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M1 DUNDALK WESTERN BYPASS

SITE 109: DONAGHMORE 4

CHAINAGE 19.680

NGR: 301983 / 307293

FINAL REPORT

ON BEHALF OF
LOUTH COUNTY COUNCIL and the
NATIONAL ROADS AUTHORITY

LICENSEE: BRIAN Ó DONNCHADHA
LICENCE NUMBER: 02E1331

JULY 2009

IAC Irish Archaeological
Consultancy

NON-TECHNICAL SUMMARY

Irish Archaeological Consultancy Ltd. (IAC), funded by Louth County Council and the National Roads Authority, undertook an excavation in the townland of Donaghmore in advance of road construction associated with the Dundalk Western Bypass (DWB). The excavation was undertaken to ensure all subsoil archaeological remains were preserved by record in advance of groundwork.

Prior to archaeological excavation, a detailed geophysical and test trenching programme was carried out to define the extent, character and condition of the archaeological resource in this general area. These investigations revealed areas of intense archaeological interest, namely Donaghmore 1 and Donaghmore 4, along with other areas worthy of investigation.

Archaeological Resolution of Site 109, Donaghmore 4, was completed at Chainage 19.680 (NGR 301983/307293). The excavation commenced on the 23rd of September 2002 and was completed on the 1st of October 2002 using a team of one Supervisor and four Assistant Archaeologists, directed by Brian O'Donnchadha (Licence No. 03E1331). The total area of excavation measured 3975m².

The excavation at Site 109 at Donaghmore 4, revealed that the area investigated contained evidence of prehistoric activity, and a small assemblage of twenty sherds representing four Early Neolithic Carinated bowls and a Middle Neolithic Bipartite bowl were found in two of the pits. The activity represented appears to be of a seasonal or transient nature, with a number of pits, perhaps for used for cooking and a scatter of postholes which may represent the remains of a windbreak.

ACKNOWLEDGEMENTS

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1 INTRODUCTION

This report describes an excavation carried out at Site 109, Donaghmore 4 (Figure 1), in the townland of Donaghmore as part of an archaeological mitigation programme designed to offset adverse impacts on the archaeological resource associated with the Dundalk Western Bypass (DWB). Archaeological fieldwork was directed by Brian Ó Donnchadha of Irish Archaeological Consultancy Ltd. (IAC Ltd.) for Louth County Council and the National Roads Authority.

1.1 Site location

The site is located in Donaghmore townland, c.3km west of Dundalk (OS sheet number 7). The site is:

- Site 109, Donaghmore 4, Excavation Licence No. 03E1331, route, Ch. 19.680, NGR 301983/307293.

The site was identified as a result of the test trenching exercise undertaken by IAC in March 2002 (Licence Ref.: 02E0370). The area comprised an undulating landscape with the site primarily focused on the top and west facing slope of a low ridge running EW across the landscape.

1.2 The scope of the project

General

Louth County Council proposed to construct a motorway called the 'Dundalk Western Bypass – Northern Link'. The scheme also included ancillary roads and other structures.

The Dundalk Western Bypass – Northern Link connects the existing Dunleer-Dundalk Motorway, which terminated in the area of the N52 Ardee Road, to the N1 Ballymascanlan Roundabout in an arc situated c.2.5km - 3km to the west and north of Dundalk.

The scheme was divided into two sections. Section 1 (7.8km main centre line chainage (Ch) ran from Ch16.000 to Ch23.870 (the Armagh Road, R177). Work on the southern end of Section 1 was previously commenced so that the main cutting and rough surfacing for the road had been completed to chainage point Ch17.100. The chainage zone Ch16.000 – 17.100 had therefore not been investigated archaeologically under the present contract. Section 2 (2.08km main centre line chainage) ran from the Armagh Road Ch23.870 to the Ballymascanlan Roundabout, Ch25.950.

Therefore the archaeological potential of the route represented a distance of 8.49km (Ch17.100 – 25.950). The route corridor varied between 60m and 200m (not including side roads) and was on average 100m wide. The archaeological site area was thus approximately 85 hectares.

Specific

Five excavations were undertaken in Donaghmore townland, spread out over a distance of 250m with on average a distance of 30m separating the sites. The excavation areas were mainly intervisible with three sites being visible from each other, namely Donaghmore 4, 5, and 6.

Background historical research undertaken as part of the test trenching programme revealed Donaghmore townland to contain sites listed in the Record of Monuments and Places (RMP) including several souterrains, a ring-ditch and the local tradition of a church site. Records held by the National Museum of Ireland (NMI) in the Topographical Files also record stray finds from the townland of Donaghmore including flint waste flakes, iron slag, iron fragments and undated pottery sherds

1.3 Circumstances and dates of fieldwork

The excavation was undertaken to offset the adverse impact of road construction on known and potential subsoil archaeological remains in order to preserve this site by record.

Topsoil stripping of Site 109, Donaghmore 4 commenced on Monday the 23rd of September 2002. Fieldwork was carried out by a team including one Supervisor and four Assistant Archaeologists and was completed by Tuesday the 1st of October.

After initial bulk stripping the area of excavation was hand cleaned in order to identify potential archaeological remains. All features were subsequently fully excavated and recorded by hand, using the single context recording system with plans and sections being produced at a scale of 1:50 or 1:20 (sections were recorded generally at 1:10) and photographs where necessary. All works were carried out in agreement with the Project Archaeologist and the National Monuments Section of the Department of the Environment, Heritage and Local Government (formerly *Dúchas*-The Heritage Service). Samples were taken of any environmental and dateable material.

It was agreed in advance that adequate funds to cover excavation, post-excavation, conservation and dating analysis would be made available by Louth County Council. Dating of the site involved pottery analysis through typological study and radiocarbon analysis. The site archive, and any finds, samples *et cetera* were kept in safe storage by IAC Ltd. during the post-excavation stage.

2. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The following archaeological and historical background refers to the wider archaeological landscape through which the DWB passes.

The town of Dundalk lies at the northern end of Dundalk Bay and is the administrative centre of County Louth, located in the northeast of the province of Leinster. The area spans two geographical areas. To the west, the rural landscape surrounding the urban district is one of undulating topography, with low drumlins rising to 30-40m from the coastal plain. As is the case with much of Louth, this covers thick strata of Ordovician and Silurian slates, with some rock outcrops (Gosling 1993, 237) notable. To the east of the urban district, the flat, low lying coastal plain is comprised of recent estuarine and alluvial clays and silts, shaped by the sea level changes following the end of the Ice Age period in Ireland c.10000 years ago.

At the time of the earliest habitation in Ireland (Early Mesolithic period: c.7000BC), the sea submerged the area of the town to a depth of 4-5m, although it continued to retreat to its present level until the Late Neolithic/Early Bronze Age period (c. 2400BC), replacing the submerged area with salt marshes and tidal flats. At various stages from the 17th century onwards, these areas were improved by reclamation projects.

The proposed route for the Dundalk Western Bypass–Northern Link is located within an area that avoids the major recorded archaeological monuments in the vicinity. This is a particularly rich archaeological landscape but the great majority of known sites lie beyond the perimeter of the original study area. It is important to note, however, that a significant number of sites in this part of County Louth survive as crop marks, where the above ground indication of the monument has been destroyed. The recognition of such monuments has often been the result of chance discovery from ploughing and construction work, or by observation from the air where the distinctive traces of the buried features can sometimes be observed. The strong tradition of arable agriculture in the locality has been largely responsible for this occurrence.

2.1 Prehistoric Period (7000BC-AD500)

The archaeological record provides evidence that this area was occupied from the Late Mesolithic period (c.4200 BC), with the excavation of Mesolithic shell midden sites with flint material at Rockmarshall, c 5km northeast of the town of Dundalk.

There are a number of RMP sites which are within the vicinity of Donaghmore 4 that can be dated to the prehistoric period. These sites, which are located in the townland of Tankardsrock, consist of the sites of two standing stones (LH007-032 and 031), located 1.5km north northwest, rock art (LH007-102) which is located 1km north northwest, and a Bronze Age burial cist (LH006-037), which is located 1.5km north northwest of the site. At Donaghmore 7, which is located 200m to the south of Donaghmore 4, the remains of a possible small ring barrow were discovered. Further prehistoric occupation was found at Donaghmore 1, which is located 140m to the south of Donaghmore 4.

2.1.1 The Neolithic (c.4000-2500BC)

Although we can say with confidence that significant Neolithic activity took place in Ireland from c.4000BC onwards, which had many similar features with contemporary sites in Britain and West Europe, uncertainty still remains concerning the

circumstances of the arrival of Neolithic customs and traditions in Ireland and how the new economy altered the environment.

The origins of the Neolithic in Ireland are disputed. Pollen records reveal forest clearances occurring before our earliest dated Neolithic sites or monuments, however this may be a reflection of some modern dating methods being too crude to discriminate between Early and Late Neolithic settlement rather than an indication of the true chronology (Mitchell & Ryan 1997). A debate continues over whether the culture evident in Ireland during the Neolithic was a product of a migrating people into Ireland or an indigenous development from Mesolithic populations. The introduction of certain flora and fauna species, landscape management techniques, cultural traits in architectural construction and domestic crafts bearing a striking resemblance to contemporary evidence in Britain has led some authors to suggest colonisation from outside Ireland (Mitchell & Ryan 1997). Recent studies (Cooney 2000, 13) have suggested that a combination of small scale movement across the Irish sea by migrating communities and developments within the existing Mesolithic populations within Ireland in the innovative beginnings of this era.

