gives way upstream to The Ballytrasna sandstones, in the higher ground to the west of Rathcormac village. The Bride valley is in turn flanked to the north by another sandstone ridge, an eastwards extension of the Nagles Mountains, which rise to a maximum height of 428m OD some 10Km to the west. Proceeding northwards, ground level falls again into the limestones of the Blackwater Valley, before rising again to the Knockmealdown Sandstone formation on the Kilworth Mountains.

The proposed road scheme with which this report is concerned begins immediately north of Watergrasshill, on the northern flank of the Watergrasshill Anticline and continues northwards to the Blackwater Valley, ending immediately north of Fermoy town. More specifically, the area in which the excavations described here took place is located on the lower southeastern slopes of the ridge that extends eastwards from the Nagles Mountains, overlooking the upper reaches of the Bride valley. Being on the lower slopes of the ridge, the underlying bedrock geology of the area is at an interface between the Waulsortian Limestones of the valley floor and the Ballytrasna sandstones and mudstones of the ridge and consists of three successive narrow bands with a southwest/northeast trend. The first of these is the Ballysteen Formation, a dark-grey, muddy limestone, which is succeeded upslope by an equally narrow band of Lower Limestone Shale, consisting of sandstone, mudstone and thin limestone. Immediately upslope to the northwest this gives way to the Gyleen Formation, consisting of sandstone with mudstone and siltstone. The site of the present excavation lies on the Lower Limestone Shales.

The bedrock geology of the area is overlain by more recent Quaternary sediments mostly deposited by melting glaciers and ice sheets during the various alternating warm and cold phases in the period from 1.6 million years ago to 10,000 years ago. Quaternary deposits generally range from 3-4m in thickness but thicknesses of up to 60m are known in the Blackwater valley. The nature of these sediments depends on the origin of the ice sheets that deposited them. In the Blackwater valley the sediments are dominated by sandstone derived from ancient hills to the north. Similarly, in the upper reaches of the Bride valley, including the area in question here, the visible soils and stones are almost invariably derived from sandstone.

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### 2.1.2 Topography

The topography of County Cork is, of course, largely determined by the underlying geology and consists of a series of valleys and ridges running east to west with the main valleys being those of the rivers Bandon, Lee, Bride and Blackwater. Cork has more rivers than any county in Ireland with approximately 1,200km of main channel rivers and 2,000km of streams and drains. The principal watercourses aligned east west along the route of the proposed scheme are the Bride and Blackwater, although there are seven river/stream crossings in all. The water table in lowland areas is understood to be generally within 15m of the ground surface. The water table near the Bride and Blackwater Rivers is thought to be at depths of 3.5-6m and 3-4m respectively, (Hanley 2003).

The Mondaniel area is located on a gentle southeast-facing slope overlooking the Bride valley (Fig. 1). The increasingly hilly topography to the west is reflected in the surviving townland names Ballybrowney Mountain and Rathcormac Mountain, which lie 2Km to the southwest and 3Km to the west respectively, and the area is dominated by Corrin Hill, which rises to 219m OD approximately 3Km to the north. The drainage pattern of the area is one of small streams flowing southeastwards to the Bride River. The largest of these streams, the Shanowen River, flows through the townland of Mondaniel, approximately 300m northeast of the excavation site Mondaniel 2.

### 2.1.3. Soils and land use

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 of County Cork is farmed, with the greatest use being pasture along with hay, silage. The landscape of the N8 bypass route may be characterised as rolling pastoral farmland. Soil cover along the route may be characterised as glacial deposits, with some alluvial deposits in the river valleys and occasional pockets of peat in low-lying areas. Generally, the upland areas comprise of a 1.5m-3m cover of boulder clay over sandstone and siltstone bedrock. The lower lying valleys comprise of 7-8m of alluvial sands, silts, lays and limited glacial deposits. Geotechnical investigations along the Bride River, near Rathcormac, indicated the presence of medium dense gravels and sands, and stiff gravelly clays, of glacial origin, to 18m in depth. The alluvial material along the valley floor is bounded by high clay banks, possibly formed by boulder clay. Investigations in the Blackwater River valley indicate the presence of soft clays to around 4m in depth, overlying loose sandy gravels to around 7m in depth and very dense gravels (Hanley 2003).

Mondaniel and the surrounding townlands are today intensively farmed, being mostly in pasture, supporting dairying and cattle-rearing. However, much of the land in the area is of a somewhat wet and boggy nature and has required drainage to bring it to full productivity. There is evidence to suggest that the area was in fact quite marginal in terms of its agricultural usefulness prior to the

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advent of modern drainage techniques. Firstly, the initial element of the townland name itself, Mondaniel, suggests a bog, from the Irish word *móin*, for bogland or moor. Secondly, apart from two possible ringforts on the eastern side of the townland, most of Mondaniel, and the townlands to the south, west, and north, are singularly lacking in recorded archaeological sites of any period, as can be seen from the RMP maps of the area (Power et al, 1994), a fact which supports the suggestion that this was marginal land, not considered suitable for settlement.

## **2.2. The Human landscape**

### **2.2.1 The archaeological background (Fig. 5).**

The following account is not intended as an exhaustive list of archaeological sites in the vicinity of the route. Rather, it is intended to give a broad picture of settlement in the area over succeeding periods from the Mesolithic to the late medieval.

The Archaeological Inventory of Co. Cork records a total of 2,717 archaeological monuments for the East and South Cork area, through which most of the present road scheme will pass (for the purposes of the Inventory the East and South Cork area is encompassed by a line beginning c. 6Km west of Kinsale in the southwest, running approximately due north to the Nagle mountains, which forms the southern boundary of the Blackwater Valley, then running almost due east to the Waterford border). Of the 2,717 monuments 26.3% are Prehistoric, 44.5% are Early Medieval, of which ringforts are the most common, and 13.5% are Medieval, with the remainder being Post-medieval or not assigned to any particular period. The northern end of the scheme will pass through the eastern end of the North Cork area which stretches across north Cork, from the Waterford to the Kerry borders. In North Cork, the Inventory records 5,496 monuments, of which 41% are Prehistoric. 39% are Early Medieval and 8.5% are Medieval (Power et. al., 1994 & 2000).

### ***Mesolithic***

The earliest known human settlement in Ireland dates from the Mesolithic period (c. 7000BC-4000BC). Most known sites from that period are concentrated in the northeast of the country. In Munster, most of the evidence for Early Mesolithic occupation has 'come from the Blackwater valley in Co. Cork' (Woodman 1989, 116). Here, Mesolithic communities would have been able to exploit the rich resources of salmon and eel in the rivers, in addition, no doubt to the wealth of wild fruit and berries which would have been present along the fertile valley. There is no evidence that Mesolithic people built permanent structures. They lived a hunter-gatherer lifestyle, utilising stone tools made mainly from flint, which are now frequently the only surviving evidence of their settlements. Scatters of these flint tools have been found at four locations in North Cork. Two, CO18:99 at Ballynamona and CO18:100, at Wallstown are located in neighbouring townlands c.

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18Km from the present road route. The others, CO034:62 at Castleblagh, and CO034:60, at Kilcummer Lower, are located on the Blackwater, 10Km and 12Km respectively from the route. In the East and South Cork area five Mesolithic flint scatters are recorded, all concentrated on a short stretch of coastline to the east of Cork Harbour, and mostly on cliff-edge locations, again emphasising the importance of fishing to these communities.

### ***Neolithic***

After c. 4000BC, with the arrival of farming, human settlement became more permanent, thus the surviving remains of Neolithic settlement are more substantial than those of the preceding period. A major turning point in the history of Neolithic study in the south of Ireland came in the 1980's 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 (Gowen 1988). The Neolithic house at Barnagore on the route of the Ballincollig Bypass (Danaher 2004, 60) is only the second example excavated in County Cork. Early Neolithic carinated pottery was also found at two sites along that route, at Curraheen 1 and Ballinaspig 5.

### ***Bronze Age***

The Bronze Age (from c. 2500BC) is credited with having the most significant impact on the landscape 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 that 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).

The period of the Late Neolithic/Early Bronze Age sees a dramatic rise in the number and range of monument types. Of these wedge tombs, stone circles and standing stones are the most visible, while *fulachta fiadh* are the most numerous, with over two thousand examples having been recorded for County Cork alone (though these cannot all be definitely ascribed to the Bronze Age). Of the overall number of *fulachta fiadh* discovered, only a fraction has been scientifically excavated. Until relatively recently, many were looked at in isolation rather than within their wider settlement context. Internationally, burnt mounds are known from Scandinavia, Wales, Scotland, Orkney, the Shetland Islands and parts of Cumbria (Buckley 1990, 9). On the ground, the classic *fulacht fiadh* is a relatively low grassy mound of crescent or U-shaped plan. Ploughed-out examples reveal themselves as large spreads of burnt stone and charcoal in the ploughsoil. They are usually,

though not exclusively close to water, often a stream, lake, river or marsh. They sometimes occur in groups, clusters of two to six occasionally being located within quite a small area. *Fulachta fiadh* are recognised as having a number of consistent features: a mound of heat-fractured stones, a trough and traces of fires sometimes represented by a formal hearth.

A number of *fulachta fiadh* are listed in the Record of Monuments and Places in close proximity to the N8 Rathcormac-Fermoy Bypass route. In Skahanagh North townland, there is a cluster of three (CO053-091); four have been identified in adjoining fields in Ballinaltig (CO053-067, 68); three are listed at the base of Corrin Hill (CO035-050) and three are listed in adjoining fields (CO035-058, 068, 070). There are two in the townland of Coolcarron (CO035-75, 077), one at Ballyoran (CO035-057) and one at Ballynoe (CO035-081).

Seven examples were excavated along the route of the N8 Glanmire-Watergrasshill Bypass, immediately south of the present scheme (Purcell, 2003).

Wedge tombs and stone circles are most common in the extreme southwest of Ireland, though a group of around fifty wedge tombs is present on the ridge and valley topography of the upper Lee valley basin and surrounding landscape of mid Cork (O'Brien, 1999). Few are known from the north and east Cork areas. Approximately 12km northwest of Fermoy on the Glanworth road, there is a large wedge tomb in the townland of Labbacallee (CO027-086) and another some 2Km to the north, at Manning (CO027-091). Approximately 8km east of the village of Watergrasshill is the ruinous wedge tomb at Rathaneague (CO054-007).

Some 40 Bronze Age burial sites have been recorded in the North Cork area (Power 2000, 184-202). By contrast, a total of only 9 have been recorded in East and South Cork (Power 1994, 55-59). Corrin Hill, which dominates the landscape of North Cork for miles around takes its name from the *cairn*, a substantial mound of stones, which crowns its summit. The cairn was subjected to amateur excavation in the 1830's, during which a double-compartmented cist burial with a capping stone was found. Two pottery vessels were found within, one of which survived intact, but is now lost (Doody 1999, 103)

Several Bronze Age cemetery sites are known from the North Cork region. Excavations at Moneen, (CO027-160), 2km west of the aforementioned Labbacallee wedge tomb, revealed four rectangular cists underneath a cairn enclosed by kerbstones laid on edge, (Power, 2000, 195). Further west from Moneen another cemetery was excavated at Ballyenahan North. This flat cemetery, (CO018-051) had a probable total of seventeen graves found, of which six were excavated. Finds included vessels and a bronze dagger, (Power et. al. 2000, 197).

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During excavations along the route of the N8 Glanmire-Watergrasshill Bypass, three Bronze Age cremation pits were excavated, two in the townland of Killydonoghoe, close to a Bronze Age house, and one isolated cremation pit at Mitchellsfort (Sherlock, 2003).

Ring-barrows and ring-ditches are another site type of the Bronze Age, though numerous excavated examples have also been dated to the Iron Age, indicating a long continuation of this type of burial monument (Waddell 1998, 365-8). While only two ring-barrows are recorded from the East and South Cork area, 102 are known from North Cork. There are examples of ring-ditches close to the route, for example, at Cregg North, west of the town of Fermoy, where a linear series of four similar sized ring ditches (CO035-013/02-05), each with a diameter less than 10m, may be the remains of a linear barrow cemetery.

By contrast with the extensive evidence for Bronze Age burial in the area, settlement of the same period is virtually non-existent in North and East Cork, apart from a house (CO25:99:01) at Cloghlucas, north of Mallow, another (CO75:77) at Foaty, on Fota Island in Cork Harbour, and a third, excavated at Killydonoghoe, on the route of the N8 Glanmire-Watergrasshill Bypass, directly south of the present scheme (Sherlock, 2003). Traces of Bronze Age settlement were also found at the excavation of an Early Medieval ringfort (CO27:158) at Lisleagh, c. 5Km from the present scheme.

