











SLIGO CORPORATION



N4 Sligo Inner Relief Road And County Extension Contract 1- Final Report



Report on the Archaeological Excavation of a Spread of Burnt Mound Material at Area 1G, Tonafortes, Sligo

Licensee: Sue McCabe

February 2005

PROJECT DETAILS

Project Archaeological Excavation

Archaeologist Sue McCabe

Client Sligo Borough and County Council, Town Hall, Co

Sligo

Road Scheme N4 Sligo Inner Relief Road and County Extension

Site Area 1G

TownlandTonafortesParishSt John's

Nat Grid Ref 168781, 332818

RMP No N/A

Licence No 03E1414

Planning Ref N/A

Project Date 30th September 2003

Report Date February 2005

NON-TECHNICAL SUMMARY

The N4 Sligo Inner Relief Road and County Extension (N4 SIRR) development involves the construction of a new dual carriageway extending north from the Carrowroe Roundabout on the existing N4 in Tonafortes Townland. This will run through a rural environment at first, then continue through the Sligo urban area and terminate at the Michael Hughes Bridge, at the junction of Custom House Quay and Ballast Quay in Rathedmond Townland. The development covers a distance of 4.2 km.

An extensive programme of archaeological investigation associated with the development commenced in 2001 with test excavations being carried out by Mary Henry Ltd. These test excavations took the form primarily of a series of 2m-wide trenches excavated along the length of the route. They were aimed at assessing the archaeological potential of the route and a number of definite and potential archaeological features already identified there. This testing identified eleven areas of archaeological potential and included testing on the henge enclosure in Tonafortes Townland (RMP SL014-224). Full archaeological excavation of these eleven areas commenced in April 2003 and was carried out by Archaeological Consultancy Services (ACS) Ltd.

As part of numerous sites excavated along the route of the N4 SIRR, Area 1G comprised the severely disturbed remains of a possible *fulacht fiadh*. This site had been identified during archaeological testing of the route by Mary Henry Ltd (Licence No 01E0195). The site, located to the west of the N4, is located in an area previously disturbed by machinery during the construction of the N4 at the Carrowroe Roundabout.

During excavation, the remains of charcoal-rich burnt material were identified. However, no deposits were *in situ* and no cut features were found. Therefore, while burnt material did survive, it was impossible to confirm whether a *fulacht fiadh* had been present at one time.

i

ACKNOWLEDGEMENTS

Thanks are extended to all involved in the planning and execution of the archaeological elements of the N4 Sligo Inner Relief Road project.

Thanks to the supervisors and staff who undertook the work in the field and in the preliminary post-excavation analysis: Rachel Sloane, Aiden Kenny, Jon Stirland, Jose Casaban, Martin Halpin, Lydia Cagney and Andrew Dicken.

Thanks also to all members of Sligo Borough and County Council and the National Roads Authority who were involved in the project and who were invariably helpful with information and advice when requested: Paul Canning, Paul Cunningham, and Michael MacDonagh.

This project was funded by the Irish Government and part-funded by the European Union under the National Development Plan 2000–2006. The total archaeological cost was administered by the National Roads Authority through Sligo Borough and County Council, as part of the Authority's commitment to protecting our cultural heritage.

CONTENTS

1. Introduc	ction	Page 1		
2. The Site	in the Landscape			
2.1	The Geography, Geology and Land Use	Page 2		
2.2	The Prehistoric and Early Medieval Landscape	Page 4		
	2.2.1 The Mesolithic Landscape	Page 4		
	2.2.2 The Neolithic Landscape	Page 6		
	2.2.3 The Bronze Age Landscape	Page 8		
	2.2.4 The Iron Age and Early Medieval Landscape	Page 10		
3. Historic	3. Historical Background			
4. Archaeo	logical Excavation			
4.1	Background to Archaeological Resolution	Page 15		
4.2	Excavation Methodology	Page 15		
4.3	Context Register	Page 16		
4.4	Stratigraphical Report Summary	Page 16		
4.5	Interpretation and Discussion	Page 18		
5. Archive	Contents			
5.1	Stratigraphical Report	Page 20		
5.2	Drawing Register	Page 21		
5.3	Finds Register	Page 21		
5.4.	Film Register	Page 21		
6. Bibliogr	Page 22			
7. Append	ices			
7.1	Test Excavation Licences	Page 26		

List of Figures

Figure 1 Extract from Discovery Series Map No. 25 showing location of Site 1G.
 Figure 2 Proposed route of the N4 Sligo Inner Relief Road showing location of Site 1G.
 Figure 3 Southern section of N4 SIRR showing location of site.
 Figure 4 Pre-excavation plan of features. Scale as shown.
 Figure 5 Section of burnt spread, Site 1G.

List of Plates

Plate 1	Pre-excavation photograph of burnt material, facing north.
Plate 2	Disturbed and re-deposited natural subsoil north of site 1G.
Plate 3	Burnt spread during excavation, facing north.
Plate 4	Deposit of charcoal enriched material C.106.
Plate 5	Burnt material (C.105) overlying natural subsoil.

1. INTRODUCTION

The proposed N4 Sligo Inner Relief Road and County Extension (N4 SIRR) extends north from the Carrowroe Roundabout on the existing N4 at Tonafortes Townland. It will run through a rural environment at first, then continue through the Sligo urban area and terminate at the Michael Hughes Bridge, at the junction of Custom House Quay and Ballast Quay in Rathedmond Townland. The total length of the scheme is 4.2km. Construction commenced works in May 2004, following the completion of archaeological excavations.