Those who suggest that the development of Neolithic customs and traditions in Ireland was a native evolution make the observation that the Irish Mesolithic period was a time of isolation rather than contact. If the megalithic tombs were constructed by a migrating population, a prolonged period of consolidation would have been required in advance of their construction (Mitchell & Ryan 1997). Therefore, it is possible that the Mesolithic peoples gradually adopted new customs and practices through contact with Britain and mainland Europe, leading to the incremental growth of a distinctive economy before a consolidated Neolithic culture emerged.

The vast majority of the archaeological evidence for this period is to be found at the 4-5m (25ft) contour, which reflects the coastline during the maximum post-glacial marine transgression, and it has been suggested that this settlement location would have facilitated the exploitation of the higher ground for farming and the lower ground for summer grazing (Gosling 1993, 242). There is a concentration of Megalithic tombs in the Flurry Valley to the north-east of the site at Donaghmore 4 (with the nearest example located at Faughart Lower (LH004-062), c.6 km to the northeast) and scattered throughout the Cooley peninsula. Archaeological discoveries elsewhere on the DWB scheme revealed Late Neolithic/Early Bronze Age habitation activity at Site 115, Newtownbalregan 5 (Bayley, D. forthcoming (c)), located c.1.5km north of Site 109 and the truncated remains of a Late Neolithic/Early Bronze Age House identified at Site 101, Littlemill 1 (Ó Donnachadha, B. forthcoming (d)), located c.2.1km to the south of Site. A collection of pits dating to the Late Neolithic/Early Bronze Age were identified at Site 103, Littlemill 4 & 5 (Ó Donnachadha, B. forthcoming (c)), c.1.7km south of Site 109 (Donaghmore 4) and a number of Neolithic huts with associated pits were excavated at Site 124, Carn More 1 (Delaney, S. forthcoming (b)), located c.4.2km northeast of the site. Several pits containing Early Neolithic pottery were identified at Site 132, Faughart Lower 5 (Delaney, S. forthcoming (c)), located c.6 km north of the site. A middle Neolithic to Late Neolithic/Early Bronze Age Beaker habitation site was identified at Site 108, Donaghmore 1 (Ó Donnachadha, B. forthcoming (e)) which is located on a low ridge only c.140m south of Site 109 and may be directly associated with it.

2.1.2 The Bronze Age (c.2500-500BC)

Bronze Age discoveries along the DWB consist of an Early Bronze Age Beaker (2500-2200BC) habitation site at Site 112, Newtownbalregan 2 (Bayley, D. forthcoming (e)), located c.1km north of the site. A number of Bronze Age ring-barrows, a cist and a cairn were also excavated at Site 127, Carn More 5 (Bayley, D.

forthcoming (g)), located c.4.2km northeast of Site 109. A total of 3 Bronze Age burnt mounds/*fulachta fiadh* were excavated along the route of the DWB at Site 111, Newtownbalregan 1.1, Site 113, Newtownbalregan 5 and at Site 128, Faughart 1, 2 & 3. The burnt mound excavated at Site 102, Littlemill 2 dated to the medieval period (890-1250AD). A further 6 burnt mounds/*fulachta fiadh* were excavated by Archaeological Development Services Ltd (ADS Ltd.) as part of the archaeological resolution of the Dunleer/Dundalk Motorway.

2.1.3 The Iron Age (c.500BC-500AD)

There is a marked lack of known Iron Age (700BC-AD500) activity. The ring barrow identified at Site 131, Donaghmore 7 (Ó Donnachadha, B. forthcoming (g)) is the sole example of a definitive Iron Age site identified through the DWB archaeological investigations. The site consisted of a small ring barrow and a single piece of unworked flint was found in the barrow with remains of three charred wooden planks found within the barrow ditch. These were taken for specialist analysis and were submitted for Carbon 14 dating. The dates returned confirmed that the ring barrow belongs to the Iron Age period, specifically the mid-Iron Age based on Cal. 170BC-130BC.

2.2 Early Medieval Period (AD500-1169)

The early medieval period is depicted in the surviving sources as entirely rural characterised by the basic territorial unit known as *túath*. Byrne (1973) estimates that there were probably at least one hundred and fifty kings in Ireland at any given time during this period, each ruling over his own *túath*. During this sometimes violent period, roughly circular defensive enclosures known as ringforts were constructed to protect farmsteads. Although most of the ringforts that have been excavated are shown to date to this period, some have earlier origins and may have been originally constructed during the Iron Age, or even earlier.

Site 114 at Newtownbalregan 6 (Bayley, D. forthcoming (d)) located c.1.6km north of Site 109, Donaghmore 4 consists of a ringfort and souterrain. The ringfort or rath is considered to be the most common indicator of settlement during the early medieval period (c.500AD – c.1100 AD). The most recent study of the ringfort (Stout 2000) has suggested that there are a total of 45,119 potential ringforts or enclosure sites throughout Ireland. They are typically enclosed by an earthen bank and exterior ditch, and range from 25m to 50m in diameter. The smaller sized and single banked type (univallate) were more likely to be home to the lower ranks of society while larger examples with more than one bank (bivallate/trivallate) housed the more powerful kings and lords. At Site 124, Carn More 1 (Delaney, S. forthcoming (b)), (Area 1) a ringfort identified in the RMP as LH004-067 was excavated in advance of the motorway's construction, with the RMP originally listing the monument as a circular enclosure.

Souterrains are artificial underground structures, usually built of dry stone walling and comprising of passages and chambers with creeps connecting them. Souterrains are generally regarded as having had a defensive or protective function, as evidenced by the complex construction of many of the sites, with narrow winding passages, deliberate obstructions and small chambers. Raiding was endemic to early medieval society, and souterrains are thought to have served to house portable valuables and non-combatants during a raid. There is a previously recorded souterrain located 30m to the east of the CPO line at Ch17.640 (LH007-071). A further two enclosures with associated souterrains were also excavated by Archaeological Development Services Ltd (ADS Ltd) in advance of the construction of the Dunleer/Dundalk Motorway.

The historical sources for the early medieval period indicate that the main population group in north Louth was the *Conaille Muirtheimne*. They controlled the areas of *Cuailgne* (Cooley) and *Mag Muirtheimne* (Plain of Muirtheimne) –corresponding to the area south of Dundalk, roughly equating with the modern baronies of Lower and Upper Dundalk. It has been suggested (Gosling 1993, 46) that the ancient boundaries of this kingdom may coincide with the dense concentration of souterrains in north Louth. Though nominally a branch of the *Ulaid*, who had their capital at *Eamain Mhaca* or Navan Fort, Co. Armagh. The *Conaille Muirtheimne* appear to have been subject to the kingdom of *Brega*, which had its capital at *Cnógbha* or Knowth in Co. Meath at the time of its greatest political cohesion, during the first half of the 7th century AD. Their earliest appearance in the annals is in 688 AD, as allies of the Knowth branch of the *Síl nÁeda Sláine* at the battle of *Imblech Pich* (Emlagh, Co. Meath), which was a key event in the political fragmentation of the *Síl nÁeda Sláine* dynasty. They were subsumed by the *Airgialla* or Oriel in the early 12th century.

The *fulacht fiadh* identified at Site 102, Littlemill 2 (Ó Donnachadha, B. forthcoming (f)) was Radiocarbon 14 dated to Cal 890AD -1250AD (968 \pm 85BP). Site 102, Littlemill 2 was roughly circular in shape and it is suggested that these sites, which are identified as early medieval and medieval in date, tend to be circular to oval in shape with no evidence for pit lining (O'Neill, pers.comm, 2007). The example at Littlemill 2, however was wood-lined.

2.3 Medieval Period (AD1169-1700)

The motte and bailey at Castletown (LH007-11807) located c.2km northeast of Donaghmore 4, represents the initial phase of Anglo-Norman activity in the area. Although there are some suggestions that John de Courcy was responsible for this development, it is generally accepted that it represents the initial headquarters of the de Verdon family in their new territory. The Anglo-Normans were responsible for the construction of a network of towns throughout the Ireland with Louth being the most urbanised county.

The lands in and around Castletown and Dundalk environs were granted to the Anglo-Norman Bertram de Verdon following his arrival in 1185, and corresponds to the modern barony of Upper Dundalk (Gosling, 1993, 252). The de Verdon estate passed onto the Bellews with many of the tower houses constructed at this time. The Bellews constructed two large examples in 1472 and 1479, of which only the later one survives in the grounds of St. Louis convent (LH007-11801). The earlier tower house is believed to have stood at Castletown cross (LH007-11803) but no traces of it survive above ground. In 1429, Henry IV introduced a £10 subsidy to encourage the King's 'liege men' to build tower houses within the Pale, under the condition that they were built within ten years. This venture was so successful that twenty years later a limit was imposed on their construction. In Counties Louth, Kildare and Meath, the towers were mostly concentrated along the borders of the Pale (Davin 1982). The surviving tower house at Castletown (LH007-11801), most likely functioned as the centre of the Bellew manor of Dundalk during the 15th century. Garstin's map of 1655 shows it protected by a bawn wall, which also enclosed outhouses.