Standing stones, either single, in pairs, or rows are also believed to date from the Bronze Age. While they are most common in West Cork, 130 examples are recorded from East and South Cork and 348 from North Cork. In the vicinity of the present road scheme four single stones are recorded in the Castlelyons area, and two in the Bartlemy area, a further two to the southwest of Watergrasshill, while a single stone and a pair are recorded at Knockeenagroagh, all within c. 5Km of the route.

Another class of monument which dates to the latest Bronze Age and continued into the Iron Age, is the hillfort, of which there are two in the vicinity of the present scheme, one (CO035-049) on Corrin Hill surrounding the Bronze Age cairn and another (CO019-097/03) on Caherdrinny, south of the town of Mitchelstown. Both are in prominent hilltop positions with commanding views over the surrounding landscape.

### ***Iron Age***

The Iron Age (from c. 500BC) 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 region. Settlement

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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 limited. Linear earthworks, which are believed to have marked tribal boundaries are one of the most visible monuments of the period. One such boundary, the *Claidh Dubh*, traverses north Cork from the Ballyhoura Hills in the north to the Nagles Mountains in the south, crossing the Blackwater c. 11Km west of Fermoy. Radiocarbon dating following excavation of a section of it revealed it dated to some time before 100AD (Doody 1995, 23). Two short sections of linear earthwork are known from East Cork, c. 3Km west of Middleton.

### ***Early Medieval***

One of the most common archaeological monuments in the country is the ringfort, the enclosed, defended homestead of the Early Medieval period (from c. 500AD). These sites are usually situated on gentle slopes with good views of the surrounding countryside. Souterrains, underground chambers linked by passageways, are frequently found within them.

As a site type the ringfort is well represented within the environs of the N8 roadway, though it has been noted that the density of ringforts in South Munster generally is slightly lower than the national average, with significant concentrations on the valley sides (Stout 2000, 74). This pattern of distribution is replicated within the present route area, with noticeable concentrations around the southern end of the route, on higher, sloping ground overlooking the Bride Valley. In Skahanagh North and South, for instance, two are extant, with a further four possibles known from cartographic evidence and tradition. Similarly, in Scartbarry, immediately to the north, four possible sites are known, from cartographic evidence and aerial photography.

Further north along the route, on the valley floor, the density of ringforts is much lower, though a cluster of four possible sites, all now levelled, is known at Mondaniel, Corrin and Kill-St-Anne North townlands on the gently rising ground to the north of the valley.

Few ringforts are known around the northern end of the route, and again they are concentrated on the higher ground overlooking the valley, as at Carrignagrohera and Garraunigarinagh. Tradition records a possible ringfort at Rathealy, but its location is now unknown.

Early Ecclesiastical Enclosures also date to this period and could be regarded as the sacred counterparts of the secular ringforts.

Tradition records the site of an ancient church in Kilbrien townland (Power 1923, 190) and another in the townland of Ballynoe, on the northern side of Corrin Hill (op. cit. 78), but both sites are now lost. Others are known at Ballinaltig, c. 1Km west of the present route, Kilamurren, c. 4Km east of the route, and Desert, c. 6Km east of the route.

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### ***Medieval***

The onset of the medieval period is generally taken to begin with the arrival of the Anglo-Normans in the late 12<sup>th</sup> century. In terms of archaeological sites the period is marked by the construction of mottes, moated sites, castles and churches, though many of the latter were probably built on the sites of earlier churches. Earthwork fortifications of this period are surprisingly rare in the east and north Cork areas, considering that the area was intensively settled by the Anglo-Normans. A moated site is known at Coolmucky, c. 2.5Km west of the present route, and another was excavated on the route of the N8 Glanmire-Watergrasshill Bypass at Ballinvinny South, c.6Km south of the present route (Cotter 2003, 27).

A motte-and-bailey castle may have been constructed in Lisnagar Demesne, immediately west of Rathcormac, where a manor was established by the MacAdam Barrys in the 13<sup>th</sup> century. A large earthen mound, known locally as ‘the Alps’, which survived until recent times, may have been the remains of this motte.

Stone castles, while present in the area, are not very numerous, perhaps indicating that the Norman Barrys met little resistance in their conquest of the area.

Early stone castles survive at Licklash, east of Fermoy town, where there are the ruins of a possible 13<sup>th</sup> century hall with an added 16<sup>th</sup> century tower, and at Ballyderown, 4Km northeast of Fermoy. Similarly at Castlelyons, there are elements of the original 13<sup>th</sup> century castle surviving among the 17<sup>th</sup> century additions. Fragmentary remains of a castle of uncertain date survive at Shanaclogh, west of Rathcormac, (CO044-020).

Medieval church sites are known at Kilcrumper (CO027-114/02), in Lisnasallagh townland, in Rathcormac village, where the site is now occupied by the Church of Ireland church, and at Castlelyons, where some medieval remains still survive.

Substantial remains of a medieval monastery survive at Castlelyons, and a monastery is known to have existed at Fermoy. No trace of the latter now survives but its location is suggested by the street name ‘Abbey Street’.

In the later medieval period, the tower house (a relatively plain structure of three or more storeys in height) became the principle dwelling type for the wealthy landowning classes. These monuments are numerous in the North Cork area, where they reflect the continuous feuding between the Roches and Condons (Nicholls 1993, 185). In the vicinity of the present road route examples are found at Garraunigarinagh (CO027-101), at Ballynahow (CO027-107) and Moorepark (CO027-107) on the Funshion River, and at Castleyde East (CO035-015) and Cregg North (CO035-014) on the Blackwater. A five-storey circular tower house (CO035-027/02) is located at Carrigabrick, c. 0.5Km from the route.

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**The Mondaniel area** (Fig. 5)

The townland of Mondaniel contains only three recorded monuments. One of these, CO044:06, is a vernacular house, which survives as a ruin. The others, CO044:07 and CO044:08 are located towards the eastern end of the townland and are recorded as 'possible ringforts' (Power 1994, 145). They were recorded in the early 20<sup>th</sup> century as 'two large lioses, both polygonal in plan' (Power 1923, 191), but both are now levelled. The closest of these to the proposed road is CO044:07, which is located a little over 1Km to the east of the road. There are no recorded monuments in Kilbrien, the townland to the immediate south and west, though its name suggests the former presence of a church site, and the approximate location of a church was apparently known until recent times (Power 1923, 190). Ballynahina, to the north, has only one recorded monument, a possible ringfort, now levelled, near the northern boundary of the townland. This dearth of archaeological sites is repeated in townlands further west and, as noted above (Par. 2.1.3), might be an indication that this area was marginal land, with settlement sites confined to the lower, more productive land to the east and south, where there is a marked increase in the density of recorded monuments. As will be seen below the features excavated at Mondaniel 2 are interpreted as charcoal-production pits, features which one might indeed expect to find in marginal or wooded areas where the raw material, timber, was easily accessible.

**3. EXCAVATION RESULTS****3.1 Excavation methodology**

Topsoil stripping on this site was carried out by machine equipped with a grading bucket. Spoil was moved by dumper and was stored on archaeologically sterile areas within the limits of the site. Two separate areas were stripped and investigated (Areas A and B, Fig. 2). All potential archaeological features exposed within the cuttings were carefully cleaned and recorded (by plan, photographs, levels, feature sheets etc.) and excavated by hand. Each feature (cut feature, fill, layer, deposit, spread, built feature etc) was assigned a Context number. All Contexts were numbered sequentially from 1 to infinity within each site; i.e. C12 represents feature 12. Where appropriate, soil samples and charcoal samples were taken in an effort to obtain a date and function for the various features. All finds were numbered according to the requirements of the National Museum of Ireland from 1 to infinity according to licence number and feature number; i.e. 03E0985:12:4 represents find number 4 within feature number 12 in Mondaniel 2, which was excavated under licence number 03E0985. Upon completion of excavation all cuttings were surveyed using GPS equipment and only areas within the CPO were resolved.

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### 3.2 Stratigraphic Report

A total of 138 contexts was recorded in this excavation (see Appendix 1 for details). Upon investigation, many of these features were deemed to be of no archaeological significance, either because they were natural features, or were probably a result of tree or scrub removal, or were obviously modern features such as cultivation furrows. The remainder, 50 in all, were deemed to be of archaeological significance and were arranged in groups according to the features to which they were related.

**Group 1 (C29, C74)** was a pit from which a sherd of Late Bronze Age pottery (see Appendix 4) was recovered. The pit, C29, was sub-circular in plan, and measured 0.65m in diameter, and 0.26m deep. Its fill, C74, was a dark brown sandy loam. The feature had been cut by **F25**, a linear ditch that ran approximately east-west across the site (Fig. 6, Pl. 6).

**Group 2** comprised four discrete pits (**C8, C47, C57** and **C107**) and their associated fills.

The first pit, **C8**, was circular, 1.2m in diameter, and 0.15m deep (Fig. 6, Pl. 2). The base of the pit was a red/orange hue, indicating burning had taken place within it. The lower of its two fills, **C90**, was a layer of dense charcoal, while the upper, **C89**, was a sandy clay with some charcoal (Fig. 9).

The second pit, **C57**, was oval in plan, and measured 1.74m x 0.57m, x 0.21m deep (Fig. 8). It contained three fills (Fig. 9, Pl. 1). The lowest, **C56**, was a layer of red oxidized clay that had clearly been subjected to intense heat. The layer above, **C55**, was a layer of black silt with a very high charcoal content. **C54**, the upper layer, was a sandy clay with some charcoal.

The third pit, **C107**, was sub-circular in plan, and measured 1.2m x 0.88m, and 0.05 deep, and its base had been burnt (Fig. 8, Pl. 4). The single fill, **C106**, was a grey/brown sandy layer with frequent charcoal. Its shallowness suggests that it had been truncated by later agricultural activity

The fourth pit, **C47**, was circular in plan and measured 0.45m in diameter 0.07m deep (Fig. 7, Pl. 3). It had a single fill, **C6**, which was a black silty layer with a high content of charcoal, and with a thin lense of burnt clay at its base. It was much smaller than the other pits though its fill was similar to theirs. Its size is similar to that of a smelting furnace, but no definite evidence of smelting was found. On balance it is likely to have been a charcoal production pit which was never as deep as the others and which was subsequently severely truncated by agricultural activity.

All four of these pits are interpreted as charcoal production pits, in which wood was burned in a controlled process to produce charcoal for use in metal smelting furnaces. A radiocarbon date of 630±50 BP was obtained from a charcoal sample taken from C90, the lower fill of C8. This calibrates to a calendar age of AD 1280-1420.

**Group 3** (Fig. 6, Pl. 5) comprised a cluster of four possible postholes (**C30, C32, C33, C100**) and their associated fills. The postholes were irregularly shaped in plan and ranged from c. 0.25m to c. 0.6m in diameter with an average depth of 0.13m deep, suggesting they were never very substantial features. Indeed, the irregular shape in plan and profile of **C30** and **C33** in particular makes their identification as postholes somewhat uncertain. Together, the four features form a rectangle approximately 2m east-west x 1m north-south, but it is not certain if they formed a definite structure.

**Group 4** (Fig. 6) comprised a group of possible postholes (**C52, C61, C134**) and their associated fills. Three of the postholes formed a linear pattern, with C61 located a short distance to the northeast. However, C61 is steeply undercut at one point on its west side, while C134 slopes steeply to the east. This irregular profile makes their identification as postholes tentative and no positive identification of the features is possible.

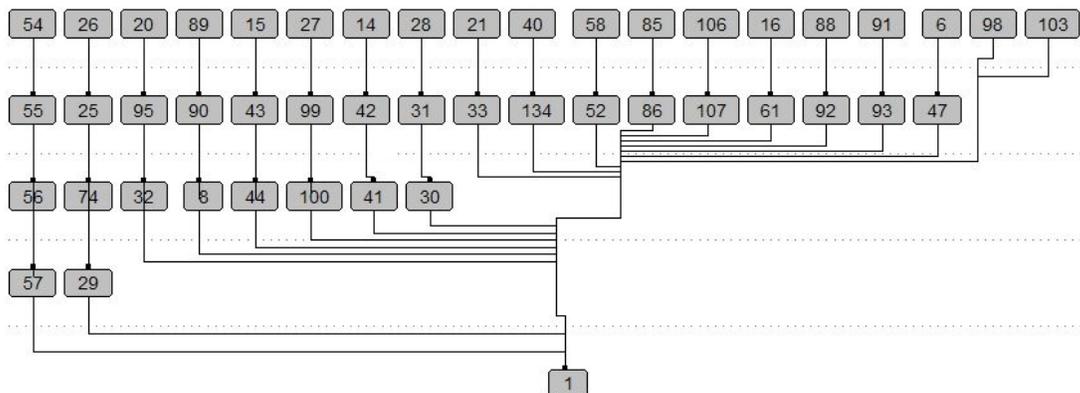
**Group 5** (**C88, C91, C92, C93**) comprised two parallel ditches running approximately northwest-southeast at the northeastern end of Area A (Fig. 7). These ditches formed a field boundary which is depicted on the 1<sup>st</sup> and 2<sup>nd</sup> ed. 6” OS map for the area. (Figs 3, 4), but which is now demolished.