An Environmental Impact Statement (EIS) for the development was carried out in 1999. An additional field walkover of the route was undertaken in April 2001. These studies confirmed the presence of a number of potential archaeological features along the route. Following the field studies, archaeological test excavations were carried out in order to determine the extent and nature of any archaeological remains present; these included excavating those known or potential sites identified during the earlier studies as well as all other areas along the route where no archaeological remains were visible. These test excavations were carried out by Mary Henry Ltd between September and December 2001 under licences issued by the authorities. Further testing was carried out in June 2003 by Steve Linnane of ACS Ltd within the urban area of the development (Licence No 03E0903). A list of test excavation licences issued in connection with the N4 SIRR can be found in Appendix 7.1.

The test excavations were carried out in the townlands of Tonafortes, Carrowroe, Cornageeha, Caltragh, Magheraboy, Knappagh Beg and Rathedmond: Ordnance Survey (OS) six-inch sheet 14 (692, 7) to Sheet 14 (595, 257); National Grid Co-ordinates (NGC) 168781, 332818 (south end) to 168160, 336090 (north end). Ten areas of archaeological potential were confirmed by the testing, in addition to the already known henge enclosure in Tonafortes (RMP SL014-224).

Full excavation of these areas and sites began in April 2003; these were carried out by ACS Ltd. For tendering purposes, the client had divided the required excavations into two separate contracts: Contracts 1 and 2. The areas of archaeological potential or significance that required resolution as part of these contracts were:

- Contract 1: Areas 1A–1G
- Contract 2: Areas 2A–2D

This report details the results of the excavation of a deposit of burnt material located in the townland of Tonafortes, Co Sligo (NGC 168781/332818, refer Figures 1 and 2). Site 1G was at the extreme southern end of the route of the N4 SIRR and excavation was carried out on behalf of the Sligo Borough and County Council. Licence No 03E1414 was issued by Dúchas, The

Heritage Service to Susan McCabe and excavation was carried out between September 30th and October 8th 2003.

2. THE SITE IN THE LANDSCAPE by Ed Danaher & Lydia Cagney

2.1 The Geography, Geology and Land Use

Close to the Carrowroe Roundabout and west of the existing N4, Tonaforte Townland is approximately 4km south of Sligo Town. Site 1G was situated east of undulating pasture fields in an area which shows evidence of having been heavily disturbed during the construction of the N4 SIRR. To the immediate south and north of the site, artificial hills were created from spoil removed during road works. Evidence from excavation of the site itself confirms heavy disturbance by machinery in the recent past.

Archaeological remains survive in close proximity to this site. The remains of a henge monument are located to the immediate north; these were partially excavated as part of the current archaeological programme (Site 1A, excavated by the author: Licence No 03E0535, report pending). Approximately 500m from Site 1G to the north, the remains of two *fulachta fiadh* were also excavated as part of the resolution of the archaeology along the route of the N4 SIRR (Site 1A: Licence No 03E0535, report pending).

The town of Sligo is situated at the mouth of the Garvoge (Garavogue) River. It is the second town of Connacht. Sligo is a prosperous market town, sea port and borough. The often turbulent Garvoge River extends from the picturesque Lough Gill, located to the southeast of the town, to Sligo Bay towards the west. The limestone massifs of Ben Bulben (1730ft) dominate the views to the north while the Ballygawley Hills extend this mountainous spectacle along the northeastern horizon. To the west are Knocknarea, Sligo Bay and the Atlantic Ocean. Knocknarea, a protruding limestone block, stands to a height of 1083ft. The smooth-sloped hills of the Ox Mountains, composed of gneiss and schists, dominate to the south and southeast. The N4 SIRR, which runs in a roughly north—south direction, is situated in a diverse topography of undulating terrain interspersed with rolling valleys and hills. Placing this area within its broader biogeographical region on the Atlantic fringe, we see a landscape that is characterized by upland and mountainous ground, which is mainly underlain by acid rocks. Good land-use potential is restricted, particularly within the study area (Cooney 2000a).

Carboniferous Limestone, more specifically Dartry Limestone (massive cherty calcarenite wackestone), underlies this area. The Dartry Formation derives its name from its type area in the Dartry Mountains where it typically occurs in cliffs and slopes. The oldest rocks in Sligo are those forming the Ox Mountains and Rosses Point Inliers (inliers are areas of older rock surrounded by

younger rocks). These are metamorphic rocks and date to 1700–700 million years ago. Carboniferous rocks which underlie most of Sligo date to about 355–310 million years ago (MacDermot, Long and Harney 1996). Carboniferous Limestone is the most abundant rock type in Ireland. It varies in texture, colour and components: from fine calcite mud to calcite ooliths or coarse corals and shells, and from compact calcareous blue limestone to the hard blue-grey siliceous variety, to black softer shaly beds of the 'Calp' formation. The majority of Irish limestone originated in the Carboniferous period of the Palaeozoic era 360–286 million years ago.

Much of western Sligo contains a similar arrangement of rock layers to that present on Ben Bulben "limestone-capped mountains and plateaux are separated by the Glencar and Glenade valleys which are floored by soft shales" (MacDermot, Long and Harney 1996). Situated along the coast are Dartry and Glencar limestones forming rocky shorelines from Streedagh Point westwards to Serpent Rock, at Aughris Point, and along the north of Dromore West and Easky. Moving inland from the coast there is an irregular blanket of glacial deposits, predominantly till.