For information of the Anglo-Norman land ownership we are reliant on documentary sources, and in Co. Louth this information is recorded in the 'Dowdall deeds'. The lack of documentary sources and archaeological excavations in the area have led to large gaps in the record regarding the size of the Anglo-Norman settlement and how it was laid out. By the 13th century it seems that Castletown had its own church and burgesses. Garstin's map does point out the existence of burgage plots and streets in

the vicinity of Mill road and Castletown cross. A watermill, most likely attached to the manor, is known from documentary sources although its precise location is not known.

At this time the new town of Dundalk, which lies c.2km to the east of the Castletown, developed as the major urban centre. This was due to its market centre and port in addition to its more strategic sitting on the major routeway linking Dublin with Ulster. It is probable that another factor influencing the move of the de Verdons was the nature of the topography of the general area. The unsatisfactory nature of the river at the Castletown location must have made it inaccessible to shipping even in the late 12th century. The new town also had the advantage of considerable natural defences. The site of the new town, which was to grow into the modern town of Dundalk, was thus better situated than Castletown from a commercial and defensive perspective. As Dundalk developed and became the focus for Anglo-Norman settlement in the area, Castletown fell into decline and Dundalk became the economic heart of the Lordship. The precise date for the foundation of the “*Newtown*” of Dundalk is unclear. However by the late 13th century surviving property deeds make the distinction between the late 12th century settlement at Castletown and the Newtown or ‘*nove ville de Dundalc*’. As a result of the low-lying nature of the surrounding landscape and the form of the gravel ridge on which the Newtown (Dundalk) was located, the town developed a markedly linear aspect, which is still apparent today.

2.4 Post-Medieval Period (1700-1900)

Post-medieval remains identified in the study area relate to industrial structures particularly mills and kilns surrounding the Castletown and Kilcurry River waters, with these structures usually being fed by a mill race. Two mills and associated races occur near to the Castletown-Kilcurry confluence. A quarry for limestone is situated to the north of the corridor. Small scale extraction cuts are also known sunk into natural rock outcrops such as the one at Ch19.200.

Site 102 at Littlemill 2 (Ó Donnachadha, B. forthcoming (f)) contained the remains of a post-medieval structure, which cartographic evidence demonstrates supports its existence at this location since the first edition OS map dating to 1836. It is probable that this structure was a small vernacular style residence accompanied by a small farmyard as was typical of the area and indeed most of Ireland during the 19th century.

At Site 119, Balregan 3 & 4 (Delaney, S. forthcoming (d)), the subsurface remains of a north-south oriented masonry structure was recorded. The foundations measured 21m in length and 6.5m in width and consisted of two rooms. The building appears to have been of 19th century construction based on the artefactual evidence and identifiable construction methods, however, the structure is not depicted on the 1835 or the 1908-9 1:10, 560 scale Ordnance Survey editions. Anecdotal evidence from a local landowner notes that a structure formerly located at this site was demolished around the mid 20th century; it is likely the building dates from the later 19th century and fell out of use at the same time as the Scotch Green Mill.

Site 118, Balregan 5 & 6 (Delaney, S. forthcoming (e)), contained the remains of a post-medieval water mill, which even in its ruinous condition showed a complete example of this form. Millrace, millpond, main sluices, internal wheel race and a number of main rooms along with the access road and access road and yard for the mill buildings were present.

3 THE EXCAVATION

3.1 On-site methodology

The topsoil was reduced to the interface between natural and topsoil using a 20 tonne excavator machine equipped with a flat toothless bucket under strict archaeological supervision. The remaining topsoil was removed by the archaeological team with the use of shovels, hoes and trowels in order to expose and identify the archaeological remains. A site grid was set up at 10m intervals and was subsequently calibrated to the national grid using GPS survey equipment.

All features were subsequently fully excavated by hand and recorded using the single context recording system with plans and sections being produced at a scale of 1:50, 1:20 or 1:10 as appropriate.

A complete photographic record was maintained throughout the excavation. Digital photographs were taken of all features and of work in progress. These photos were supplemented by specialist aerial photographs.

An environmental strategy devised at the beginning of the excavation was endorsed by Penny Johnston (environmental specialist). Features exhibiting large amounts of carbonised material were the primary targets. Features containing waterlogged or anoxic fills were sampled for later lab analysis.

3.2 Report production methodology

Groups and subgroups

For the purpose of this report the archaeological remains are described by way of sub-groups (stratigraphically connected contexts, generally derived from a defined and stratigraphically independent archaeological action or sequence of actions). Groups define related sub-groups. Phasing of the site is based on the grouping of the groups, and this is described in the discussion (Section 6).

In the following text, the author has used three types of brackets:

{ } = These enclose Subgroup numbers.

() = These enclose Deposit/Fill numbers

[] = These enclose both Cut and Masonry Structure numbers

The author has allocated Subgroup numbers starting from {1000} to avoid confusion with existing context numbers.

Example:

- Subgroup {1400} consists of Cut [x] and fills (y) and (z)
- Subgroup {1456} consists of Cut [a] and fill (b), Cut [c] and fill (d), Cut [e] and fill (f). Cuts [a], [c], and [e] have been shown to be related and can therefore be placed in one collective Subgroup.

3.3 Legends and Brackets

CONTEXT KEY;

- prof = profile
- NSEW = Compass points, Eg: 'N-S' = North-South oriented feature
- All dimensions are given in metres
- d/l/w = depth/width/length
- s/m/lg = small/medium/large
- ang/sub-ang/rou/sub-rou = refer to stones, Eg: 's sub-ang' = small sub-angular stone
- mixed = ang + sub-ang + rou + sub-rou
- Dk/Lt = dark/light

- mod = moderate/moderately
- freq/occ = frequent/occasional
- ch = charcoal
- Hb/Ht = Human bone/teeth
- Ab/At = Animal bone/teeth
- frags/fls = fragments/flecks
- vert = vertical
- constr = construction
- sk = skeleton
- t'd/unx/s'd = truncated/unexcavated/segmented
- w/- = with
- pres = preservation

PERIOD KEY:

- PH: Prehistoric
- EM: Early Medieval
- MD: Medieval
- PM: Post-medieval
- MOD: Modern

4 EXCAVATION RESULTS

STRATIGRAPHY

4.1 GROUP 1: Natural Drift Geology

4.1.1 Subgroup {1000}: Natural Drift Geology

Contexts:

C	Area	Fill of	Filled by	Interpretation	Description
1	Site	N/A	N/A	Natural subsoil	Natural subsoil

Interpretation:

Natural subsoil cut by features.

GROUP 1 DISCUSSION: Natural Drift Geology

Site 109, Donaghmore 4 was located at 37m OD on a low ridge that lay roughly on an east-west orientation. The site was sheltered by a rock outcrop to the west and south and overlooked extensive views to the east and north. Approximately 150m to the north was a stream and wetland between Ch19.840 – 19.880, 27m OD.

Well drained and sheltered by the surrounding ridges, the site would have served as an ideal location for the establishment of a habitation site. The glacial nature of the sand and stone-strewn natural subsoil ensured that the area was well drained. The top of the ridge was broad and while not quite flat it was somewhat plateau-like but with a north facing aspect. This flat ridge may also have served to make the site more easily defended from potential attack.

4.2 GROUP 2: Prehistoric Activity

4.2.1 Subgroup {1001}: Pit.

Contexts:

C	Area	Type	Fill of	Filled by	Interpretation	Description
4	4	Fill	C15		Upper fill of Pit [15]	Dark brown, loose ch-rich med sand, mod sm stones
14	4	Fill	C15		Lower fill of pit [15]	Light brown, loose med sand, occ ch, mos sm stones
15	4	Cut		C4, C14	Pit	Circular in plan, 0.16m d x c. 0.50m dia, N+S sides vert, E+W sides gradual, base flat

Finds:

C	Find	Material	Period	Pottery Form	Artefact type	Comments
4	02E1331:4:1	Pottery	Early Neolithic	Necksherd	Carinated bowl	
4	02E1331:4:2	Pottery	Early Neolithic	Necksherd	Carinated bowl	
4	02E1331:4:3	Pottery	Early Neolithic	Necksherd	Carinated bowl	
4	02E1331:4:4	Pottery	Early Neolithic	Necksherd	Carinated bowl	
4	02E1331:4:5	Pottery	Early Neolithic	Necksherd	Carinated bowl	
4	02E1331:4:6	Pottery	Early Neolithic	Necksherd	Carinated bowl	

Interpretation:

The subgroup {1001} consists of a circular pit [C15]. The pit contained two fills and the upper charcoal-rich fill (C4) contained 6 prehistoric pottery sherds which have been identified as fragments of 4 Early Neolithic Carinated bowls (Appendix 2). The lower fill (C14) was charcoal flecked but did not contain any pottery.

Flint is also conspicuous by its absence, as this would have been used during the everyday routine on a settlement site. It is possible that this north facing location and this pit and other archaeological remains represent some outlying features associated with the settlement located at Donaghmore 1.