Other features on the site were isolated features, which could not be assigned to any particular period and for which no positive interpretation could be attempted (**C41, C86, C98, C103**), or which represented modern occurrences (**C122, C123, C124, C125**).

**The matrix diagram**

Table 1 below shows in diagrammatic form the associations between the archaeological contexts for which stratigraphic relationships could be established, progressing downwards from most recent to earliest. Contexts on the same level may be, but are not necessarily, contemporaneous. Generally it was impossible to establish a stratigraphic relationship between most of the separate features on site.

Table 1: The stratigraphic matrix for Mondaniel 2.



### 3.3 Artefactual evidence

Material	Type	No. of pieces	Context
Ceramic	Prehistoric pottery	1	29 (74)
	Post-med pottery	3	Topsoil
	Clay pipe	1 fragment	Topsoil
Stone	Flint debitage	6	108
	Flint flake	1	109
	Struck chert	1	108

A small number of artefacts were recovered from the site, as detailed in Table 2 above. Most of the pottery was post-Medieval/early Modern material recovered from the topsoil. One sherd was, however, identified as belonging to the Late Bronze Age, between 1200BC and 800BC (see Appendix 4).

The lithics assemblage from the site comprised seven pieces of flint debitage and one piece of struck chert (see Appendix 5 for details). Six of the flint pieces were identified as having come from the same source material and may have been the result of a single episode of tool production. All the lithic pieces were, however, recovered from the fills of C115, an anomalous pit which did not appear to be man-made and is identified as probable tree-root disturbance.

### 3.4 Environmental evidence

Sample No.	Context No.	Weight of sample	Species
2	2	195gram	Oak
6	8	57gram	Oak

Context No	Sample No	Weight before flotation	Type and quantities of material recovered
C2, 3 bags	2	6.826kg	Charcoal 195gr
C90	6	3.363kg	Charcoal 57gr

Two soil samples retrieved from the site were subjected to analysis by flotation in order to recover environmental material for further analysis. Both samples were taken from the fill of charcoal production pits, which were subsequently dated to the Medieval period. However, the only material recovered was charcoal, which, in both cases, was submitted for identification (see Appendix 3 for details). In both cases the charcoal was identified as oak. While it is not possible to draw definite conclusions regarding the background environment from just two samples, it does seem that oak was exclusively used in the pits, suggesting that there was a plentiful supply of oak in the vicinity.

### **3.5 Dating evidence**

One charcoal sample, no. 6, recovered from C90, the lower fill of the charcoal production pit, C8, was submitted for radiocarbon dating (see Appendix 6 for details). It returned a dated of cal AD 1280-1420, providing a Medieval context for the three charcoal production pits on the site.

One sherd of prehistoric pottery was recovered from the site, and has been dated to the Late Bronze Age (see Appendix 4).

The dating evidence thus clearly indicates two distinct phases of human activity on the site, one dating to the period 1200-800 BC, the other to 1280-1420 AD.

### **3.6 Stratigraphic sequencing**

This section outlines the likely sequence of human activity on the site.

The stratigraphic sequencing will remain tentative, at best, for some of the features on the site, as they are unidentifiable and cannot be assigned to any time period. Sequencing is based on stratigraphic, artefactual, and radiocarbon dating evidence.

A total of thirteen finds was recovered from the site. Of these, four were post-medieval in date and were recovered from the topsoil and can therefore, from a stratigraphic point of view, be discounted. Of the remaining nine, eight were pieces of flint debitage, all recovered from two contexts, C108 and C109. Both of these contexts were ultimately contained within C115, which was an irregular depression measuring approximately 2.24m x 1.4m x 0.19m deep. The sides and base were so irregular as to suggest that the depression was caused by the uprooting of a tree rather than a deliberate, man-made cut, and the fills of the depression were similarly mixed with patches of redeposited natural mixed with inclusions of sandy clay containing charcoal fragments.

The feature bears no obvious relationship to any other on site and, from a stratigraphic point of view, must therefore be discounted.

The final artefact recovered, a sherd of Late Bronze Age pottery, was found in a pit, C29. This pit had been cut by a linear ditch, C25. This fact provides a stratigraphic relationship between the two, but not with any other feature on the site. It also tells us little in terms of actual dating, except that the pit may date to the Late Bronze Age. However it could equally be later and the pottery could have become incorporated into the fill of the pit at any later period. The ditch could date to any subsequent period, up to modern.

Three phases can be tentatively identified:

#### **Phase 1**

This is the earliest identifiable phase of human activity on the site. It is represented by the pit, C29, in which the sherd of Late Bronze Age pottery was found, and the feature C115, which, though not

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identifiable as an archaeological feature, did contain an assemblage of flint artefacts, which may be regarded as representing human activity on the site.

### **Phase 2**

On the basis of their similarity, the features identified above as Group 2 can be taken as representing one phase of activity, dating to the Medieval period. These were the charcoal production pits, C8, C57 and C107.

### **Phase 3**

This phase is represented by the linear ditch that runs approximately east-west across the site and cuts C29. Its date is unknown, but it may represent medieval or post-medieval field enclosure.

### **Phase 4**

The final phase of activity consists of two parallel ditches. These are the remains of a field boundary that survived until recent times and is depicted on the 1935 edition of the 6" OS map. In common with most extant field boundaries in the area, it is likely to have been constructed in the eighteenth or nineteenth century.

## **4. DISCUSSION**

The evidence of the excavation is that there was no long-term human settlement in this area, and that the features excavated represent occasional sporadic phases of activity on the site over a long chronological timeframe.

### **Bronze Age activity**

The earliest identifiable evidence of human activity on the site dates to the late Bronze Age. Evidence of earlier activity was, however, found in the nearby excavation at Mondaniel 1, c. 200m to the north, in the form of three sherds of Late Neolithic/Early Bronze Age pottery. A likely hypothesis is that the area was marginal land and was unused until then, when it was perhaps used for limited agricultural purposes which left little imprint on the archaeological record. A radiocarbon date of 1760-1420 cal BC from a Fulacht Fiadh at Kilbrien, c. 120m to the southwest, further confirms sporadic activity in the area throughout the Bronze Age. The settlement from which this activity extended is likely to have been in the lower land further to the south, closer to the rivers. It may have been at Ballybrowney, c. 2.5Km to the south, where an extensive Middle-Late Bronze Age settlement was excavated. There is ample evidence of extensive Bronze Age settlement in the wider East Cork area (discussed in Par. 2.2.1 above and, in terms of the pottery, in Appendix 4 below). While it seems unlikely there was permanent Bronze Age settlement in the immediate Mondaniel area, it is likely that the area formed part of the wider catchment area of Bronze Age communities living on the adjacent valley floors of the Bride and Blackwater rivers.

Geographically, Mondaniel is located c. 3Km southwest of a narrow pass connecting the Bride

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River valley to the south, and the Blackwater valley to the north (Fig. 1). The pass, and the countryside around, is dominated by Corrin Hill, whose summit is crowned by a substantial Bronze Age cairn. Bronze Age activity is well documented in the Blackwater valley, mainly in funerary contexts, in the form of the wedge tombs at Labbacallee and Manning and burials found at Ballinvoher, Ballynahow and Castlehyde (Power et al, 2000). A Bronze Age wedge tomb also occurs at Rathaneague, to the south of the Bride Valley and Bronze Age burials are known further south at Oatencake, Ballyvorisheen and Castlerichard (ibid., 1994). The evidence of limited activity in this period from the excavations at Mondaniel 2 and the nearby excavations at Mondaniel 1 and Kilbrien could therefore be taken to indicate movement along routeways between settlement nodes along the Blackwater and Bride valleys and the coastal lowlands to the south.

### **Medieval activity**

No further evidence of activity in the area was identified until the medieval period, when limited activity in the form of charcoal production for use in metal smelting took place. Again, this is an activity likely to have been conducted in areas of marginal land, or close to woodland, away from the focus of settlement. Similar pits were found in the excavation at Mondaniel 1, c. 200m to the north.

In the past, from prehistoric times, and down to the 20<sup>th</sup> century in parts of Russia, charcoal was the preferred fuel for burning in metal smelting furnaces (Pleiner 2002, 119). It was a more practical fuel than wood since it had the capacity to produce much greater heat for a smaller volume of material (op. cit., 116).

The basic principal behind the charcoal pit was that wood burnt in an enclosed environment was slowly reduced to charcoal, rather than burning to ash as would happen in an open fire. To this end a pit of about 1m in diameter and depth was dug and filled with pieces of wood piled up within it. A vertical aperture was left in the centre of the pile, which was then covered and plastered over with mud, or sealed with sods. The wood was ignited through the central aperture and allowed to burn slowly, for 8-10 hours. The clay cover was then removed and the charcoal retrieved for use in the furnace (op. cit., 121).

Peat is also known to have been used to produce charcoal and it has been suggested (Scott 1990, 167) that different charcoals were used for different purposes –hardwood charcoals for smelting, peat charcoals for bloomsmithing and forging.

Following this brief period of activity, which may have contributed to the clearance of woodland in the vicinity, the area again reverted to farmland, and the only subsequent indicators of human activity on the site are the ditches, evidence of field enclosure and more intensive land use in the post-medieval/early modern period.

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## 5. ARCHAEOLOGICAL POTENTIAL AND SIGNIFICANCE

There was no evidence that the site extended beyond the limits of the excavated area. However, given that the principal features on the site were pits presumed to have been used to produce charcoal for use in smelting furnaces, there is a strong possibility that remains of these furnaces may survive outside the roadtake.

The archaeological findings at Mondaniel, while limited in scale, are nevertheless useful indicators of human activity in the area during the Middle Bronze Age. Taken in conjunction with the recovery of sherds of Early Bronze Age pottery from the nearby excavation at Mondaniel 1, and a *Fulacht* Fiadh dated to the Middle Bronze Age at the neighbouring excavation at Kilbrien 1, it indicates human activity in the general area throughout the Bronze Age. In terms of its probable location adjacent to prehistoric routeways, it does contribute to our understanding of Bronze Age settlement in the area.

The finding of charcoal production pits, coupled with the excavation of similar features at Mondaniel 1, suggest the area was wooded, or close to woodland, in the Medieval period, since it would have been practical to produce the charcoal close to the source of timber. This again points to the area as having been peripheral to settlement cores, which, in the Medieval period as in the Bronze Age were likely to have been located in the nearby river valleys.

## 6. CONCLUSION

Evidence of archaeological activity at Mondaniel 2 was first uncovered during archaeological testing of the route of the proposed N8 Rathcormac/Fermoy Bypass, when three features identified as two possible hearths and a pit were noted. Full archaeological resolution of the site was completed in July 2003, when four charcoal-production pits and a number of other indeterminate features were excavated. Radiocarbon dating of a charcoal sample from one of the pits dated them to cal AD 1280-1420. The occurrence of these features here, as well as on the nearby excavation at Mondaniel 1, suggests that this area was wooded, or close to woodland, in the Medieval period, since charcoal burning was more likely to have been carried out close to the source of its raw materials, timber.

Ephemeral evidence of Bronze Age activity on the site was also present in the form of one sherd of Late Bronze Age pottery recovered from an isolated pit. This pottery, combined with the occurrence of Early Bronze Age pottery at nearby Mondaniel 1, and the excavation of a Middle Bronze Age *Fulacht* Fiadh at nearby Kilbrien 2 indicates human activity in the area throughout the Bronze Age. Given the paucity of contemporary features however it likely that this activity was of a transient nature and suggests that the Mondaniel/Kilbrien area lay on a routeway between settlement nodes on the Blackwater and Bride river valleys and was the scene of sporadic, transient activity between these nodes.