Whereas the various mountains such as the Ox and Ben Bulben etc. dominate the landscape, glacial deposition has shaped the lowlands of Sligo with extensive drumlin beds, morainic and esker ridges. A number of broad bays and estuaries are the dominant features of the coastline, such as at Drumcliff, Sligo and Ballysadare. The Garvoge, Ballysadare and Moy Rivers are the three principal rivers of the county while the lakes of Lough Gill, Arrow and Gara are the main inland waters. It is the combination of all these elements that provides "a wide variety of ecological zones which attracted intense prehistoric settlements to the region" (Condit and Gibbons 1991).

The main soil type found in County Sligo is Brown Earths, a soil mainly found on glacial drift where the parent material is limestone. It is a moderate-to-well-drained soil that is a good all-purpose agricultural soil suitable for pasture, while also moderately suitable for tillage. Due to the topography of the area, however, tillage farming is somewhat restricted. The boggy marshy soils that are present within confined areas of the townlands impacted by the development, such as parts of Caltragh, Tonafortes and Magheraboy, have a very limited use potential and the widespread presence of *fulachta fiadh* within the townland of Caltragh would suggest that this might have also been the case in prehistory. However, this may not be true of the other townlands along the development route. A climatic change that occurred at around 1000 BC with a subsequent growth of blanket bog rendered much of the West of Ireland uninhabitable and concealed many earlier habitation sites (Thorn 1985).

2.2 The Prehistoric and Early Medieval Landscape

Pollen diagrams and linear developments, such as the N4 SIRR, can be useful sources in revealing the archaeological landscape.

Compared to northern and other parts of western Ireland, very little is known about the vegetational history of Sligo. Pollen diagrams can be used to reconstruct an area's vegetational history, but only a few exist for the Sligo region. These include studies at Cloverhill, Carrowkeel and Ballygawley (Goransson 1980, 1981); and at Slish Lake and Union Wood (Thorn 1985). A picture of the prehistoric landscape in this region can be gleaned from a combination of the pollen diagrams produced from these sites and a study of the archaeological sites excavated in the area.

Linear developments such as the N4 SIRR provide a transect through the archaeological landscape of a region. The overall context of the sites encountered along this road development is primarily prehistoric, with a Neolithic and Bronze Age bias. In relation to the landscape of the study area, the N4 SIRR provides only a small transect, with just 3.5km of the overall 4.2km extending through a rural setting; the remainder runs through the urban part of Sligo Town. The development is contained in an area known as *Cúil Irra*, which translates as the remote angle (Wood-Martin 1882). The district of *Cúil Irra* takes in the parish of St John's; the N4 SIRR is confined within this parish.

2.2.1 The Mesolithic Landscape

To date, no Mesolithic settlement site has been identified in County Sligo, though the hinterland of Lough Gara near the Roscommon border provides the most significant evidence for Mesolithic activity in the county. A number of chert 'Bann' flakes and other chert artefacts suggest the presence of hunter-gatherer communities exploiting the hinterland of Lough Gara. Most of the datable material from this area can be assigned to within the latest phases of the later Mesolithic (Woodman 1978).

Following various excavations on the Carrowmore Peninsula between 1977 and 1981 by Burenhult, it was proposed that the Carrowmore megalithic cemetery had been built by an indigenous Mesolithic population c.5000–4200 BC. Burenhult's theory was mainly based on early radiocarbon dates and paleobotanical investigation which showed that coppiced woods had been created in the Knocknarea area at the time that Tomb No. 4 was created (c.4600 BC). Burenhult also suggested that the clearance had most likely been for big game and possibly for the domestication of deer as there was no evidence for domesticated cattle (Thorn 1985). However, many archaeologists who have disagreed with this argument feel that the early dates obtained for the construction of some of the tombs (Tombs 4, 7 and 27) were retrieved from unsecured

contexts and possibly relate to pre-tomb activity. Furthermore, investigation of the lithics assemblage associated with Carrowmore did not reveal any material that was associated with the Irish Mesolithic. Burenhult expressed the view that his "investigation highlighted the complicated, and artificial, boundary between the Mesolithic and the Neolithic periods, suggesting a slow, local, successive transformation rather than a migration of farmers. The archaeological results were strongly supported by the palaeoecological studies in the area" (Burenhult http://excavations.ie/Pages/Details.php?Year=&County=Sligo&id=1495).

The palaeoecological studies associated with Burenhult's work were undertaken by Goransson who took pollen cores from a number of locations throughout Sligo such as Carrowkeel and Ballygawley (Goransson 1984). The time span under investigation was from the later part of the Atlantic period up to the first part of the Subboreal period, i.e. 4700–3340 BC. Pollen diagrams have demonstrated disturbances relating to the Mesolithic period. Forests of predominantly elm and hazel were prevalent during this time and these were gradually transformed by a process known as coppicing. This involved the girdling of trees and transformed the high forest into "low many stemmed coppice woods" (Goransson 1984). Girdling involved peeling a ring of bark from the tree; this resulted in the death of the tree above the girdle. The increased light caused by the death of the tree crown created conditions which enabled forest-floor plants to flourish such as grasses, raspberries, cereals and smaller trees. Some time later the tree would start to produce basal sprouts and rootsuckers; this was known as the 'manuring effect'. Increased light and the subsequent 'manuring effect' would have resulted in more favourable conditions for grazing animals and for small-scale cereal cultivation. This, according to Goransson, made the criteria for a farming economy available to the Mesolithic occupants of the country at the time. He argued that "No 'invasions' of migrating farming communities are necessary to explain the economic and technological innovations of the Early Neolithic in Ireland. It was the indigenous Mesolithic population which gradually created the Irish Neolithic" (Goransson 1984).