4.2.2 Subgroup {1002}: Pit

Contexts:

C	Area	Type	Fill of	Filled by	Interpretation	Description
7	4	Fill	C17		Fill of pit [17]	Silty sand, occ v sm stones
17	4	Cut		C7	Shallow pit	Sub-triangular in plan, 0.09m d x 0.43m l x 0.30m w, pointing N

Finds:

C	Find	Material	Period	Pottery Form	Artefact type	Comments
7	02E1331:7:1	Pottery	Middle Neolithic	Shouldersherd	Bipartite bowl	
7	02E1331:7:2	Pottery	Middle Neolithic	Shouldersherd	Bipartite bowl	
7	02E1331:7:3	Pottery	Middle Neolithic	Necksherd	Bipartite bowl	
7	02E1331:7:4	Pottery	Middle Neolithic	Necksherd	Bipartite bowl	
7	02E1331:7:5	Pottery	Middle Neolithic	Shouldersherd	Bipartite bowl	

7	02E1331:7:6	Pottery	Middle Neolithic	Shouldersherd	Bipartite bowl	
7	02E1331:7:7	Pottery	Middle Neolithic	Necksherds	Bipartite bowl	
7	02E1331:7:8	Pottery	Middle Neolithic	Necksherds	Bipartite bowl	
7	02E1331:7:9	Pottery	Middle Neolithic	Necksherds	Bipartite bowl	
7	02E1331:7:10	Pottery	Middle Neolithic	Fragment	Bipartite bowl	
7	02E1331:7:11	Pottery	Middle Neolithic	Fragment	Bipartite bowl	
7	02E1331:7:12	Pottery	Middle Neolithic	Fragment	Bipartite bowl	

Interpretation:

Directly north of [C15] was the roughly triangular-shaped shallow pit [C17] represented by the subgroup {1002}. This pit was filled with sandy silt (C7) which contained 12 sherds of a Middle Neolithic Bipartite bowl (Appendix 2.1).

4.2.3 Subgroup {1003}: Postholes

Contexts:

C	Area	Type	Fill of	Filled by	Interpretation	Description
3	4	Fill	C18		Fill of Posthole [18]	Dark brown sandy silt, occ ch fl, occ med stones
6	4	Fill	C20		Fill of poss posthole [20]	Silty sand, occ v sm stones
8	4	Fill	C11		Fill of pit [11]	Sandy silt, occ, v sm stones
10	4	Fill	C19		Fill of posthole [19]	Dark loose sandy silt, occ ch fl.
11	4	Cut		C8	Pit	Sub-triangular in plan, 0.12m d x 0.46m l x 0.37m w, pointing N, NW side steep, others gentle
18	4	Cut		C3	Poss posthole	Sub-circular in plan, 0.09m d x 0.76m l x 0.71m w, NW-SE orientation, sides slope gradually, base flat
19	4	Cut		C10	Poss posthole	Circular in plan, 0.08m d, 0.40m x 0.30m
20	4	Cut		C6	Poss posthole	Sub-rect in plan, 0.06m d x 0.67m x 0.49m w, E-W orientation sides v shallow

Finds:

None

Interpretation:

The subgroup {1003} is represented by a small cluster of postholes and a pit. The pit [C11] was sub-triangular in plan and was filled with silty sand (C8) and very occasional small stone inclusions. The posthole [C18] was located 3.50m southeast of the pit [C11] and was filled with dark brown sandy silt (C3) with charcoal flecking and occasional stone inclusions. The posthole [C19], located 3m west of [C18] was filled with a dark, loose sandy silt with occasional flecks of charcoal and the posthole [C20], 2.50m east of [C19] contained a single fill of silty sand (C6) with occasional small stone inclusions.

It is not possible to establish whether this cluster of features was associated with the Early or Middle Neolithic activity located close by. It is also possible that these features may be associated with the large pit and associated stakeholes located 8m to the northeast.

4.2.4 Subgroup {1004}: Large Pit and Stakeholes

Contexts:

C	Area	Type	Fill of	Filled by	Interpretation	Description
21	4.1	Fill	C26		Upper fill of pit [26]	Dark brown black, tightly compacted silty clay, mod ch,
22	4.1	Fill	C26		Lower fill of pit [26]	Mid-light brown, loose sandy clay, occ ch, freq lge ang+sub-ang stones
23	4.1	Fill	C28		Prob burnt stake, stakehole [28]	Dk brown, mod compact ch-rich silty clay
24	4.1	Fill	C27		Burnt stake, stakehole [27]	Dark brown grey, mod compact silty clay, freq ch fl, mod sm stones
25	4.1	Fill	C29		Burnt stake, stakehole [29]	Mid brown grey, mod compact ch-rich silty clay, occ sm stones
26	4.1	Cut		C21, C22	Pit	Lge irreg pit, 0.04-0.30m x 5.77m x 4.63m in area, overlying a very stoney area
27	4.1	Cut		C24	Stakehole	Circular in plan, 0.12m x 0.21m dia, Poss T'd by ploughing
28	4.1	Cut		C23	Stakehole	Circular in plan, 0.18m x ca 0.20m dia, sides+base concave, Poss T'd over time
29	4.1	Cut		C25	Stakehole	Oval in plan, 0.24m d x 0.30m x 0.26m, Sides+base concave

Finds:

None

Interpretation:

This area was located c. 8m to the northeast of the subgroups {1001}, {1002} and {1003}. The subgroup {1004} is characterised by a large pit [C26] with 1 stakehole [C28], cut into the base of the pit along its south-west edge and two others [C27] and [C29] located to the west and north of the pit (Figure 4, 5). The pit contained two fills (C21) and (C22) and neither produced any finds and only minimal amounts of charcoal. The stakeholes were filled with charcoal-rich fills (C23), (C24) and (C25).

The subgroup {1004} represents the remains of a probable fire pit surrounded by a possible screen or windbreak. The large quantity of charcoal suggests that a fire was lit in the pit although it did not burn long enough or hot enough to oxidise the natural clay beneath it. It is not possible to establish whether these features were associated with the Early or Middle Neolithic activity to the southwest or whether they were associated with the small cluster of postholes and the pit in subgroup {1003}.

GROUP 2 DISCUSSION: Prehistoric Activity

Group	Subgroup	Subgroup type	Period by finds/ stratigraphy	Period by interpretation	Group Interpretation
2	1001	Pit	Early Neolithic	Early Neolithic	Neolithic
2	1002	Pit	Middle Neolithic	Middle Neolithic	Neolithic
2	1003	Pit and three postholes	Neolithic?	Neolithic?	Neolithic
2	1004	Pit and three postholes	Neolithic?	Neolithic?	Neolithic

Summary:

Group 2 consists of a pit dated to the Early Neolithic {1001}, a pit dated to the Middle Neolithic {1002}, a cluster of postholes and a pit {1003} and a shallow pit with three associated stakeholes {1004}. These features represent the only archaeological activity found in this area. The site may represent the remains of a temporary occupation with one or more screens or windbreaks and some possible cooking pits. These features may represent seasonal, transient occupation, which has been

truncated by modern agricultural practices and thus survives in a much denuded form.

4.3 GROUP 3: Topsoil

4.3.1 Subgroup {1003}: Topsoil

Contexts:

C	Area	Fill of	Filled by	Interpretation	Description
2	Site	n/a	n/a	Topsoil	

Finds:

C	Find	Material	Period	Pottery Form	Artefact type	Comments
2	02E1331:2:1	Pottery	Post-medieval			Pottery
2	02E1331:2:2	Pottery	Post-medieval			Pottery
2	02E1331:2:3	Pottery	Post-medieval			Pottery
2	02E1331:2:4	Pottery	Post-medieval			Pottery
2	02E1331:2:5	Pottery	Post-medieval			Pottery
2	02E1331:2:6	Pottery	Post-medieval			Pottery
2	02E1331:2:7	Pottery	Post-medieval			Pottery
2	02E1331:2:8	Pottery	Post-medieval			Pottery
2	02E1331:2:9	Pottery	Post-medieval			Pottery
2	02E1331:2:10	Pottery	Post-medieval			Pottery
2	02E1331:2:11	Pottery	Post-medieval			Pottery
2	02E1331:2:12	Pottery	Post-medieval			Pottery
2	02E1331:2:13	Pottery	Post-medieval			Pottery
2	02E1331:2:14	Pottery	Post-medieval			Pottery
2	02E1331:2:15	Pottery	Post-medieval			Pottery
2	02E1331:2:16	Pottery	Post-medieval			Pottery
2	02E1331:2:17	Pottery	Post-medieval			Pottery
2	02E1331:2:18	Pottery	Post-medieval			Pottery
2	02E1331:2:19	Pottery	Post-medieval			Pottery
2	02E1331:2:20	Pottery	Post-medieval			Pottery

Interpretation:

Topsoil sealed the entire site and all the archaeological features.

GROUP 3 DISCUSSION: Topsoil

Group	Subgroup	Subgroup type	Period by finds/ stratigraphy	Period by interpretation	Group Interpretation
3	1003	Topsoil			

Summary:

A variety of finds were retrieved from the topsoil. Among these were sherds of 18th and 19th century blackware and 20th century transfer-printed ware. Bottle glass and clay pipes were also recovered dating to the post-medieval period.