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

Signed:



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December 2005

### Appendix 1 – List of recorded contexts

Mondaniel 2 – List of contexts										
Context No	Cut/Fill	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Structure/ Group	Artefacts	Envir. Samples	
1		NATURAL SUBSOIL								
2 (=54)	Fill	57	55	Topsoil	Sandy clay with some charcoal	Upper fill of charcoal production pit	I		No. 2 Soil	
3	Fill	69	TREE ROOT DISTURBANCE							
4	Fill	AGRICULTURAL FURROW								
5	Fill	NON-ARCHAEOLOGICAL								
6	Fill	47	47	Topsoil	Black, high charcoal content, oxidised clay at base	Fill of possible charcoal production pit	IV			
7	Deposit	NON-ARCHAEOLOGICAL								
8	Cut	89, 90	1	90	Circular, 1.2 diam., 0.15 deep	Cut of charcoal production pit	II			
9	SAME AS C8									
10	Fill	NON-ARCHAEOLOGICAL								
11	Fill	NON-ARCHAEOLOGICAL								
12		NON-ARCHAEOLOGICAL								
13		NON-ARCHAEOLOGICAL								
14	Fill	41	42	Topsoil	Sandy clay with charcoal flecks	Upper fill of posthole C41				
15	Fill	44	43	Topsoil	Brown sandy clay with charcoal flecks	Upper fill of C44	VI			
16	Fill	61	61	Topsoil	Brown sandy clay with charcoal flecks	Only fill of posthole C61	VI			
17	Fill	63	NON-ARCHAEOLOGICAL							
18	Deposit	?	?	Topsoil		Poss. posthole, assoc. with 52	VI			
19	Fill	35	NON-ARCHAEOLOGICAL							
20	Fill	32	32	Topsoil	Dark brown silty clay	Fill of posthole C32	III			
21	Fill	33	33	Topsoil	Dark brown silty clay	Fill of poss. Posthole C33	III			
22	Fill	NON-ARCHAEOLOGICAL								
23	Fill	NON-ARCHAEOLOGICAL								
24		Entry unclear								
25	Cut	26	1	26	0.9m wide, 0.2m deep	Linear ditch, prob. field boundary				
26	Fill	25	25	Topsoil	Orange/brown silty clay	Fill of boundary ditch				
27	Fill	100	99	Topsoil		Upper fill of C100	III			
28	Fill	30	31	Topsoil	Silty clay	Upper fill of C30	III			

Mondaniel 2 – List of contexts										
Context No	Cut/Fill	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Structure/ Group	Artefacts	Envir. Samples	
29	Cut	74	1	74	Sub-circular, 0.65 diam., 0.26 deep	Pit, cut by ditch C25	VIII	No 1 prehistoric pot		
30	Cut	28, 31	1	31	Oblong, 0.51 x 0.18 x 0.14 deep	Poss. Posthole, assoc. with 32, 33, 100	III			
31	Fill	30	30	28		Lower fill of C30	III			
32	Cut	20	1	20	Circular, 0.27 diam., 0.14 deep	Fill of posthole, poss assoc. with 30, 33, 100	III			
33	Cut	21	1	21	Oval, 0.61 x 0.32 x 0.12 deep	Posthole poss. Assoc. with 30, 32, 100	III			
34	Fill	35	NON-ARCHAEOLOGICAL							
35	Cut	34, 19	NON-ARCHAEOLOGICAL							
36	Fill	68	NON-ARCHAEOLOGICAL							
37	Fill	Same as C36								
38		NON-ARCHAEOLOGICAL								
39		NON-ARCHAEOLOGICAL								
40	Fill	134	134	Topsoil	Dark brown silty sand	Fill of poss stakehole assoc. with 18, 52, 44	VI			
41	Cut	14, 41	1	42	Sub-circular, 0.32 x 0.4 x 0.29 deep	Isolated posthole				
42	Fill	41	41	14	Silty clay	Lower fill of posthole C41				
43	Fill	44	44	15	Orange/brown with charcoal flecks	Lower fill of 44	VI			
44	Cut	15, 43	1	43	Irregular oblong, 0.75 x 0.43, 0.07 deep	Uncertain, poss. non archaeological	VI			
45	Fill	Modern furrow								
46	Fill	Modern furrow								
47	Cut	6	1	6	Circular, 0.45m diam., 0.07 deep	Possible charcoal production pit	IV			
48	Fill	44	Same as 15							
49	Fill	44	Same as 15							
50	Fill	NON-ARCHAEOLOGICAL								
51	Fill	NON-ARCHAEOLOGICAL								
52	Cut	58	1	58	Circular, 0.11 x 0.1, 0.13 deep	Posthole associated with 18	VI			
53	Deposit	62	NON-ARCHAEOLOGICAL							
54 (=2)	Fill	57	55	Topsoil	Sandy clay with some charcoal	Upper fill of charcoal production pit	I			

Mondaniel 2 – List of contexts									
Context No	Cut/Fill	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Structure/ Group	Artefacts	Envir. Samples
55	Fill	57	54	56	Black with very high charcoal content	Second fill of charcoal production pit	I		
56	Fill	57	57	55	Red/pink oxidised clay layer	Lowest fill of charcoal production pit	I		
57	Cut	54, 55, 56	1	56	Oval, 1.74 x 0.57, 0.21 deep	Charcoal production pit	I		
58	Fill	52	52	18	Dark brown silty sand	Fill of posthole assoc. with 18	VI		
59	Fill	73	Modern furrow						
60	Cut	81	1	81	Circular, 1.1 diam., 0.13 deep	Non archaeological?			
61	Cut	16	1	16	Circular, 0.38 x 0.35, 0.19 deep	Posthole, one of poss. Group	VI		
62	Cut	53	NON-ARCHAEOLOGICAL						
63	Cut	17	NON-ARCHAEOLOGICAL						
64	Fill	75	NON-ARCHAEOLOGICAL						
65	Fill		Same as 66						
66	Fill	76	NON-ARCHAEOLOGICAL						
67			NON-ARCHAEOLOGICAL						
68	Cut	36	NON-ARCHAEOLOGICAL						
69	Cut	3	NON-ARCHAEOLOGICAL						
70	Cut	71, 72	NON-ARCHAEOLOGICAL						
71	Fill	70	NON-ARCHAEOLOGICAL						
72	Fill	70	NON-ARCHAEOLOGICAL						
73	Cut	59	Modern furrow						
74	Fill	29	29	25	Dark brown sandy loam	Fill of pit cut by C25, a boundary ditch	VIII		
75	Cut	64	NON-ARCHAEOLOGICAL						
76	Cut	66	NON-ARCHAEOLOGICAL						
77	Cut	67	NON-ARCHAEOLOGICAL						
78	Fill		NON-ARCHAEOLOGICAL						
79	Fill		NON-ARCHAEOLOGICAL						
80	Fill		NON-ARCHAEOLOGICAL						
81	Fill	60	60	Topsoil	Mixed lenses of burnt clay, frequent charcoal	Poss non archaeological			
82	Cut	87	NON-ARCHAEOLOGICAL						
83	Cut	38	NON-ARCHAEOLOGICAL						
84	Cut	39	NON-ARCHAEOLOGICAL						
85	Fill	86	86	Topsoil	Clayey silt	Fill of C86			
86	Cut	85	1	85	Sub-circular, 0.13 x 0.12, 0.175 deep	Isolated stakehole			
87	Fill	82	NON-ARCHAEOLOGICAL						
88	Fill	92	92	Topsoil	Silty clay	Fill of modern ditch	VII		
89	Fill	8	90	Topsoil	Charcoal-rich layer	Upper fill of charcoal production pit	II		

Mondaniel 2 – List of contexts									
Context No	Cut/Fill	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Structure/ Group	Artefacts	Envir. Samples
90	Fill	8	8	89	Layer of dense charcoal	Lower fill of charcoal production pit	II		No. 6 Soil
91	Fill	93	93	Topsoil	Sandy silt	Fill of modern ditch	VII		
92	Cut	88	1	88	0.85 wide, 0.2m deep	Modern boundary ditch	VII		
93	Cut	91	1	91	1.05m wide, 0.16m deep	Modern boundary ditch	VII		
94	Fill		NON-ARCHAEOLOGICAL						
95	Fill	32	32	20?		Fill of posthole, poss assoc. with 30,33, 100	III		
96	Cut	15	1			Prob. not archaeological			
97	Cut	79	NON-ARCHAEOLOGICAL						
98	Cut/Fill		1	Topsoil	Circular, 0.23 diam., 0.15 deep	Isolated posthole			
99	Deposit	100	100	27	grey/brown silty clay	Lower fill of posthole C100	III		
100	Cut	27, 99	1	99	Sub-circular, 0.25 x 0.19, 0.12 deep	Posthole, poss. Assoc. with 30, 33, 95	III		
101	Fill		NON-ARCHAEOLOGICAL						
102	Fill		NON-ARCHAEOLOGICAL						
103	Cut/Fill		1	Topsoil	Circular, 0.17 diam., 0.27 deep	Isolated posthole			
104	Cut/Fill		NON-ARCHAEOLOGICAL						
105	Cut/Fill		NON-ARCHAEOLOGICAL						
106	Fill	107	107	Topsoil	Grey/brown sandy layer with frequent charcoal	Fill of pit C107	V		7 & 8 charcoal
107	Cut	106	1	106	Sub-circular, 1.2 x 0.88, 0.05 deep, base oxidised	Possible charcoal production pit	V		
108	Fill	109						Nos. 3-9 Flint	
109	Cut	108						No. 2 flint	
110	Fill	115							
111	Fill	115							
112	Fill	115							
113	Fill	115							
114	Fill	115							
115	Cut								
116	Fill	117	NON-ARCHAEOLOGICAL						
117	Cut	116	NON-ARCHAEOLOGICAL						
118	Fill	?	Nos. given to box section through C92						
119	Cut								
120	Fill	121	No context sheets						
121	Cut	120							

Mondaniel 2 – List of contexts									
Context No	Cut/Fill	Fill of/ Filled with	Strat above	Strat below	Description	Interpretation	Structure/ Group	Artefacts	Envir. Samples
122	Deposit	125	123	Topsoil	Mixed silt and burnt lime	Modern, poss. lime kiln waste			
123	Deposit	125	124	122	Burnt soil and lime				
124	Deposit	125	125	123	Sandy silt				
125	Cut	122, 123, 124	88	124	Shallow cut, cutting modern field ditch	Area cleared to dump lime kiln waste			
126	Cut/Fill		1	Topsoil	Oblong cut, 0.21 diam., 0.11 deep, frequent charcoal in fill	Uncertain, possibly non archaeological			
127	Cut/Fill		1	Topsoil	Circular cut, 0.24 diam., 0.07 deep, frequent charcoal in fill				
128	Fill		NON-ARCHAEOLOGICAL						
129	Fill		NON-ARCHAEOLOGICAL						
130	Cut/Fill		NON-ARCHAEOLOGICAL						
131	Cut/Fill		NON-ARCHAEOLOGICAL						
132	Cut/Fill		AGRICULTURAL FURROW						
133	Cut/Fill		AGRICULTURAL FURROW						
134	Cut	40	1	40	Circular, 0.08 x 0.065, 0.09 deep	Poss. Posthole assoc. with 18, 52, 44	VI		
135			Modern ditch or drain, no context sheet						
136	Cut	137	1	137	Oblong				
137	Fill	136	136	Topsoil	Dark brown fill with frequent charcoal	Uncertain, may be non archaeological			

## Appendix 2 – Site archive content

Site archive summary, Mondaniel 2			
Site Archive Summary			
Type	Descr	Quantity	Notes
Contexts	Valid contexts	53	5 to be digitised
Plans	A2 sheets	8	
Sections	A2 sheets	7	
Matrices			
Photographs	Colour prints	96	
	Digital	26	
Registers	Context register	1	All checked and cross-referenced
	Plan register	1	
	Sample register	1	
	Finds register	1	
	Photo register	1	
Diaries	Director's diary	1	All checked and cross-referenced
	Supervisor's diary	1	

## **Appendix 3 – charcoal identification**

### **SPECIES IDENTIFICATION OF CHARCOAL SAMPLES FROM EXCAVATIONS AT MONDANIEL 2 03E0985**

**ELLEN OCARROLL  
May 2005**

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## 1. Introduction

Two charcoal samples were submitted for analysis from samples collected from two charcoal production pits **C2** & **C8**. The charcoal was sent for species identification prior to <sup>14</sup>C dating and also to give an indication of the range of tree species, which grew in the area, as well as the utilization of these species for various functions. Wood used for fuel at pre-historic sites would generally have been selected at locations close to the site. Therefore charcoal identifications may, but do not necessarily, reflect the composition of the local woodlands. Larger pieces of charcoal, when identified, can provide information regarding the use of a species.