Burenhult also used other excavations in the area to support his theory that hunters and foragers constructed simple megalithic monuments. Excavations by Bergh on the summit of Croaghaun Mountain, south of Ballysadare Bay, Co Sligo revealed a small sub-rectangular megalithic tomb within a small oval cairn (Bergh 1995). A number of small deposits of cremated bone were unearthed; one of these contained a fragment of an antler pin and some sherds of coarse pottery. Charcoal from this deposit was dated to 5640–5490 BC while another similar sample was dated to 4675–4460 BC.

2.2.2 The Neolithic Landscape

The numerous megalithic tombs located throughout much of County Sligo stand as a constant reminder of the social organisation, ritual duties and engineering abilities of prehistoric communities. Sligo is home to a large number of megalithic tomb types with c.40 passage tombs, 60 court tombs, 11 portal tombs, 38 wedge tombs and 53 unclassified examples, while there are also 78 megalithic structures which could be tombs (Condit and Gibbons 1991).

The cemetery at Carrowmore is amongst the finest examples of its kind in Europe and is one of the two major passage tomb cemeteries found in County Sligo. Over thirty individual tombs now survive compared to more than one hundred recorded in the 19th century. Many of the tombs at Carrowmore consist of a boulder circle with a polygonal chamber covered by a capstone at the centre of the circle. Some have short passages.

Around 25% of all Irish passage tombs are in County Sligo. Many of these dominate the local landscape with their typical hilltop setting such as at Carrowkeel, Knocknarea, Knocknashee, Cairns Hill, Kesh, and several on the Ox Mountains extending into Slieve Deane and Slish Wood (Thorn 1985). At the summit of Knocknarea, a huge flat-topped cairn known as Maeve's Grave, which is believed to contain a passage tomb, overlooks the Carrowmore cemetery to the east. In the vicinity of this tomb are the remains of four or five satellite monuments. It is felt that this tomb represents the west coast extremity of the great passage tomb cemeteries which extend from the Boyne Valley in the east of the country across to County Sligo in the west. Much debate surrounds whether these passage tomb cemeteries originated on the east or west coast, particularly in the wake of Burenhult's arguments regarding Carrowmore (see Subsection 2.2.1).

Carrowkeel is the second of the two major passage tomb cemeteries found in Sligo. Together with Carrowmore it forms half of the four major megalithic cemeteries in Ireland; the other two are in the Boyne Valley at Newgrange and Lough Crew, County Meath. At Carrowkeel over a dozen round cairns are sited on several high limestone ridges of the Bricklieve Mountains.

Of the approximately 390 court tombs in Ireland, 60 are present in Sligo. These are located across much of the county such as at Creeveykeel, Treanmore, Bunduff, Moneylahan, Deerpark, Gortnaleck, Carrowgillpatrick and Carrowreagh. The classic trapezoidal full court tomb at Creeveykeel is one of the finest examples in the country. Excavation of this site produced a large number of grave goods such as Early Neolithic (Carinated Bowl) pottery, leaf-shaped arrowheads, hollow scrapers, and polished stone axe heads (Henken 1939).

It is generally believed that portal tombs are related to court tombs; in particular, this applies to the subsidiary chambers, or galleries, inserted in the cairns of court tombs, possibly to provide additional space for burials therefore reducing the need to build additional court tombs (Flanagan 2000). Of the approximately 174 Irish portal tombs, 11 occur in Sligo. One example is Tawnatruffaun, which is not only a classic example but its name translates to grassy mound by the stream, the typical setting of these tombs.

Megalithic tombs are the traditional indicators for Neolithic settlement. Neolithic hut sites appear to be associated with a number of the hilltop tombs of Sligo. At Knocknarea, Bergh excavated a number of hut sites which he concluded were sites of specialised activity (1995). The excavation of these lightweight timber-built huts revealed an exceptionally large number of concave scrapers. It is suggested that the upland location might indicate seasonal hunting or grazing while the hollow scrapers imply some sort of cutting or paring. The huts may also be associated with the nearby tombs. At Mullaghfarna to the east of the Carrowkeel cemetery, Bergh has surveyed in excess of 130 hut sites which are possibly associated with the cemetery and are likely to be seasonal in nature. At Knocknashee, Burenhult investigated a number of hut sites possibly associated with the tombs at this location (1984). Additional evidence of seasonal activity is also visible around the coastline of the Knocknarea Peninsula in the form of shell middens. The shell midden at Culleenamore comprised mainly oyster with some cockles, mussels, periwinkle, scallop and limpet. A hearth associated with this midden produced a fourth millennium radiocarbon date.

No rectangular houses of the Early Neolithic are known from Co Sligo. Although a rectangular structure was excavated in association with the causewayed enclosure at Magheraboy, this is unlikely to have been a permanent dwelling (Licence No 03E0538, Danaher forthcoming). A number of pre-bog and habitation sites have been identified in the county. At Carrownagloch, Bunniconlon on the Sligo/Mayo border, an oval stone enclosure surrounds extensive cultivation ridges, which have been dated to the second millennium BC (Herity 1971–76). Field systems composed of stone walls have been identified at Drommore West/Easkey and, during the course of archaeological works associated with the N4 SIRR, Neolithic stone walls were investigated at Caltragh (McCabe pers comm).