4.4 SYNTHESIS

Open Area 1: Geology and topography

Site 109, Donaghmore 4 was located at 37m OD on a low ridge that lay roughly on an East/West orientation. The site was sheltered by a rock outcrop to the west and south and overlooked extensive views to the east and north. Approximately 150m to the north was a stream and wetland between Ch19.840 – 19.880, 27m OD.

Well drained and sheltered by the surrounding ridges it would have served as an ideal location for the establishment of a habitation site. The glacial nature of the sand and stone-strewn natural sub-soil ensures the area is well drained. The top of the ridge was broad and while not quite flat it was somewhat plateau-like but with a north facing aspect. This flat ridge may also have served to make the site more easily defended from potential attack.

Open Area 2: Prehistoric Activity

Two postholes and three pits were discovered in part of the site {1001} along with one shallow pit and three stake holes {1002}. The pit in subgroup {1001} was dated through the identification of the pottery recovered from the fill to the Early Neolithic and the pit in subgroup {1002} was dated through the identification of the pottery recovered from the fill to the Middle Neolithic (Appendix 2.1). The activity represented appears to be of a seasonal or transient nature, with possible structure (seen by postholes) and pitting, perhaps for cooking. No finds were discovered within the pit in subgroup {1003}, but it is possible that this was used for cooking activity, or possibly even as a small sunken hut. However, the presence of charcoal suggested the features had been affected by heat. The features have been truncated through modern agricultural practices.

Open Area 3: No discernible activity.

From site use during the Neolithic through to activity in the post-medieval period there is no evidence for archaeological activity at Site 109. This is despite Site 109 being in an area containing previously recorded early medieval and prehistoric sites.

Open Area 4: Post-medieval and modern activity

The land was enclosed during the post-medieval period and field boundaries were dug. Modern topsoil was particularly thin over the site and ploughing had considerably truncated the underlying archaeological remains.

Open Area 5: Topsoil

A variety of finds were retrieved from the topsoil. Among these were sherds of 18th and 19th century blackware and 20th century transfer-printed ware. Bottle glass and clay pipes were also recovered dating to the post-medieval period.

5 DISCUSSION

5.1 Realisation of the original research aims

This section examines the extent to which preliminary assessment of the results of the excavation reveal how the original research aims have been or can be answered.

Original Research Questions (**ORQ**) were prepared after the results of the test-trenching exercise were known and before the rescue excavations began. The following are the Original Research Questions relating to the excavation at Site 109 Donaghmore 4 and Responses (**R**) based on preliminary assessment of the site data.

ORQ 1: *How many buildings are present, what were the functions and construction methods? Are there different phases of construction and use?*

R: No buildings were discovered during the excavation as this area had suffered much interference due to modern farming techniques such as mechanical ploughing. However the presence of Early and Middle Neolithic pottery may indicate a possible transient occupation in the form of light shelters.

ORQ 2: *What are the dates of occupation and how does the site change through time?*

R: The site would appear to date from two phases of activity during the Early and Middle Neolithic. No evidence for occupation from any other period was discovered during the excavation.

ORQ 3: *Are there areas where different activities were undertaken?*

R: No.

ORQ 4: *What is the nature of the finds and the environmental evidence? What type of evidence is present here and do they give indications for specific activities?*

R: With the exception of post-medieval finds retrieved from the topsoil, the only finds recovered were Early and Middle Neolithic pottery sherds from two pits. No other evidence for activity was recovered.

ORQ 5: *Is there any evidence for burial or ritual activity?*

R: See response to ORQ 4 above.

5.2 Conclusions

The vast majority of the archaeological evidence for the Neolithic period in Co. Louth is to be found at the 4-5m (25ft) contour, which reflects the coastline during the maximum post-glacial marine transgression, and it has been suggested that this settlement location would have facilitated the exploitation of the higher ground for farming and the lower ground for summer grazing (Gosling 1993, 242).

There is a concentration of Megalithic tombs in the Flurry Valley to the north-east of the site at Donaghmore 4 (with the nearest example located at Faughart Lower (LH004-062), c. 6 km to the north-east) and scattered throughout the Cooley peninsula. Archaeological discoveries elsewhere on the DWB scheme revealed a scatter of pits containing Early Neolithic pottery at Site 132, Faughart Lower 5 (Delaney, S. forthcoming (c)). Late Neolithic/Early Bronze Age habitation activity was identified at Site 115, Newtownbalregan 5 (Bayley, D. forthcoming (c)), located c. 1.5m north of Site 109 and the truncated remains of a Late Neolithic/Early Bronze Age habitation site identified at Site 101, Littlemill 1(O Donnachada, B. forthcoming

(d)), located c. 2.1km to the south of the site. A collection of pits dating to the Late Neolithic/Early Bronze Age were identified at Site 103, Littlemill 4 & 5 (O Donnachada, B. forthcoming (c)), c. 3.3km south of Site 114 (Newtownbalregan 6) and a number of Neolithic huts with associated pits were excavated at Site 124, Carnmore 1 (Delaney, S. forthcoming (b)), located c. 2.9km northeast of the site. A middle Neolithic to Late Neolithic/Early Bronze Age Beaker habitation site was also identified at Site 108, Donaghmore 1 (O Donnachada, B. forthcoming (e)) which is located only c. 140km south of Site 109 and may be directly associated with it.

Site 109, Donaghmore 4 comprised of at least two distinct phases of Neolithic activity and appears to represent activity of a seasonal or transient nature, consisting of the possible structure and a number of probable cooking pits. Alternatively this activity may also represent the deliberate ritual deposition of domestic material away from the main occupation area and the location of a Middle Neolithic to Late Neolithic/Early Bronze Age settlement at Site 108, Donaghmore 1, 140m south of Site 109 appears to confirm this.

The pit in subgroup {1001} was dated through the identification of the pottery recovered from the fill to the Early Neolithic and the pit in subgroup {1002} was dated through the identification of the pottery recovered from the fill to the Middle Neolithic (Appendix 2.1). No finds were discovered within the fill of the pit in subgroup {1003}, but it is possible that this was used for cooking activity as the presence of charcoal suggested the features had been affected by heat. Unfortunately these features have been heavily truncated as a result of modern agricultural practices making the interpretation of the site difficult. It was also not possible to accurately date the shallow pit and associated postholes, located 8m to the north-east of subgroup {1003}, represented by the subgroup {1004} but it is probable that they were associated with either the Early or Middle Neolithic activity.

Smyth (Smyth 2007; in prep) suggests that pit digging and deposition was a common place practice in the Irish Early Neolithic and a recent review of Neolithic material listed in the *Excavations Bulletin* from 1970 to 2002 shows that sites producing pits were at least as common as sites with evidence for houses. Several isolated Early Neolithic pits were recorded south along the route of the M1 Drogheda Bypass. At Balgatheran 2, Co. Louth, a scatter of small pits, hollows and shallow deposits produced varying amounts of early Neolithic pottery, flint, burnt bone, burnt stone, charcoal and charred hazelnut shell. One feature also yielded some charred cereal grain (Campbell 2002a). At Mell 6, Co. Louth, on the north-facing slope of a limestone ridge, a shallow, oval pit was found to contain a fill of dark grey-brown soil, as well as charcoal, a large fragment of a possible granite maul, several heat-cracked stones and several sherds of early Neolithic carinated pottery (Campbell 2002b). None of these sites yielded other discernible features in the vicinity.

Whether this site was a temporary occupation area or the result of an act of deliberate ritual deposition, it is probable that the site at Donaghmore 4 was directly associated with Site 108, Donaghmore 1. This site consisted of Early and Middle to Late Neolithic/Early Bronze Age Beaker activity located on a low ridge c. 140m south of the site and both sites appear to be an indication of continuous Neolithic occupation in the area and it is also probable that further evidence of extensive Neolithic occupation may lie beyond the limits of the road-take. While there is no direct evidence indicating a link between Donaghmore 4 and Donaghmore 1, the recovery of pottery dating to the Early and Middle Neolithic from both sites and the close proximity of the sites suggests a possible association.

Site 108, Donaghmore 1 consisted of an occupation area with a number of possible structures and associated hearths, pits and postholes. A total of 31 sherds from 4 Early Neolithic Carinated Bowls were recovered from a pit and a burnt spread. A second pit contained 20 sherds of a Middle Neolithic bipartite bowl and a single sherd of Middle Neolithic Impressed Ware was found in a stakehole. The Beaker associated features consisted of two pits, one of which contained 5 sherds from two Beaker vessels while the second pit contained 3 small sherds from a single Beaker pot.