## 2. Methods

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

## 3. RESULTS

**Table 1:** Results from Charcoal identifications

<b>Locational info.</b>	<b>SAMPLE NO.</b>	<b>Species</b>	<b>Weight and comment</b>
Context 2, charcoal burning pit	Sample 2	Oak	195g.
Context 8, charcoal burning pit	Sample 6	Oak	57g.

## 4. Discussion

Oak (*Quercus* sp.) was the only species identified from the samples analysed from the charcoal burning pits.

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From the analysis above it is clear that oak was specifically selected for use at the site excavated at Mondaniel 2. Oak appears to have been used in great quantities for charcoal in the pits. This is not unusual as oak makes good firewood when dried. The oak identified suggests that there was a plentiful supply of oak in the surrounding environment. Throughout all periods of prehistory and history oak has been used for structural timbers. Oak also has unique properties of great 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 400 years.

## 5. CONCLUSIONS

There is no doubt that oak was deliberately selected for use in the charcoal burning pits. The pits may have been associated with smithing activities on the site. The oak probably grew in free-draining soils and nutrient rich clays although it will grow on peaty soils during drier conditions.

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## Appendix 4 – the pottery report

### THE N8 RATHCORMAC - FERMOY BYPASS

#### The prehistoric pottery

Helen Roche and Eoin Grogan

#### *Summary*

*Several important prehistoric ceramic assemblages were recovered during excavation on the Bypass project. This is an area with very little previous archaeological investigation and the identification of early and final Neolithic pottery as well as early, middle and late Bronze Age material has dramatically altered our understanding of prehistory in the area as well as at a regional level. This new evidence highlights both the long history of prehistoric activity in the area and the expansion of settlement during the early and middle Bronze Age along the upland routeways between the fertile valleys of the Blackwater and Bride and the coastal area of south Cork.*

#### **General discussion**

There is little previous evidence for Neolithic activity in the region although the probable Linkardstown tomb at Lisduggan at the head of the Blackwater Valley may be broadly contemporary with the Curraghprevin 3 pottery. However, the specific affinities of this pottery are with modified early Neolithic carinated bowls, particularly examples from Lough Gur, Co. Limerick, and Knowth, Co. Meath. This indicates that rather than being an isolated place Curraghprevin was part of an extensive network that included two of the most important early Neolithic settlement cores. Some final Neolithic/early Bronze Age settlement is indicated by the wedge tombs in the Blackwater Valley at Manning and Labbacallee (Leask and Price 1936) as well as the primary phase of the complex cemetery mound at Moneen (O’Kelly 1952)(Fig. 1). This provides the context for the Lisnasallagh Beaker and while the form of the phase 1 Moneen vessels is uncertain it is the only previous discovery of early Beaker in this area (O’Kelly 1952; Brindley *et al.* 1987/8). The Lisnasallagh discovery is very important: this, albeit small, assemblage contains pottery that belongs to an early stage of Beaker in Ireland, and in particular a rare AOO<sup>2</sup> comb decorated Bell Beaker. It is probably contemporary with the phase 1 Moneen material which is dated to 2560-2390 cal. BC (Brindley *et al.* 1987/8). Some settlement extension during this period into the upland block to the south of Fermoy, on the narrow tributary valleys of the River Bride, is also suggested by the wedge tomb at Rathaneague, as well as the example to the west at Island (O’Kelly 1958).

There is extensive evidence in the early Bronze Age for activity in the fertile Blackwater Valley, especially along the Awbeg and Funshion Rivers; this consists principally of funerary sites associated with bowl and vase food vessels, and vase urns, including the burials at Moneen, Glennahulla, Ballinvoher, Ballynahow and Castlehyde (O’Kelly and Shee 1974; O’Kelly 1946; Day 1905; see Waddell 1990)(Fig. 1). Other burials to the south, at Killydonoghoe, Oatencake,

<sup>2</sup> All-over-ornament; these vessels belong to one of the earliest Beaker phases in Ireland (see Lisnasallagh discussion below).

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Castlerichard and Ballyvorisheen (Figs 1 and 4), further emphasise the absence of activity in the intervening upland zone (Sherlock 2003; O’Kelly 1947; O’Kelly and O’Connell 1968; O’Kelly 1945, 10-23). The pottery from Fermoy 3 fits in very well with this pattern although the domestic context is unusual, as is the association between bowls and vases. The presence of cordoned urn related domestic vessels at Ballybrowney Lower 1, Scartbarry and Rathealy 3 also reflect a further expansion of settlement into the upland valleys to the south of the Bride River; a similar development has also been identified in the Ballyhoura Mountains to the north (Grogan 1989). Despite the cordoned urn affinities of this pottery some of the vessels display a number of unusual features including an S-shaped profile, probably derived from the vase tradition, and a burnished finish. This form was also identified at Ballinaspig More 5 (Danaher 2004a) and suggests a local ceramic development within the broader cordoned urn tradition.

During the middle Bronze Age, at the time that the Ballybrowney Lower 1, Scartbarry and Rathealy 3 sites were in use, important routeways were established between the Blackwater Valley and the coastal lowlands (Fig. 1). These were principally along the high upland passes marked by the Owenageeragh and Owenacurra Rivers, the route of the modern R626, and further to the west along the Flesk and Glashaboy/Butterstown Rivers. In later prehistory the narrow pass leading from the Blackwater to the Bride River, and thence to both of the southern routeways, was guarded by the hillfort at Corrin/Coolcarron (*Carn Tigherna*; Masterson 1999), a site already important in the early Bronze Age as indicated by the burial on the site. In the uplands settlement expanded along the routeways as is demonstrated particularly by the distribution of *fulachta fiadh*, as well as standing stones, stone pairs and alignments (Fig. 4).

It is evident that the N8 project has made a considerable contribution to our understanding of prehistory in the region. The range of pottery from the various excavations has provided an insight into several important stages during the Neolithic and Bronze Age and has enabled a more complete assessment of settlement patterns and settlement development in this hitherto little studied area.

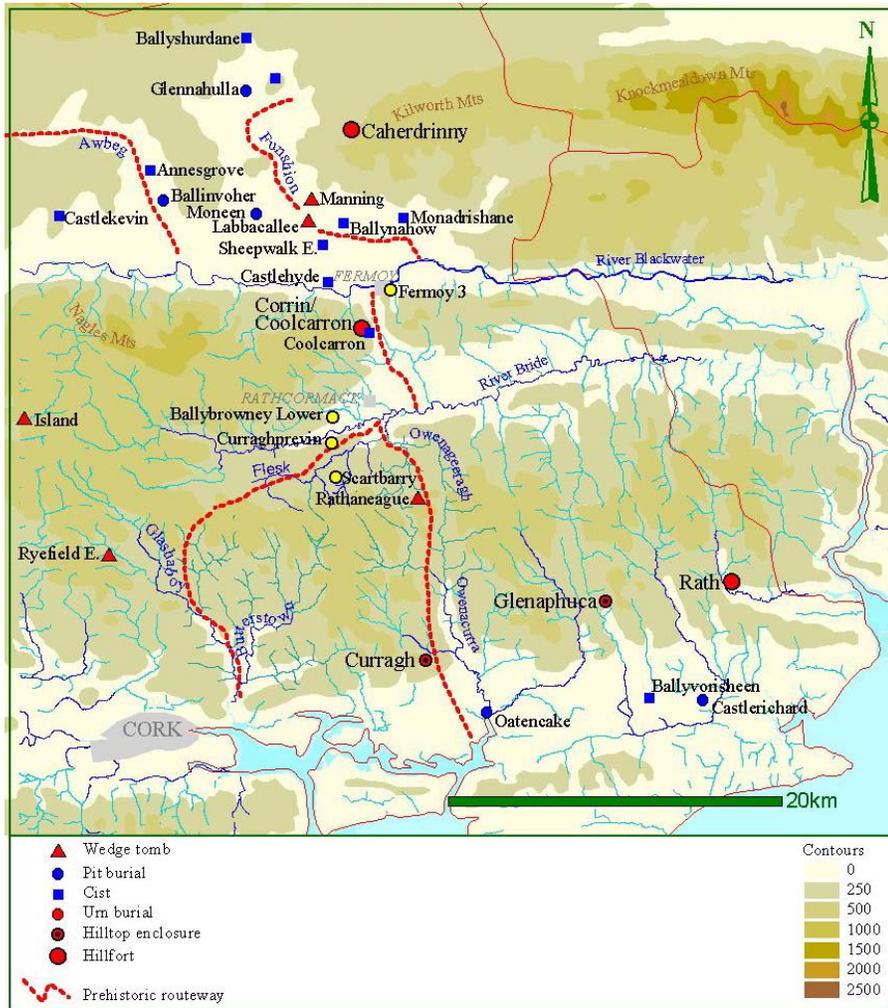


Fig. 1. The early prehistory of east Cork and prehistoric routeways through the region.

## MONDANIEL 2 (03E0985)

### Summary

*The site produced a single rimsherd from a late Bronze Age coarse vessel.*

### Discussion

While there is only a single sherd from the site this is an important addition to our understanding of settlement distribution in south Munster during the late Bronze Age. There are a small number of other discoveries of late Bronze Age pottery in the region from the megalithic tomb at Harristown (Hawkes 1941), at Kilgreany Cave, and at Ahanaglogh (field 5), Co. Waterford (Tratman 1928; Movius 1935; Tierney *et al.* 2002). This material has also been found on settlement sites such as Freestone Hill, Co. Kilkenny (Raftery 1969, 86-96), Knockadoon, Lough Gur, Co. Limerick (Grogan and Eogan 1987, 476-479), and the lakeside settlements at Clonfinlough, Co. Offaly, and

Knocknalappa, Co. Clare (Moloney *et al.* 1993, 42-47, 129-131; Grogan *et al.* 1999, 111-123). Pottery of this type has been dated at Haughey's Fort, Co. Armagh (Mallory 1995), and Mooghaun South, Co. Clare (Grogan forthcoming), to between 1200BC and 800 BC.

#### CATALOGUE

*Vessel 1.* This is represented by a single flat-topped rimsherd (29.1) with a slight inward bevel probably from a medium sized barrel-shaped coarse vessel. The hard grey-brown fabric has a medium content of crushed shale inclusions ( $\leq 2 \times 1\text{mm}$ , up to  $5 \times 4\text{mm}$ ) and some quartzite. Neck thickness: 10mm.

#### MONDANIEL 1 (03E0981)

##### *Summary*

*The site produced three small sherds possibly from a Final Neolithic/early Bronze Age Beaker.*

##### **Discussion**

Little can be gleaned from the very small sherds found in the topsoil at this site. The vessel represented is probably a Beaker and this adds a little further information about settlement in the area during this period (see Discussion for Lisnasallagh in this report).

#### CATALOGUE

*Vessel 1.* This is represented by 3 necksherds ([1, 3], 2) from close to the rim of a fine cordoned vessel, possibly a Beaker. The fine smooth red-buff fabric has a very low content of finely crushed quartzite inclusions ( $\leq 1\text{mm}$ ). Neck thickness: 5.5mm; thickness at cordon: 7mm.