The pollen diagrams from Carrowkeel and Ballygawley (Goransson 1980, 1981 and 1984) provide an environmental backdrop to the prehistoric landscape in these areas of Sligo. The elm decline, which many archaeologists and vegetational historians have attributed to major forest clearance by Neolithic farmers, was recorded in pollen diagrams as having occurred sometime around 5150 BP. Goransson (1984) contested this assertion in favour of the weakening of the forest ecosystem; this would have resulted in the annihilation of the elm forests due to disease which may have been precipitated by human interference, i.e. coppicing. Climatic changes may also have occurred, activating the *Scolytus* beetle and thus spreading Dutch elm disease. Therefore the elm decline, in Goransson's view, was not contemporary with the Early Neolithic either in Ireland or in northwest Europe. Waddell also refuted the human causes for the elm decline by

arguing that "elm also declines in various localities where it was clearly a minor component in the wooded landscape, and was thus unlikely to be targeted by farmers or their cattle" (Waddell 1998).

Another conclusion arrived at by Goransson was that 'garden' cereal cultivation was taking place in the Sligo area as early as in the southwest and north of Ireland. This was substantiated by the discovery of cereal pollen grains at the Ballygawley Lake and the Strand Hill area; these dated to 5800 BP and also pre-dated the elm decline. Regeneration of the elm forests 500–600 radiocarbon years later resulted in the re-institution and intensive use of coppicing once more. This conclusion is also supported by evidence from turves from the mound at Newgrange which yielded evidence of *Ulmus* reflecting the possible vegetation of a coppice wood in that locality. The pollen diagram from the Cloverhill Lough area demonstrated that "the area during the time span covered by the diagram was primarily used as pasture land" (Goransson 1984). Cultivation of cereals within County Sligo was of minor importance during the whole prehistoric and historic times from the Early Neolithic up to the 19th century.

2.2.3 The Bronze Age Landscape

While some megalithic tombs continued to be the focus of ritual activity into late Neolithic and succeeding periods, other forms of ritual expressions emerged. So did a major technological breakthrough – metalworking. This technology had a tremendous effect not just on society and economy but also on the ritual practices of Bronze Age people.

In terms of monuments dating from this period, wedge tombs, henges, barrows and stone circles are the most visible, while *fulachta fiadh* are the most numerous with over four thousand examples having been recorded throughout the country. However, these cannot all be ascribed to the Bronze Age.

Wedge tombs are the most numerous megalithic tombs in Ireland. Of the 500 recorded examples, 38 are located in Co Sligo. These tombs derive their name from a narrow wedge-shaped or trapezoidal chamber which decreases both in height and in width from front to rear. This main chamber is constructed of orthostats and roofed with one or more capstones. Some tombs have an antechamber at the front, while some have a small closed chamber at the rear. Excavation of a wedge tomb at Moytirra, Co Sligo, yielded the unburnt bones of six individuals as well as fragments of Beaker pottery. At Breeoge, Co Sligo, both cremated and unburnt human remains were retrieved from the site of a destroyed wedge tomb (Waddell 1998).

Henge monuments or earthen-banked enclosures are generally believed to date to the Late Neolithic/Early Bronze Age and are associated with ritual/ceremonial activity. A characteristic

feature of most Irish henges is a bank composed of material scarped up from the interior of the enclosed area to create a domed interior (Condit and Simpson 1998). A small number of enclosures in Ireland are defined by an internal ditch and external bank thus conforming to the type of henge found in most areas of Britain.

A marked concentration of henges has been recorded in the Boyne Valley, some in association with the passage tombs. However, only three have been recorded in Sligo. Two of these conform to the classic Irish henge type (embanked enclosure). The smaller of the two is situated at Knockatober, south of Lough Gill, and consists of a circular earthen enclosure, 60m in diameter. The second Irish-type henge is at Lisnalurg, just north of Sligo Town, and comprises a large circular enclosure, 150m in diameter, formed by an earthen bank 25m wide and up to 5m high on the interior; a second earthen enclosure is placed centrally within this one and has a diameter of 75m.

The third Sligo henge conforms to the British type of henge and is located in the townland of Tonafortes in a low-lying drumlin valley 2km east of Carrowmore (Condit and Gibbons 1991). This enclosure has an overall diameter of approximately 85m. It consists of a circular central area, 45m in diameter, and is enclosed by two banks with an intervening ditch. Less than 10% of this monument was excavated in association with the N4 SIRR. The excavation predominantly concentrated on the sections of the ditch present to the north and south of the eastern entrance feature.

A large number of barrows have been recorded in Sligo. In their article on Sligo's prehistory, Condit and Gibbons (1991) stated that over 110 such sites had been identified and showed a wide variety of types and locations. Some may be associated with the Bronze Age settlement sites such as Lough Gara. In the vicinity of Ballymote, a portion of a Bronze Age landscape has been identified consisting of Bronze Age barrows, field walls, enclosures, cliff-edge forts and a circular house site. Condit and Gibbon's article also affirmed that, in contrast to the large number of barrows, other Bronze Age ritual monuments such as standing stones, stone alignments and stone circles are comparatively few.