Regarding the pottery assemblage from Site 109, Donaghmore 4, Grogan and Roche (Appendix 2.1) suggests that there are no feature sherds present in the assemblage but it is probable that the pottery from the pit in subgroup {1001} represents the earliest type of Neolithic pottery (Case 1961: 'Dunmurry-Ballymarlagh styles'; Sheridan 1995: 'classic' carinated bowls). Regarding the Middle Neolithic Impressed Ware recovered from the pit in subgroup {1002}, Grogan (Appendix 2.1) suggests that similar vessels also occur within the region in court tombs at Ballyedmond (Evans 1938), Co. Down, and Annaghmare, Co. Armagh (Waterman 1965), the portal tomb at Ballykeel, Co. Armagh (Collins 1965)(see Herity 1982, figs 47.3, 49.2, 31-3), as well as at a possible ritual site at Balregan, Co. Louth (Ó Donnchadha 2003a; Grogan and Roche 2005b). Within this general type (Case 1961: 'Ballyalton bowls'; Herity 1982: 'Necked Vessels'; Sheridan 1995: 'decorated bipartite bowls') those associated with so-called 'single burials'¹, especially those in Linkardstown tombs (Brindley and Lanting 1989/90: 'Drimnagh Style bowls') provide part of the background for the Donaghmore vessel. The main period for these is firmly dated to c. 3525-3350 cal. BC (Brindley and Lanting 1989/90, 4-5, figs 1-2) but wider associations indicate that similar pottery forms may have continued later.

Grogan and Roche (Appendix 2.1) also suggests that at a regional level the possible hut and other associated features fits in very well with an important concentration of early Neolithic settlement in North Leinster. In addition to the major settlement with two early phases at Knowth, Co. Meath (Eogan 1984; Eogan and Roche 1997), there is also settlement evidence at Newgrange (O'Kelly *et al.* 1978) and Feltrim Hill, Co. Dublin (Hartnett and Eogan 1964). Other sites in the immediate area of Co. Louth with pottery of this type from apparently domestic contexts include Littlemill 1, Donaghmore 1a and Newtownbalregan 6 (Ó Donnchadha 2003b; 2002; Bayley 2004; Grogan and Roche 2006a; 2006b; Grogan and Roche 2005a)

Grogan and Roche conclude that the pottery at Donaghmore fits very well into the main concentration of this material in the east Ulster/north Leinster region and forms part of an important group of sites in Co. Louth that includes Townleyhall 2, Newtownbalregan 6, Littlemill 1 and 4/5, and Donaghmore 1 (Eogan 1963; Bayley 2004; Ó Donnchadha 2003b; 2003c; 2002; Grogan and Roche 2005a; 2006a; 2006c; 2006d).

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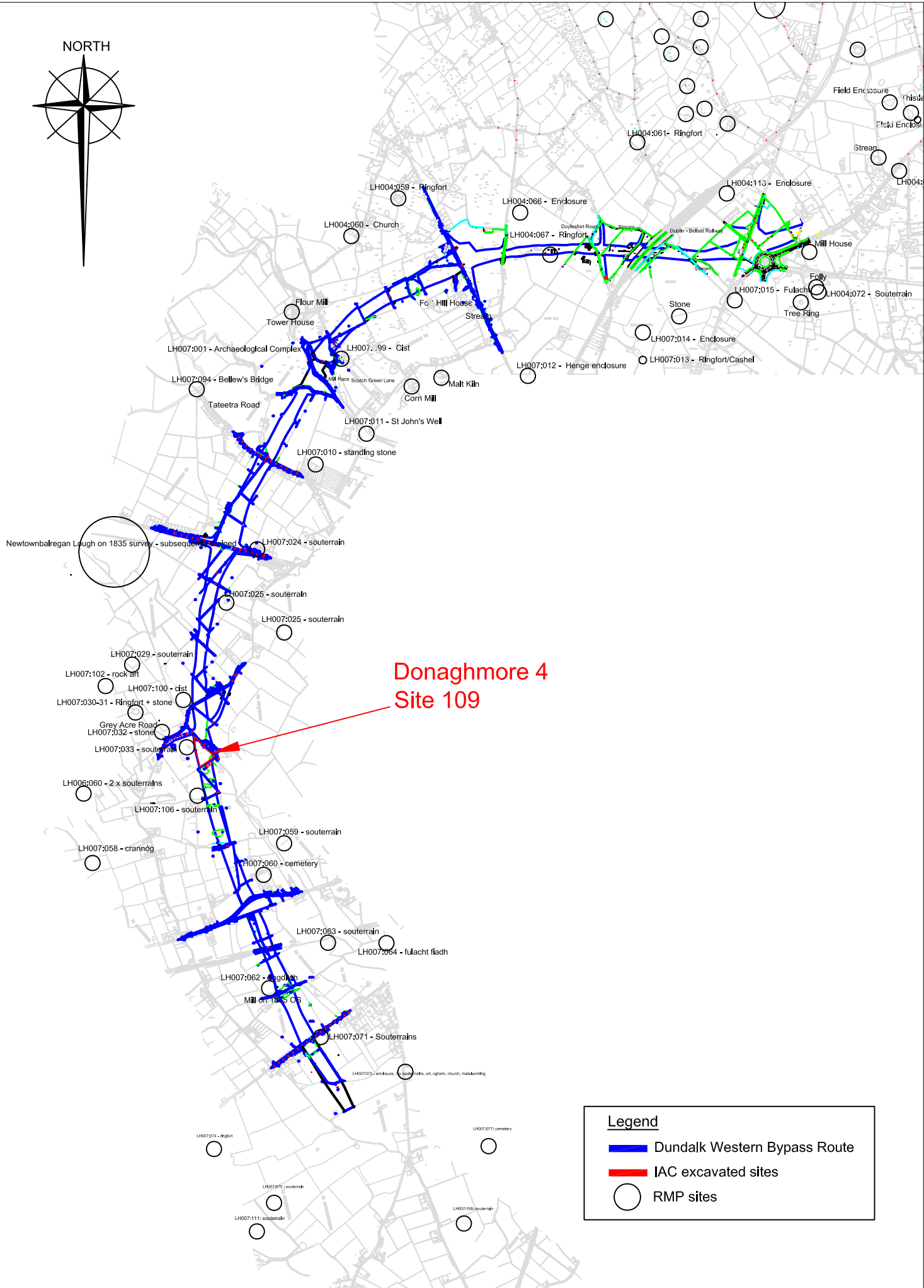
Valerie J Keeley Ltd. 1999. 'Archaeological Aerial Survey, Western Bypass, Northern Link, Dundalk, Co. Louth'.



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Title: Site 109, Donaghmore 4 Site location
Project: M1 Dundalk Western Bypass
Client: Louth County Council

Scale: N.T.S.
Date: 16/11/07
Produced by: P Higgins
Job No: J2041
Figure No: 1



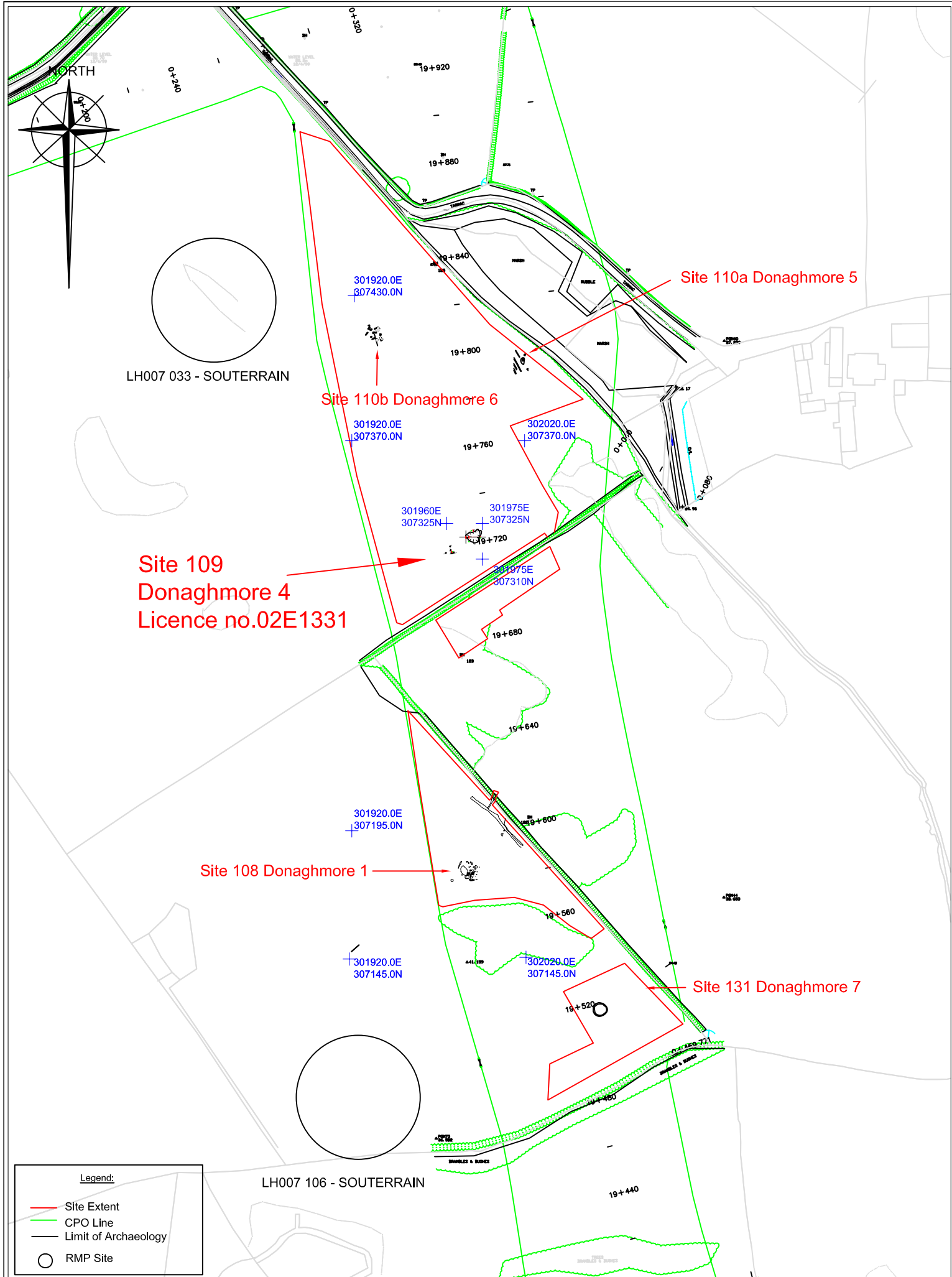
Donaghmore 4 Site 109

Legend

-  Dundalk Western Bypass Route
-  IAC excavated sites
-  RMP sites



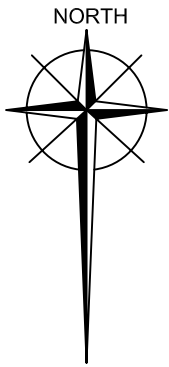
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Project:	M1 Dundalk Western Bypass	Date:	16/11/07
Client:	Louth County Council	Produced by:	P Higgins
		Job No:	J2041
		Figure No:	2