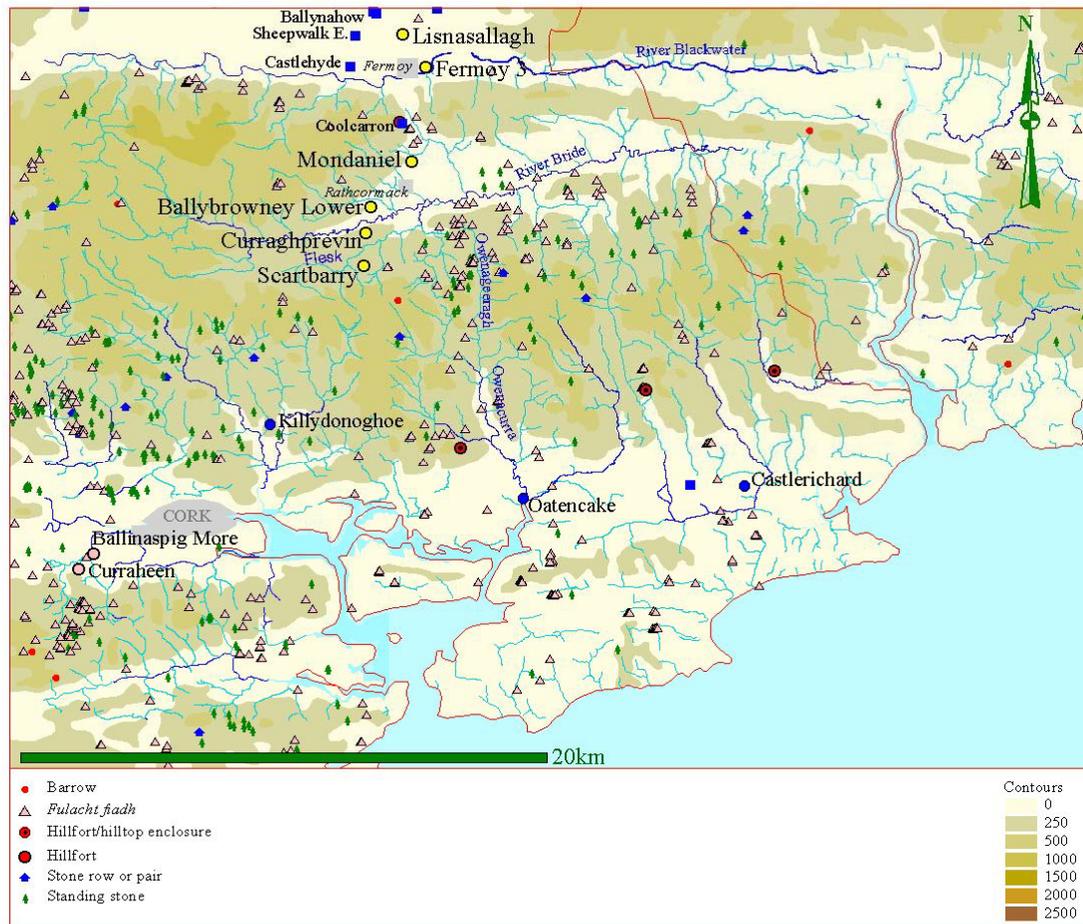


Fig. 4. The later prehistory of east Cork.

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## Appendix 5 – the lithics report

### PROJECT DETAILS

<b>Project</b>	Lithic Analysis Report N8 Rathcormac-Fermoy Bypass
<b>Analyst</b>	Jon Stirland
<b>Site Name</b>	Mondaniel 2
<b>Project Start Date</b>	10 <sup>th</sup> January 2005
<b>Report Date</b>	23 <sup>rd</sup> May 2005

### 1: Introduction

This report describes the lithics assemblage and stone tools recovered during the archaeological excavations associated with the N8 Rathcormac-Fermoy Bypass project. The report has been broken down into an assessment of the overall lithics and stone tools assemblage on a site by site basis. The results of the assessment are summarised below.

### 2: Non-Technical Summary

**Mondaniel 2:** The assemblage associated with the site of Mondaniel 2 includes seven pieces of flint debitage, six of which appear to have derived from the same source material. This suggests that they may have been the result of one single episode of lithics production. All of the above six pieces are grey in colour, irregular in shape and only one of them contains cortex material on its surface. Three of the six pieces show visible indications of being struck in the form of percussion ripples.

A further piece of debitage associated with the Mondaniel 2 site assemblage takes the form of a small triangular piece of poor quality chert which contains a negative bulbar scar on its ventral surface.

### 3: Composition of Assemblage

The following is a series of tables listing the composition of the lithic and stone tool assemblages of all the sites associated with the N8 Rathcormac–Fermoy Bypass.

#### 3.4: Mondaniel 2

Type	Flint	Chert	Quartz	Lime Stone	Sandstone	Silicated Limestone	Total
Debitage	7	1					8

### Appendix 6 – Radiocarbon dating

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 201038 SAMPLE : 03E985C8S6 ANALYSIS : Radiometric-Standard delivery MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid 2 SIGMA CALIBRATION : Cal AD 1280 to 1420 (Cal BP 670 to 540)	650 +/- 50 BP	-26.4 o/oo	630 +/- 50 BP

### CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.4:lab. mult=1)

Laboratory number: **Beta-201038**

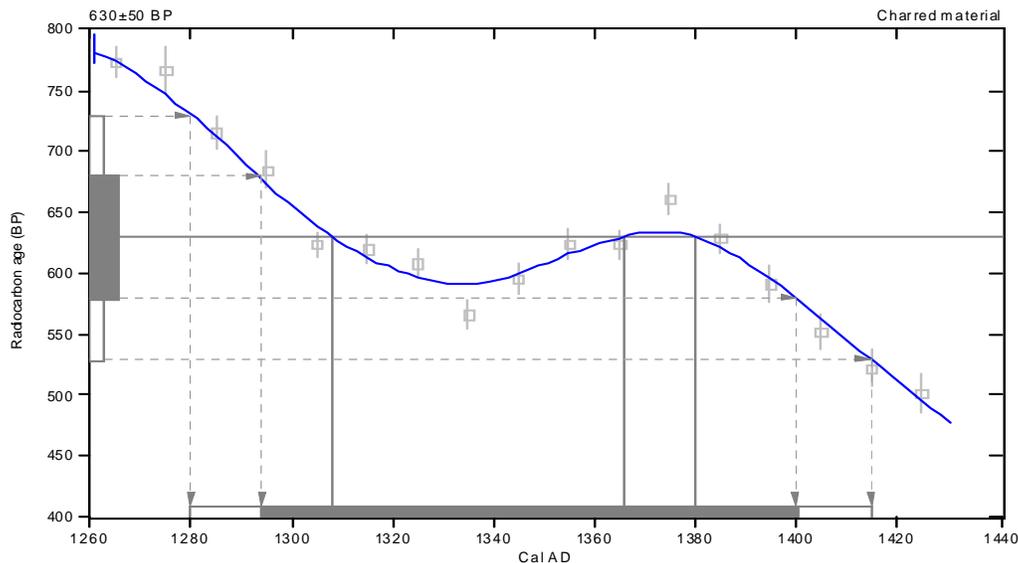
Conventional radiocarbon age: **630±50 BP**

2 Sigma calibrated result: **Cal AD 1280 to 1420 (Cal BP 670 to 540)**  
(95% probability)

Intercept data

Intercepts of radiocarbon age with calibration curve:  
Cal AD 1310 (Cal BP 640) and  
Cal AD 1370 (Cal BP 580) and  
Cal AD 1380 (Cal BP 570)

1 Sigma calibrated result: **Cal AD 1290 to 1400 (Cal BP 660 to 550)**  
(68% probability)



References:

Database used  
INTCAL98  
Calibration Database  
Editorial Comment  
Stuiver, M., van der Plicht, H., 1998, Radiocarbon 40(3), p.ii-xii  
INTCAL98 Radiocarbon Age Calibration  
Stuiver, M., et al., 1998, Radiocarbon 40(3), p.1041-1083  
Mathematics  
A Simplified Approach to Calibrating C14 Dates  
Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2), p.317-322

### Beta Analytic Radiocarbon Dating Laboratory



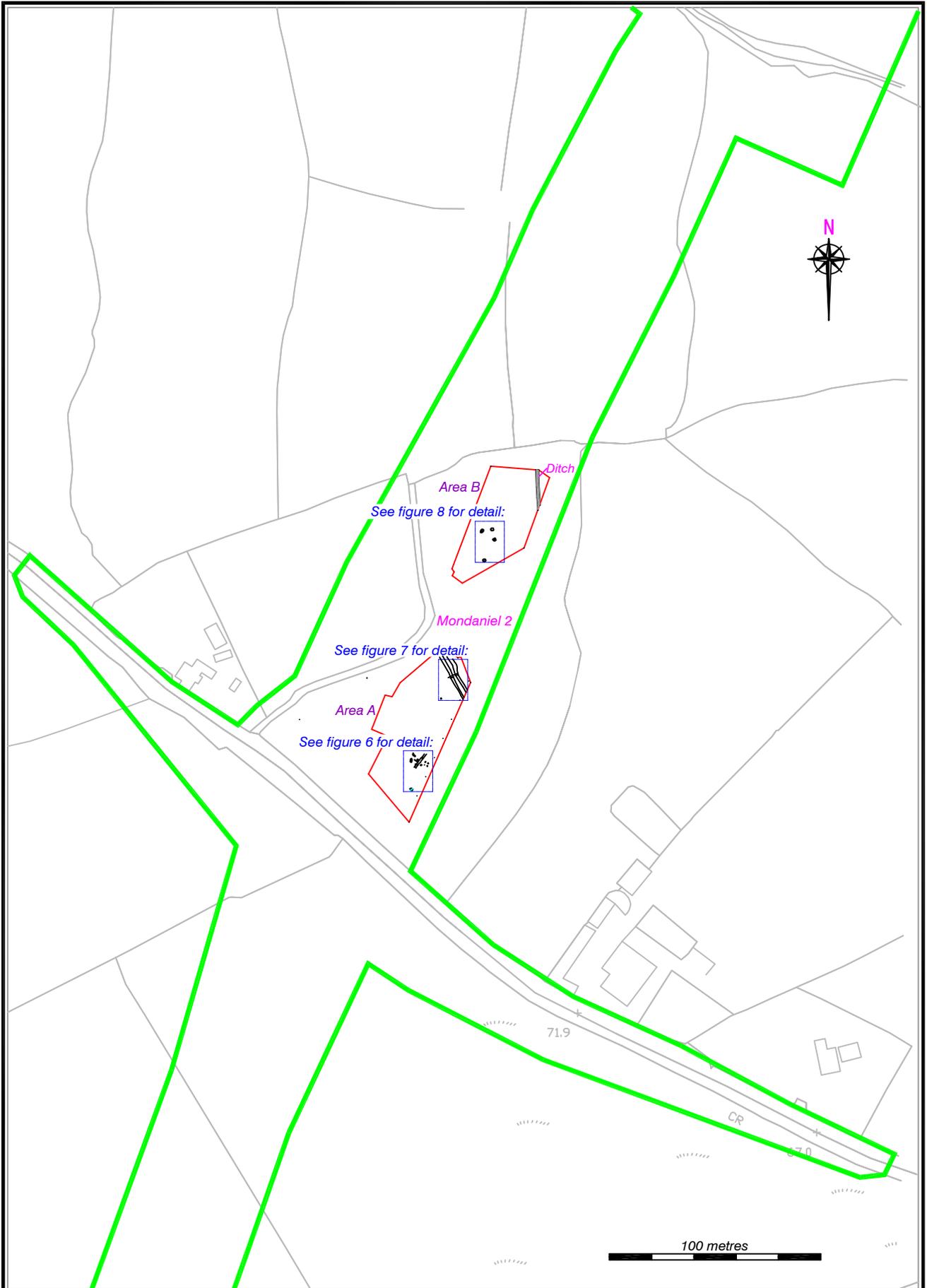
**Archaeological Consultancy Services Ltd.**

Unit 21, Boyne Business Park,  
Greenhills, Drogheda, Co. Louth

Site: Mondaniel 2,  
N8 Rathcormac-Fermoy Bypass, Co. Cork  
Issued for: Archaeological Excavation Final Report  
Client: Cork County Council