In a distribution map of *fulachta fiadh* in Ireland, Victor Buckley (1990) entered 12 examples for Co Sligo, a number which has more than doubled as a result of subsequent development within the county. As the N4 archaeological investigations passed through some tracts of marshy ground, *fulachta fiadh* emerged as the most common site encountered. Within the townland of Magheraboy, a cluster comprising three sites that have been interpreted as *fulachta fiadh* were investigated by Sue McCabe (Licence No 03E0547, pers comm) as part of the N4 excavations. A possible *fulacht fiadh* was uncovered in the course of monitoring ground disturbance on the

Caltragh Sewerage Scheme (Henry 2002). Some clusters of burnt mound spreads were excavated in the townland of Caltragh; most of these were interpreted as *fulachta fiadh* (Linnane and McCabe pers comm; Joubert 2002). These *fulachta fiadh* appear to form part of a wider Bronze Age settlement pattern in the Caltragh area and are broadly contemporary with the three circular timber-built roundhouses that were sited in close proximity to them. Two other *fulachta fiadh* were situated within the townland of Tonafortes (Danaher forthcoming). During excavations associated with an unrelated development, Sue McCabe excavated the remains of one possible and one definite *fulacht fiadh* c.500m from the roadtake in the townland of Carrowroe (McCabe, pers comm). Bronze Age activity in the form of pits was unearthed in the townlands of Magheraboy and Caltragh.

Pollen evidence, which can be used to reconstruct the vegetational history of the Bronze Age, is extremely limited within this area. Goransson (1984) suggested that the inclusion of *sorbus* in the pollen diagram for the Treanscrabbagh Bog at Carrowkeel may be indicative of a decline in grazing and a slight forest regeneration which took place at circa 4500 BP. However, he believed grazing continued to take place up until 4000 BP after which the growth of blanket bog began. An example of a *fulacht fiadh* which was cut into the Treanscrabbagh Bog at this level provided information supporting Goransson's hypothesis of coppicing in this area from 4500 BP.

2.2.4 The Iron Age and Early Medieval Landscape

Evidence from the pollen record from around the country suggests that there was a significant decrease in agricultural activity during the Iron Age. However, the opposite was true of the early medieval period which saw an intensification of agriculture.

As with the Bronze Age, pollen diagrams pertaining to the Iron Age period are rare for County Sligo. However, although Goransson's work predominantly focused on the Mesolithic and Neolithic periods of prehistory, any changes in the pollen diagrams throughout the prehistoric and historic periods were duly noted. Conclusions drawn about the pastoral nature of the Cloverhill Lough and the minor role of cereals in this area throughout the whole of prehistory right through to the 19th century imply that no change occurred during the Iron Age. A brief reference to this period is made in relation to the Treanscrabbagh Bog at Carrowkeel; here, the "destruction phase" was characterised by high values of herbs (plantago lanceolata, Cerealea and Rumex acetosella) and the low values of trees were followed by the regeneration of forest during the Iron Age (Goransson 1984). This would appear to support the country-wide trend of a decrease in agricultural activity during the Iron Age.

The Iron Age is possibly the most obscure period in Irish prehistoric archaeology. At present, many counties show little evidence of a significant Iron Age presence. Settlement sites are few and far between as well as being difficult to identify (Woodman 2000). At least seven hillforts have been identified in Sligo from a national total of fewer than eighty (Raftery 2000). Twenty promontory forts, mainly coastal, have been recorded in the county from the two hundred and fifty known coastal sites in the country. The univallate hillfort at Knocknashee is the largest example of its class in the country, covering 22ha, and possibly dates to the Late Bronze Age/Iron Age period. Other hillforts are located at Muckelty Hill, near Tobercurry, and Carrownrush, near Easky. Promontory forts are known from Aughris Head and the island of Inishmurray.

A possible Iron Age linear ditch, extending a length of three kilometres, is situated in the southern Ox Mountains near the Sligo-Mayo border; it is known as the Black Ditch. This ditch may be the remains of an ancient 'droveway' but may have also functioned as a property division or a frontier boundary.

The N4 SIRR excavations revealed very few traces of Iron Age activity. At Magheraboy a small circular structure of Iron Age date was unearthed adjacent to the early Neolithic causewayed enclosure while at Cornageeha a pit of similar date was excavated by Sue McCabe (pers comm) On the other hand, evidence for early medieval settlement is commonplace within the locale. Ringforts are the most common monument type in the parish of St John's with over thirty examples being known. A large percentage of a ringfort (Licence No 03E0536, O'Neill pers comm) was excavated at Magheraboy within the confines of the much earlier Neolithic causewayed enclosure, and in 1995 a ringfort was excavated at Carrowgobbadagh as part of the Collooney–Ballysadare Bypass (Opie 1996).

3. HISTORICAL BACKGROUND by Jon Stirland

Very little historical information has been written regarding the townlands surrounding the modern town of Sligo. However, a great wealth of historic information has been written about the town itself. The following historical background firstly gives an overview of the origins of the names of the townlands associated with this project, and then gives a detailed overview of the historical development of the town of Sligo itself.

Tonafortes

The significance or meaning of Tonafortes is not established in any historical record. In Larkin's and the Barony map, it is spelled Townafort; in the Barony Cess Book, it is spelled Towny Fortes. O'Donovan (1840) stated that the townland comprised 87 acres of cultivated land. The Downs

survey maps of 1655–1658 show nothing of archaeological or historical note.