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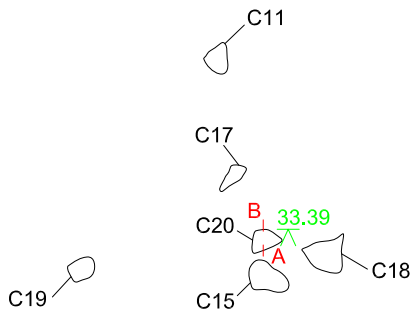
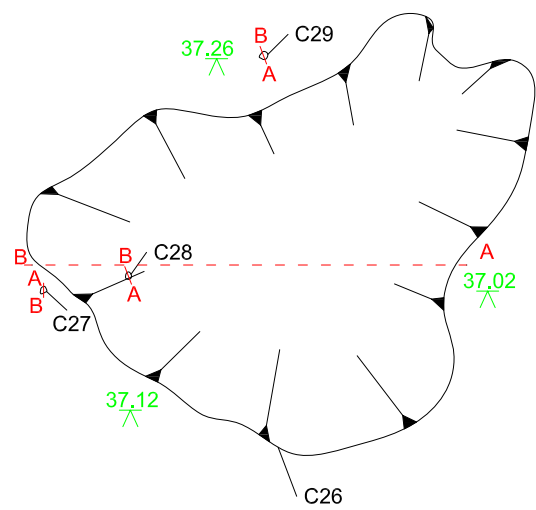
Title: Location of Site 109 Donaghmore 4 within proposed road scheme
Project: M1 Dundalk Western Bypass
Client: Louth County Council

Scale: 1:2000
Date: 16/11/07
Produced by: P Higgins
Job No: J2041
Figure No: 3



301960E
+307325N

301975E
+307325N



301975E
+307310N

Legend	
C##	Cut number
- - -	Section line
—	Limit of excavation
^	OD Levels



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Title: Post Excavation Plan of Site 109, Donaghmore 4

Project: M1 Dundalk Western Bypass

Client: Louth County Council

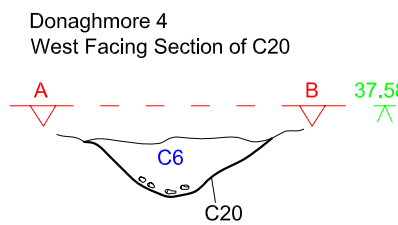
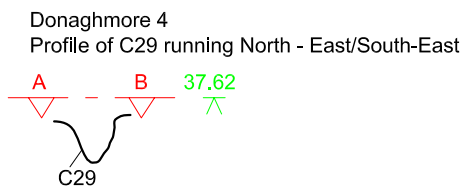
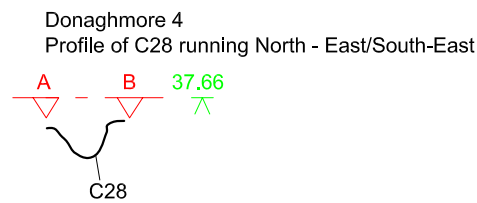
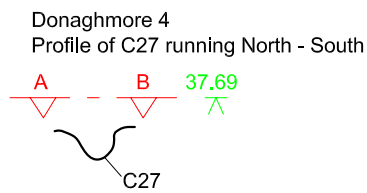
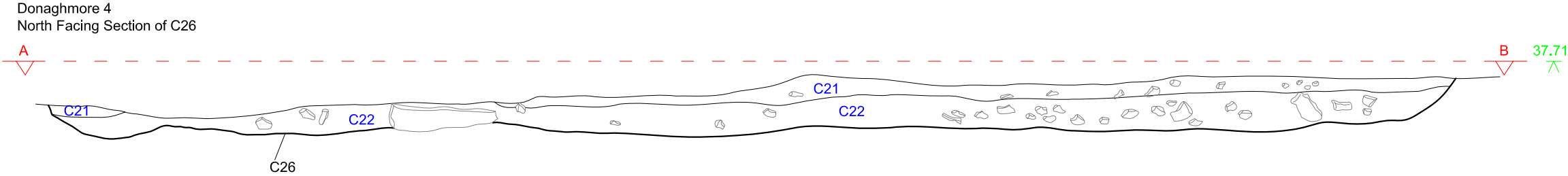
Scale: 1:100

Date: 16/11/2007


Produced by: P Higgins

Job No: J2041

Figure No: 4



Legend	
C##	Fill number
C##	Cut number
- - -	Section line
^	OD Levels

Title: Sections of Group 2 (prehistoric activity)		
Project: M1 Dundalk Western Bypass		
Client: Louth County Council		 Irish Archaeological Consultancy Ltd.
Scale: 1:20	Job No: J2041	
Date: 15/11/07	Figure No: 5	
Produced by: P Higgins		

PLATES



Plate 1: Overhead view of Site 109, Donaghmore 4 (Studiolab)



Plate 2: Pre-excavation photo of [C15], [C18] and [C20], facing north

APPENDIX 1: CATALOGUE OF PRIMARY DATA

Context Register:

C	Area	Fill of	Filled with	Interpretation	Description
1	Site	n/a	n/a	Subsoil	
2	Site	n/a	n/a	Topsoil	
3	C4	C18	n/a	Fill of Posthole [C18]	Dark brown sandy silt, occ ch fl, occ med stones
4	C4	C15	n/a	Upper fill of Pit [C15]	Dark brown, loose ch-rich med sand, mod sm stones
5	C4	C13	n/a	Non-Archaeological	
6	C4	C20	n/a	Fill of poss posthole [C20]	Silty sand, occ v sm stones
7	C4	C17	n/a	Fill of pit [C17]	Silty sand, occ v sm stones
8	C4	C11	n/a	Fill of pit [C11]	Sandy silt, occ, v sm stones
9	C4	C12	n/a	Non-Archaeological	
10	C4	C19	n/a	Fill of Posthole [C19]	Dark loose fill
11	C4	n/a	C8	Pit	Sub-triangular in plan, 0.12m d x 0.46m l x 0.37m w, pointing N, NW side steep, others gentle
12	C4	n/a	C9	Non-Archaeological	
13	C4	n/a /a	C5	Non-Archaeological	
14	C4	C15	n/a	Lower fill of pit [C15]	Light brown, loose med sand, occ ch, mos sm stones
15	C4	n/a	C4, C14	Pit	Circular in plan, 0.16m d x ca 0.50m dia, N+S sides vert, E+W sides gradual, base flat
16				Number not used	
17	C4	n/a	C7	Shallow pit	Sub-triangular in plan, 0.09m d x 0.43m l x 0.30m w, pointing N
18	C4	n/a	C3	Poss posthole	Sub-circular in plan, 0.09m d x 0.76m l x 0.71m w, NW-SE orientation, sides slope gradually, base flat
19	C4	n/a	C10	T'd posthole	
20	C4	n/a	C6	Possible posthole	Sub-rect in plan, 0.06m d x 0.67m x 0.49m w, E-W orientation sides v shallow
21	C4	C26	n/a	Upper fill of pit [C26]	Dark brown black, tightly compacted silty clay, mod ch,

22	C4	C26	n/a	Lower fill of pit [C26]	Mid-light brown, loose sandy clay, occ ch, freq lge ang+sub-ang stones
23	C4	C28	n/a	Prob burnt stake, stakehole [C28]	Dk brown, mod compact ch-rich silty clay
24	C4	C27	n/a	Burnt stake, stakehole [C27]	Dark brown grey, mod compact silty clay, freq ch fl, mod sm stones
25	C4	C29	n/a	Burnt stake, stakehole [C29]	Mid brown grey, mod compact ch-rich silty clay, occ sm stones
26	C4	n/a	C21, C22	Pit	Lge irreg spread, 0.04-0.30d x 5.77l x 4.63 in area, overlying a very stoney area
27	C4	n/a	C24	Stakehole	Circular in plan, 0.12d x 0.21dia, Poss T'd by ploughing
28	C4	n/a	C23	Stakehole	Circular in plan, 0.18d x ca 0.20dia, sides+base concave, Poss T'd over time
29	C4	n/a	C25	Stakehole	Oval in plan, 0.24d x 0.30l x 0.26, Sides+base concave