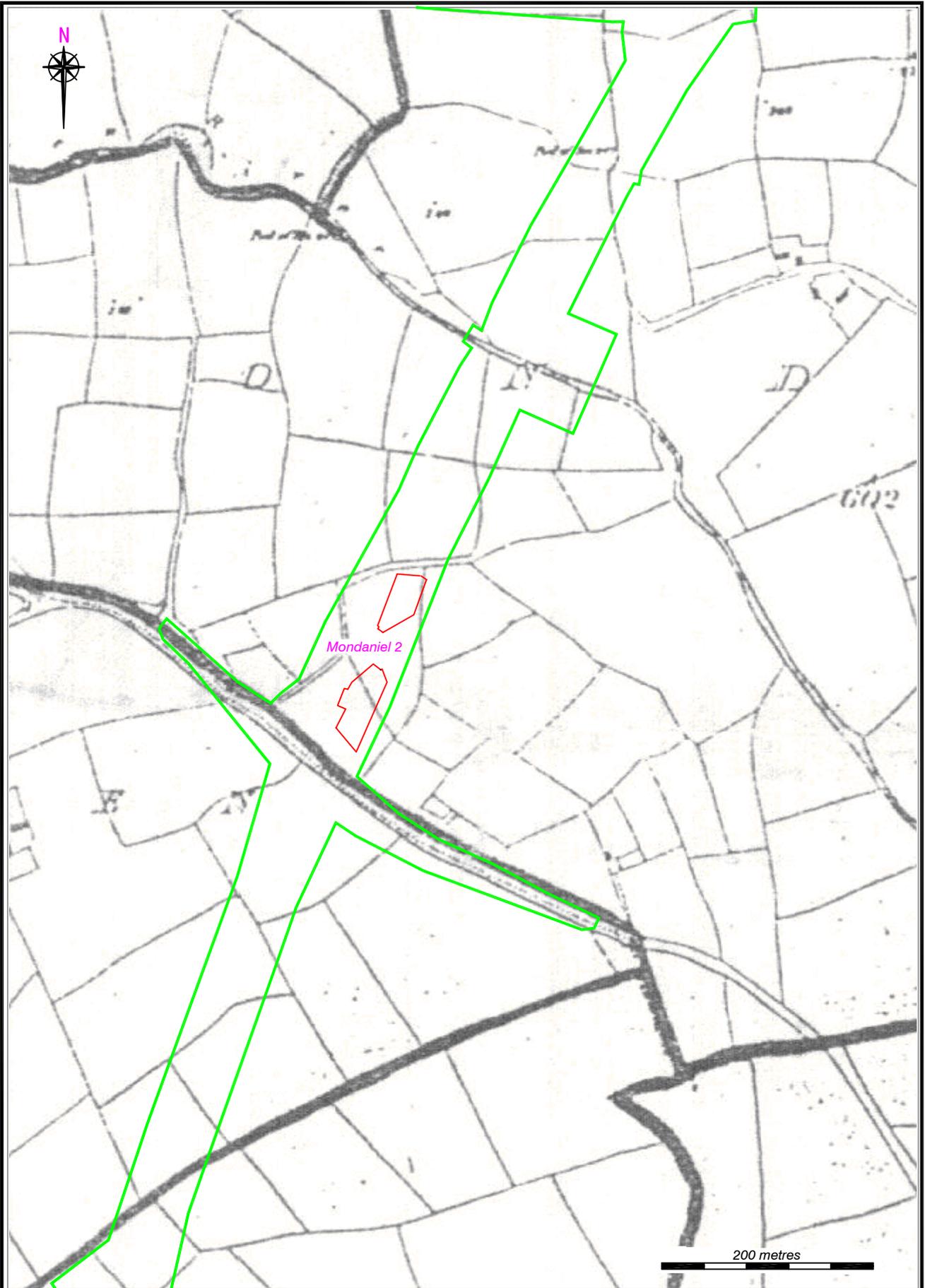
Scale: 1:80,000 A4  
Date: December 2005  
Origin: Courtesy of client/OSi  
Drawing no.: 02\_14\_C3005

Figure 1: Location of site in relation to proposed roadway



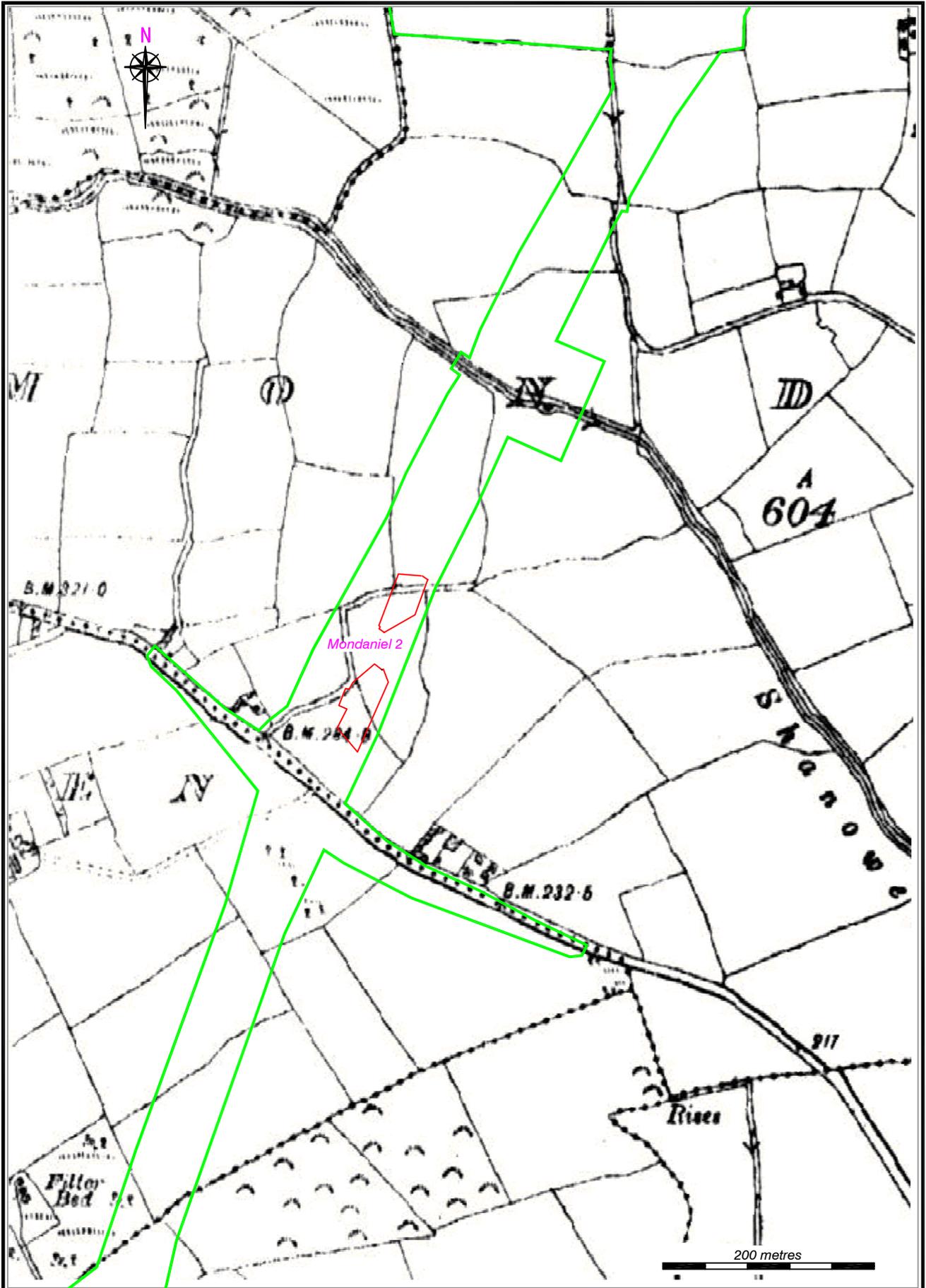
<b>Archaeological Consultancy Services Ltd.</b> Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth	Site: Mondaniel 2, N8 Rathcormac-Fermoy Bypass, Co. Cork	Scale: 1:2,500 A4 Date: December 2005
	Issued for: Archaeological Excavation Final Report Client: Cork County Council	Origin: Courtesy of client / ACS Drawing no.: 02_14_C3006

Figure 2: Site location showing limit of excavation



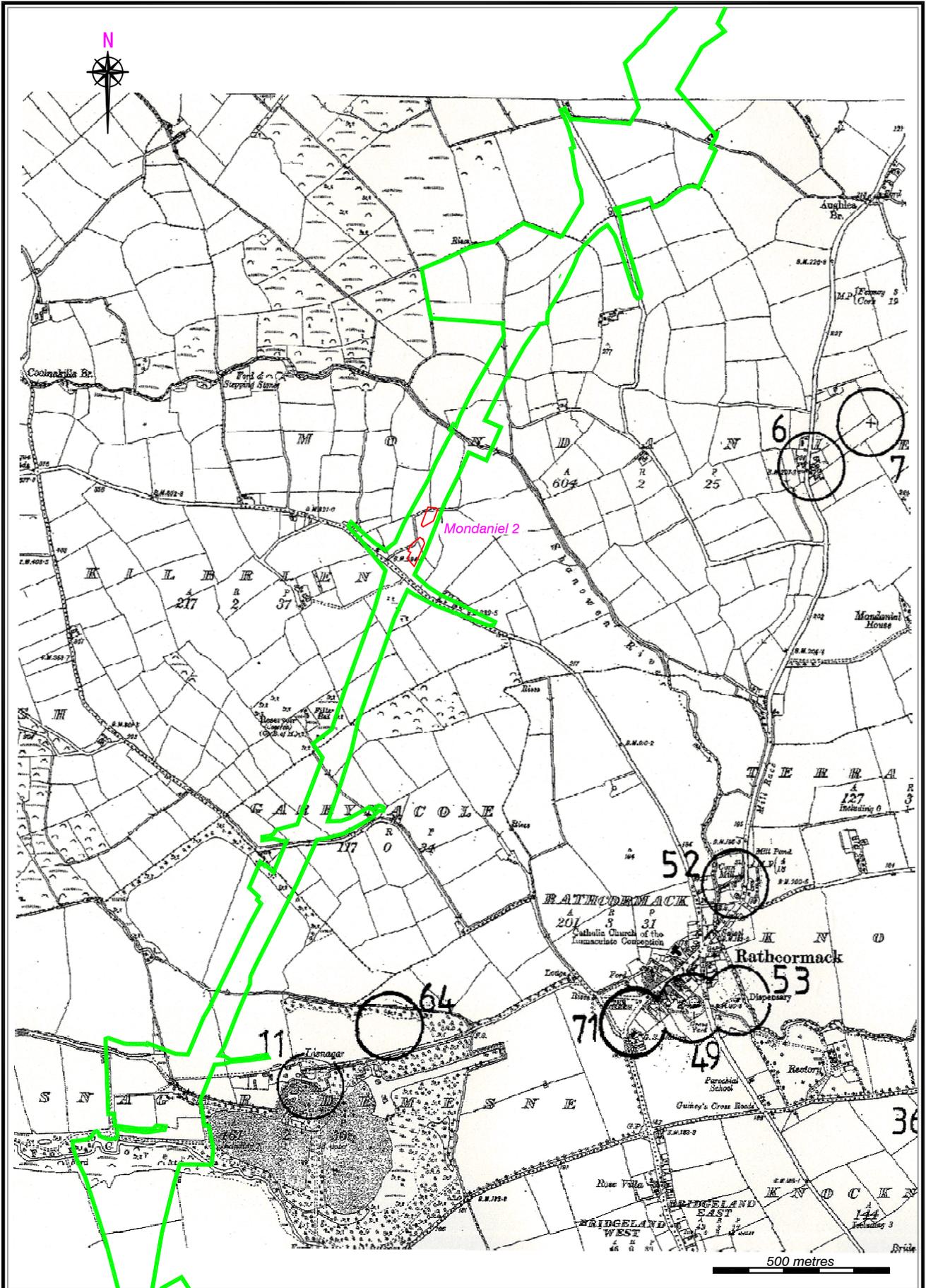
<b>Archaeological Consultancy Services Ltd.</b> Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth	Site: Mondaniel 2, N8 Rathcormac-Fermoy Bypass, Co. Cork	Scale: 1:5,000 A4 Date: December 2005
	Issued for: Archaeological Excavation Final Report	Origin: OSi 1st edition sheet 44
	Client: Cork County Council	Drawing no.: 02_14_C3007