Carrowroe

The townland known as Carrowroe derives its name from *Ceatram ruad*, which mean the Red Quarter according to the Ordnance Survey Name Books written by O'Donovan in 1840. In the past, the townland has also been known as Carrowruagh. O'Donovan also recorded that an "old fort" was located in the northeastern limits of the townland.

Cornageeha

Cornageeha translates as *Cor na gaoithe* which means the round hill of wind. In the past, the townland has also been spelled Cornageah according to the Barony Cess Book and it is spelled Cornagree in the Deed of Partition of the Sligo Estate dated July 1687.

Caltragh

Caltragh translates as *Ceall Trach*, which means the burial ground or graveyard; it appears to have been anglicised into Caltragh. Petrie in 1837 and Elcock in 1883–1884 refer to a large pagan burial that was called or referred to as the Calteagh. However, it would appear that it was not located within the townland of Caltragh but quarter of a mile east of the nearby Carrowmore megalithic complex. Both writers described the site as being a large circular mound enclosed by a circle of large stones.

Magheraboy

Magheraboy derives it names from *Macaire Buide*, which is said to mean the yellow plain. Over the years it would appear that it has been called many other variations of this name including Magheraboy, Magheraboy and Magherboy.

Sligo Town

Sligo is the second largest town in Connacht and the largest in the county. It is sited on the Garvoge River. Its strategic location between Lough Gill and the sea made it important from early times. Little is known of Sligo prior to the twelfth century and attempts by various writers to identify it with Ptolemy's Nagtata have not met with any general support (Bradley 1987). It is evident, nonetheless, that people of the Neolithic and Bronze Age knew the site of the town. The megalithic tomb in Abbey Quarter North is similar to those at Carrowmore and indicates the presence of people during the Neolithic. Also, the "Sligo Stones," recorded on the top of a ridge at

the junction of Church Street and the Lungy, were described as having been a similar megalithic tomb. The discovery of stray finds, such as a bronze axe head recorded in the Topographical Files of the National Museum, show the continued presence of people in the area of Sligo Town in the Bronze Age. To date, however, no evidence for human activity from 1000 BC until the twelfth century AD has been found within the urban area (Bradley 1987).

The origins of the name Sligo appear to come from the Irish name Sligeach. Over the years, however, there have been many varying views relating to the derivation of the word Sligeach. *The Annals of the Four Masters* suggested that the appellation of Sligo appears to derive from Sligeach, meaning shelly river when translated from the word slig which means a shell (Wood-Martin 1882; O'Donovan 1840).

Alternative suggestions for the origins of the name suggest it may have been named after the river that runs through the town. The name of the River Sligeach appears in the *Annals of the Four Masters* and in the *Life of St Patrick* written by Tirechan; these two sources seem to suggest that Sligeach was the ancient name of the river. The river itself appears to have had a number of names: Sligeach, Sligigh and Slichney of Cambrensis (Wood-Martin 1882).

It is generally suggested that the modern town of Sligo developed from a crossing point across the River Garvoge. The first reference of a river crossing or bridge dates to 1188 (Wood-Martin 1882). It is generally believed that a settlement located on the southwest side of the river had developed by 1188.

Like other Anglo-Norman towns in Ireland, Sligo's importance was economic rather than defensive. It was the principal market place for the produce of the newly conquered lands of Carbury and its early prosperity is indicated in surviving accounts of the 1290s. The first settlement was burned in 1236 when Sligo first came to prominence with the de Burgo invasion of Connacht.

Then, together with extensive territories, it was granted to Maurice Fitzgerald, Lord of Naas and Baron of Offaly, ancestor of the Earls of Kildare. By the mid-thirteenth century, Maurice Fitzgerald had taken control of the settlement at Sligo. He constructed a hospital in 1242, built a castle there in 1245, and founded the Dominican friary close by in 1253.

Maurice Fitzgerald may be regarded as the founder of the town. He was the Second Baron of Offaly, grandson of the first Maurice Fitzgerald who landed in Ireland with Raymond Le Gros in 1169, and grandfather of the first Earl of Kildare. As mentioned above, Maurice founded the Dominican friary of Sligo generally known as Sligo Abbey in 1252 or 1253. As Justiciary of Ireland from 1232–1245, he played a leading part in Richard de Burgo's annexation of Connaught (1235); as a reward, he gained an extensive feudal lordship in North Connaught. Sligo was

convenient both as an administrative centre for the Geraldine Lordship and as a springboard for the claims over Tyrconnell and Fermanagh which had been conveyed to Maurice Fitzgerald by Hugh de Lacy as Earl of Ulster.

After Maurice's death in 1257, however, the projected English conquest of Western Ulster was abandoned and the King of Tyrconnell, Goffraidh O'Donnell, burned Sligo after defeating the English at Credran. Between 1245 and 1295, the castle of Sligo was destroyed four times by either O'Connor or O'Donnell. In 1299, the Crown compelled Maurice's grandson John Fitzthomas, the Fifth Baron of Offaly and later First Earl of Kildare, to surrender Sligo, his lands in Connaught, and his claims on Tyrconnell to Richard III de Burgo, Earl of Ulster, known as the Red Earl. In 1310, a new castle was built and a new town laid out by Richard III de Burgo. In 1315, O'Donnell demolished this castle. Thereafter the control of Sligo passed to the Carbury branch (later known as O'Connor Sligo) of the ancient royal house of Connacht. This branch usually acknowledged the overlordship of O'Donnell, who always endeavoured to keep Sligo out of menacing hands. The friary seems to have survived the political changes of the 13th and early 14th centuries more or less unscathed, but it was accidentally burned together with the town in 1414. It was soon restored, however, by Friar Bryan McDonagh, son of the Tanist of Tirerrill and Collooney.