Catalogue of Finds:

C	Find	Material	Period	Pottery Form	Artefact type	Comments
2	02E1331:2:1	Pottery	Post-medieval			
2	02E1331:2:2	Pottery	Post-medieval			
2	02E1331:2:3	Pottery	Post-medieval			
2	02E1331:2:4	Pottery	Post-medieval			
2	02E1331:2:5	Pottery	Post-medieval			
2	02E1331:2:6	Pottery	Post-medieval			
2	02E1331:2:7	Pottery	Post-medieval			
2	02E1331:2:8	Pottery	Post-medieval			
2	02E1331:2:9	Pottery	Post-medieval			
2	02E1331:2:10	Pottery	Post-medieval			
2	02E1331:2:11	Pottery	Post-medieval			
2	02E1331:2:12	Pottery	Post-medieval			
2	02E1331:2:13	Pottery	Post-medieval			
2	02E1331:2:14	Pottery	Post-medieval			
2	02E1331:2:15	Pottery	Post-medieval			
2	02E1331:2:16	Pottery	Post-medieval			
2	02E1331:2:17	Pottery	Post-medieval			
2	02E1331:2:18	Pottery	Post-medieval			
2	02E1331:2:19	Pottery	Post-medieval			
2	02E1331:2:20	Pottery	Post-medieval			
4	02E1331:4:1	Pottery	Early Neolithic	Necksherd	Bowl	
4	02E1331:4:2	Pottery	Early Neolithic	Necksherd	Bowl	
4	02E1331:4:3	Pottery	Early Neolithic	Nec sherd	Bowl	
4	02E1331:4:4	Pottery	Early Neolithic	Necksherd	Bowl	
4	02E1331:4:5	Pottery	Early Neolithic	Necksherd	Bowl	
4	02E1331:4:6	Pottery	Early Neolithic	Necksherd	Bowl	
7	02E1331:7:1	Pottery	Middle Neolithic	Shouldershe	Bowl	

				rd		
7	02E1331:7:2	Pottery	Middle Neolithic	Shouldershe rd	Bowl	
7	02E1331:7:3	Pottery	Middle Neolithic	Necksherd	Bowl	
7	02E1331:7:4	Pottery	Middle Neolithic	Necksherd	Bowl	
7	02E1331:7:5	Pottery	Middle Neolithic	Shouldershe rd	Bowl	
7	02E1331:7:6	Pottery	Middle Neolithic	Shouldershe rd	Bowl	
7	02E1331:7:7	Pottery	Middle Neolithic	Necksherd	Bowl	
7	02E1331:7:8	Pottery	Middle Neolithic	Necksherd	Bowl	
7	02E1331:7:9	Pottery	Middle Neolithic	Necksherd	Bowl	
7	02E1331:7:10	Pottery	Middle Neolithic	Fragment	Bowl	
7	02E1331:7:11	Pottery	Middle Neolithic	Fragment	Bowl	
7	02E1331:7:12	Pottery	Middle Neolithic	Fragment	Bowl	

APPENDIX 2: SPECIALIST REPORTS

APPENDIX 2.1: PREHISTORIC POTTERY REPORT

THE PREHISTORIC POTTERY
FROM
DONAGHMORE 4, CO. LOUTH
(02E1331)

EOIN GROGAN AND HELEN ROCHE

1 SUMMARY

The Donaghmore 4 site produced a small domestic assemblage of twenty sherds (and fourteen fragments) representing four Early Neolithic Carinated Bowls and a Middle Neolithic Bipartite Bowl.

The Early Neolithic

There are four vessels (Nos 4-5) of good thin-walled fabric; at least one of these, Vessel 3, appears to have a burnished finish. The pottery is very fragmentary and there is a burnt accretion on the inner face of No. 1: the condition of the sherds and the small number representing the separate vessels indicate that this is a small domestic assemblage. Although there are no feature sherds present it is probable that this pottery represents the earliest type of Neolithic pottery (Case 1961: 'Dunmurry-Ballymarlagh styles'; Sheridan 1995: 'classic' carinated bowls). At a regional level the house fits in very well with an important concentration of Early Neolithic settlement in north Leinster. In addition to the major settlement with two early phases at Knowth, Co. Meath (Eogan 1984; Eogan and Roche 1997), there is also settlement evidence at Newgrange (O'Kelly *et al.* 1978) and Feltrim Hill, Co. Dublin (Hartnett and Eogan 1964). Other sites in the immediate area of County Louth with pottery of this type from apparently domestic contexts include Littlemill 1, Donaghmore 1a and Newtownbalregan 6 (Ó Donnchadha 2003b; 2002; Bayley 2004; Grogan and Roche 2006a; 2006b; Grogan and Roche 2005a)

The Middle Neolithic

Although there are only a few sherds of the Vessel 4 present it appears to be a fine Bipartite Bowl. Similar vessels occur within the region in court tombs at Ballyedmond (Evans 1938), Co. Down, and Annaghmare, Co. Armagh (Waterman 1965), the portal tomb at Ballykeel, Co. Armagh (Collins 1965)(see Herity 1982, figs 47.3, 49.2, 31-3), as well as at a possible ritual site at Balregan, Co. Louth (Ó Donnchadha 2003a; Grogan and Roche 2005b). Within this general type (Case 1961: 'Ballyalton bowls'; Herity 1982: 'Necked Vessels'; Sheridan 1995: 'decorated bipartite bowls') those associated with so-called 'single burials'², especially those in Linkardstown tombs (Brindley and Lanting 1989/90: 'Drimnagh Style bowls') provide part of the background for the Donaghmore vessel. The main period for these is firmly dated to c. 3525-3350 cal. BC (Brindley and Lanting 1989/90, 4-5, figs 1-2) but wider associations indicate that similar pottery forms may have continued later.

Bipartite Bowls form part of the widespread emergence of an Impressed Ware tradition in Ireland and Britain during the Middle Neolithic (Gibson 2002, 78-82; Grogan and Roche 2005b, fig. 4). The pottery at Donaghmore fits very well into the main concentration of this material in the east Ulster/north Leinster region and forms part of an important group of sites in Co. Louth that includes Townleyhall 2, Newtownbalregan 6, Littlemill 1 and 4/5, and Donaghmore 1 (Eogan 1963; Bayley 2004; Ó Donnchadha 2003b; 2003c; 2002; Grogan and Roche 2005a; 2006a; 2006c; 2006d).

² These are not exclusively the burials of single individuals.

CATALOGUE

The excavation number 02E1331 is omitted throughout; only the context number followed by the find number is included.

Where the pottery is listed in the catalogue the context numbers are in bold: e.g.: **2.1**. Numbers in square brackets (e.g. **2**.[3-4]) indicate that the sherds are conjoined. The thickness refers to an average dimension; where relevant a thickness range is indicated.

Vessel numbers have been allocated to pottery where some estimation of the form of the pot is possible, or where the detailed evidence of featured sherds (e.g. rims, shoulders) or the fabric, indicate separate vessels.

The Early Neolithic: Feature 2

Vessel 1. This is represented by a necksherds (**2.1**) from a medium-sized vessel with a buff exterior and a dark grey core and inner surface. The fabric is smooth and well-finished with a low content of crushed dolerite and quartzite inclusions ($\leq 2\text{mm}$). Neck thickness: 8.8mm.

Vessel 2. This is represented by 4 necksherds (**2**.[3-4], 5-6; 7 fragments: **2.14-20**) from a medium-sized vessel of worn buff fabric. There is a low content of crushed quartzite inclusions (up to 2.5 x 2mm). Neck thickness: 7-7.2mm.

Vessel 3. This is represented by 3 small worn necksherds (**2.7-9**; 4 fragments: **2.10-3**) from a small vessel of grey-buff fabric; the outer surface may be burnished. There is a medium content of crushed quartzite inclusions ($\leq 1\text{mm}$, up to 4 x 2mm). Neck thickness: 4.8mm.

Feature 4

Vessel 4. This is represented by 2 necksherds (**4.1**, [2-6]) from a medium-sized vessel of fine red-brown fabric. There is a medium content of crushed quartzite inclusions ($\leq 1.5\text{mm}$, up to 3 x 2mm). Neck thickness: 7.2mm.

The Middle Neolithic: Feature 7

Vessel 4. This is represented by 10 (4 shouldersherds: **7**.[5, 2, 6], 1; 6 necksherds **7**.[3, 6], [4, 7], [8-9]; 3 fragments: **7.0-12**) from a medium-sized vessel of fine dark grey to red-brown fabric; the outer surface may be burnished. There is a low content of crushed dolerite and quartzite inclusions ($\leq 1.5\text{mm}$, up to 3 x 2mm). The vessel has a sharply angled shoulder and the straight neck extends from this at an angle of about 30°. A thin, horizontal, pinched-up, lug occurs on the shoulder. Two scored lines occur beneath the shoulder: the lower of these is partly comb-impressed. Neck thickness: 6.2mm; body: 5.2mm.

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