Figure 3: O.S. six-inch Sheet 44 1841-44



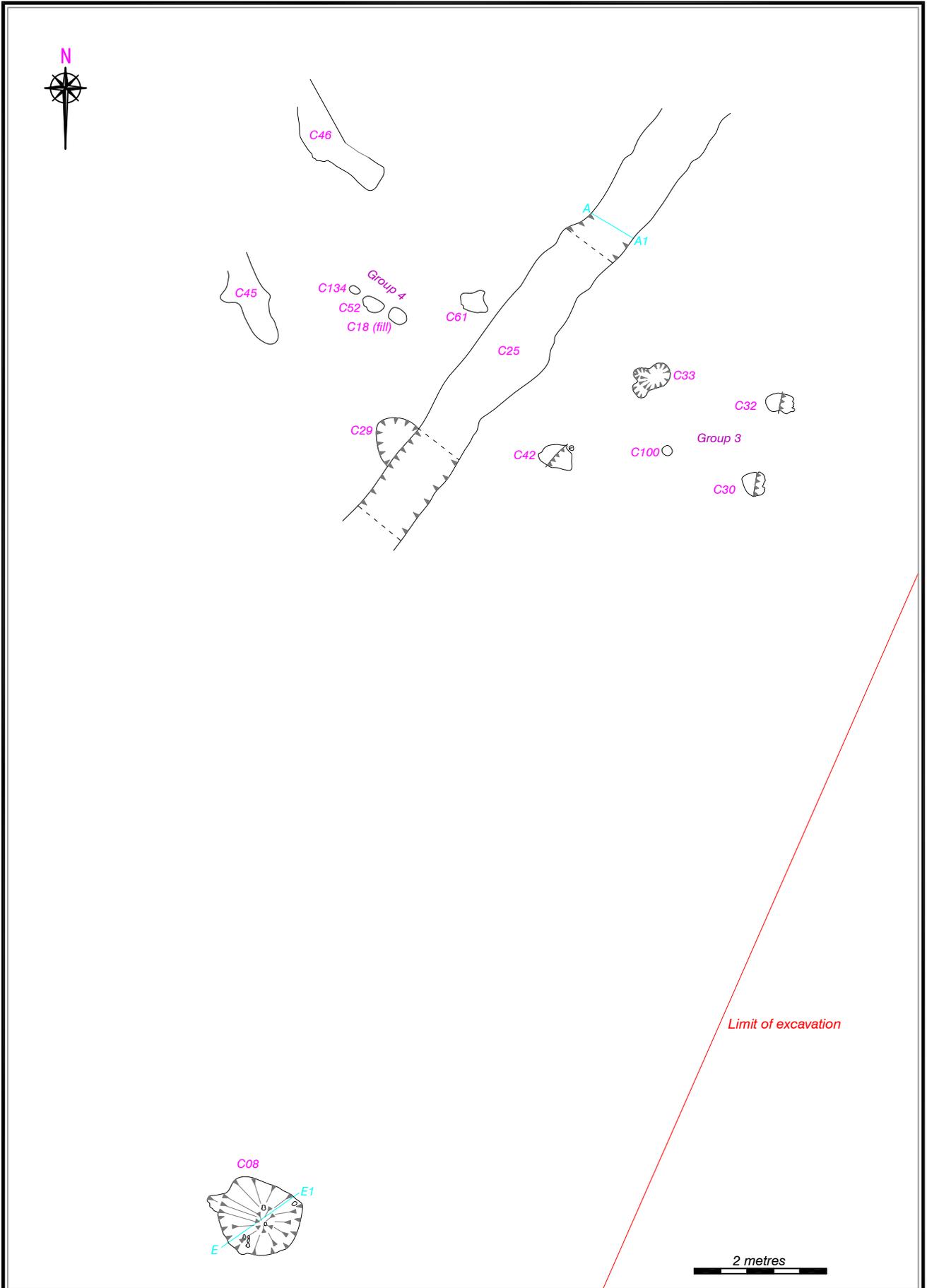
<b>Archaeological Consultancy Services Ltd.</b> Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth	Site: Mondaniel 2, N8 Rathcormac-Fermoy Bypass, Co. Cork	Scale: 1:5,000 A4 Date: December 2005
	Issued for: Archaeological Excavation Final Report	Origin: OSi 2nd edition sheet 44
	Client: Cork County Council	Drawing no.: 02_14_C3008

Figure 4: O.S. six-inch Sheet 44 1935



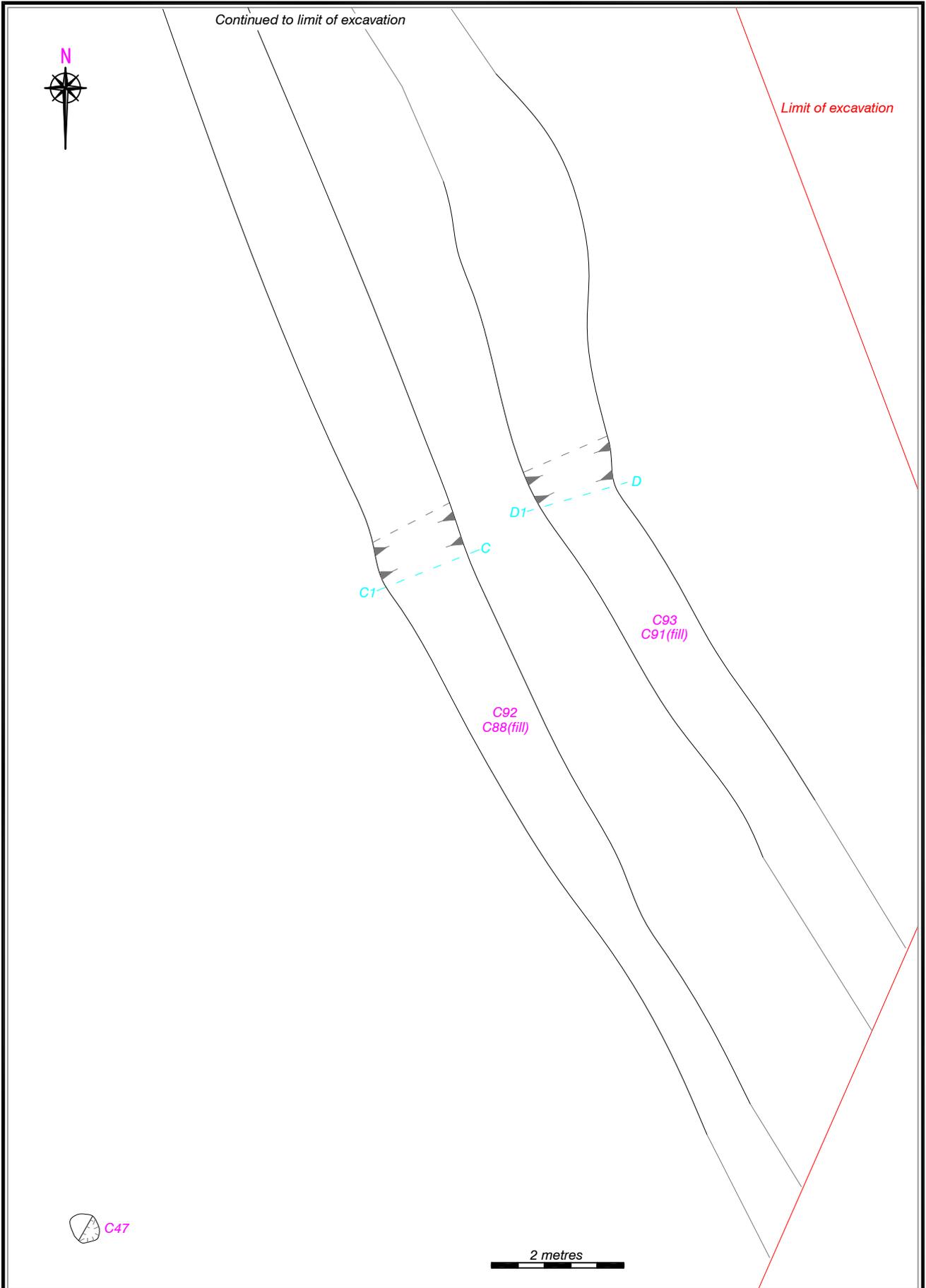
<b>Archaeological Consultancy Services Ltd.</b> Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth	Site: Mondaniel 2, N8 Rathcormac-Fermoy Bypass, Co. Cork	Scale: 1:15,000 A4
	Issued for: Archaeological Excavation Final Report	Date: December 2005
	Client: Cork County Council	Origin: OSI RMP sheet 44
		Drawing no.: 02 14 C3004

Figure 5: Location of local RMP sites



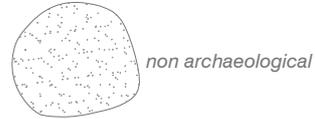
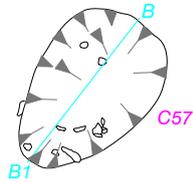
<b>Archaeological Consultancy Services Ltd.</b> Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth	Site: Mondaniel 2, N8 Rathcormac-Fermoy Bypass, Co. Cork	Scale: 1:80 A4 Date: December 2005
	Issued for: Archaeological Excavation Final Report	Origin: ACS Ltd
	Client: Cork County Council	Drawing no.: 02_14_C3018

Figure 6: Mondaniel 2 -Detail of features, southern end of Area A



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	Issued for: Archaeological Excavation Final Report	Date: December 2005
	Client: Cork County Council	Origin: ACS Ltd
		Drawing no.: 02_14_C3017

Figure 7: Mondaniel 2 - Detail of features, northern end of Area A



Limit of excavation

2 metres

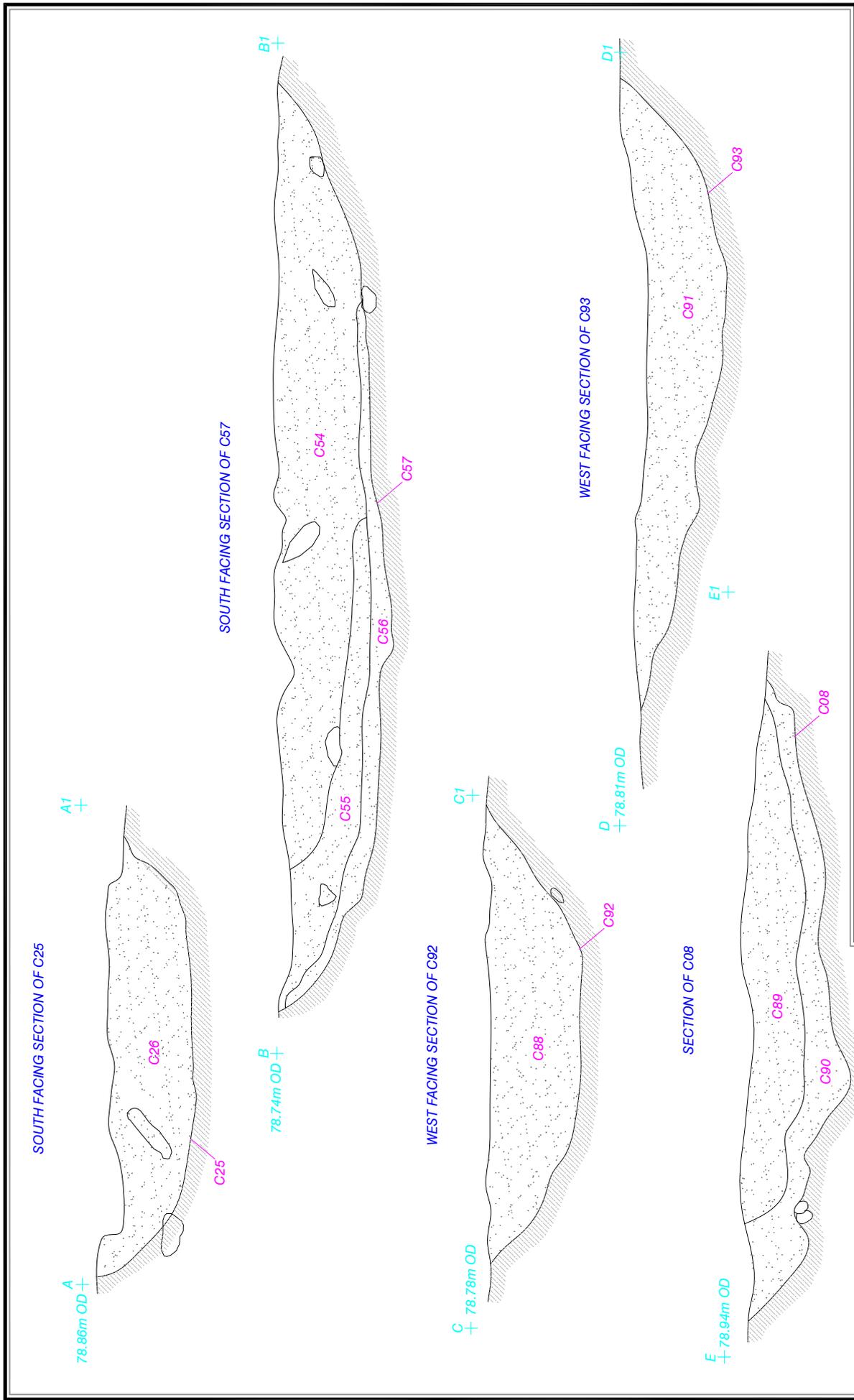
**Archaeological Consultancy Services Ltd.**

Unit 21, Boyne Business Park,  
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Site: Mondaniel 2,  
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Date: December 2005  
Origin: ACS Ltd  
Drawing no.: 02\_14\_C3020

Figure 8: Mondaniel 2 - Detail of features in Area B



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Scale: 1:10 A4  
 Date: December 2005  
 Origin: ACS Ltd  
 Drawing no.: 02\_14\_C3021

Figure 9: Mondaniel 2 - Sections of features



Plate 1: 02\_14\_CP1002\_21a: Charcoal pit, C57 during excavation, from the southwest.



Plate 3: 02\_14\_CP1001\_10a Charcoal pit C47 during excavation, from the east



Plate 2: 02\_14\_CP1003\_16a: Charcoal pit C8 during excavation, from the east.



Plate 4: 02\_14\_CP1003\_14a: Charcoal pit C107 during excavation, from the southeast



Plate 5: Group 3 features from the southeast. 02\_14\_CP1003\_21a



Plate 6: 02\_14\_CP1001\_1a; Pit C29 cut by ditch C25, from the southwest