In 1595, the friary was severely damaged by English besiegers of the castle under George Bingham. In 1641, the Parliamentarian, Sir Frederick Hamilton, sacked both the town and the friary. In 1645, the notorious Sir Charles Coote captured the town. In 1689, it was seized by Williamite rebels under Lord Kingston, but was retaken by Patrick Sarsfield for King James (Killanin and Duignan 1989, 281). Nothing now remains of the castle, but the major portion of the friary survives.

Sligo friary furnished four provincials of the Irish Province of the Dominican Order. It was the burial place of a number of the chief families of North Connaught including that of O'Connor Sligo. This was used as an argument in 1568 to support O'Connor Sligo's petition to Queen Elizabeth. This petition resulted in the exemption of the friary from dissolution on condition that the friars became secular priests. In 1595 during the Tyrone war, George Bingham, brother of the President of Connaught, removed much of the woodwork from the friary. In a letter of 1599 it was stated that "the abbey will receive 1000 men which is not a musket shot from the castle and in 24 hours will be made strong enough to defend themselves against all Ireland". In 1641, the Parliamentarian, Sir Fredrick Hamilton who gave his name to Manorhamilton, sacked both town and friary. The friars were apparently all killed but their successors were back again later in the century. They were expelled in 1698 when the site was granted to Sir William Taaffe. Even then they returned, repaired the roof of the choir and built a temporary shelter near the rood screen.

Despite their partial occupation by the friars, the buildings were used as a quarry during the 18th century, but Fr Laurence Connellan stopped the work of demolition. He decided, however, in 1760 that it was necessary to move the community elsewhere. Lord Palmerston who caused the erection of the railings and the removal of several houses in 1849–50 carried out some repairs to the ruins in the middle of the 19th century. A later owner, the Hon Evelyn Ashley, undertook a restoration in 1883 and placed part of the buildings in the care of the Commissioners of Public Works in 1893. The remainder was similarly entrusted to the Commissioners by Mr Alfred W Ashley in 1913.

4. ARCHAEOLOGICAL EXCAVATION

4.1 Background to Archaeological Resolution

The initial advance archaeological testing programme for the N4 SIRR development was carried out along the rural section of the route between September and December 2001 by Mary Henry Ltd (Licence No 01E1095) and in the urban section of the route by ACS Ltd in June 2003 (Licence No 03E0903). Following the completion of the main testing programme in December 2001, resolution of sites identified during this testing and earlier walkover surveys commenced in April 2003.

One area to be tested during the pre-construction stage was to the extreme south of the route. It had revealed burnt material during testing, indicative of the probable remains of a *fulacht fiadh* monument (Licence No 01E1095). It is noted from the testing report that the remains of the *fulacht fiadh* at this stage had previously been disturbed by mechanical excavation.

This general area had been previously examined during the construction of the Carrowroe Roundabout in 1997 when excavations and investigations were carried out in the townland, but nothing of significance was found at the time (Licence No 97E032). It is possible that initial damage to the archaeological remains occurred during this construction project.

4.2 Excavation Methodology

Excavation combined the recording techniques outlined in Barker (1977) and that of the Museum of London Archaeological Service site manual (Spence 1990). Phase plans were used to record the site.

Site 1G had been previously identified as a possible *fulacht fiadh* during archaeological testing by Mary Henry Ltd in 2001. A rescue excavation was proposed for this and several other sites along

the route to record any archaeological remains, to photograph, plan and sample relevant material, and to confirm the nature and extent of the site.

The main objectives of the current excavation of this previously unrecorded site included determining the nature and extent of the archaeological material, its morphology, phases and dates of use. Post-excavation questions proved quite limited, given the extremely disturbed and truncated nature of the material recovered as none of this was suitable for analysis or dating:

- Was the presence of a *fulacht fiadh* evident?
- Could the nature and extent of the feature be determined?
- What is the relationship of this monument, if any, to others in the immediate vicinity?

Following the removal of topsoil, a pre-excavation plan was drawn (refer Figure 3 and Plate 1) and the archaeological deposits were extensively photographed. Two intersecting sections were excavated: one oriented north—south, the other oriented east—west. Each section measured 1m wide, and the north and east-facing sections were drawn (refer Figure 4). The remains of the deposits were then removed by hand to reveal the natural subsoil beneath. The site was extensively photographed at all stages of the excavation.

4.3 Context Register

This register details each unit in the stratigraphical sequence consecutively.

Context	Description
C.101	Topsoil
C.102	Disturbed subsoil/natural subsoil mixed
C.103	Natural subsoil
C.104	Disturbed deposit of burnt material
C.105	Disturbed deposit of burnt material
C.106	Black charcoal-rich burnt material
C.107	Disturbed deposit of burnt material
C.108	Re-deposited natural layer

4.4 Stratigraphical Report Summary

This section phases the site, based on the stratigraphical sequence provided above. The outlined information is a summarised version of the stratigraphical evidence. It should be noted that very

limited detail can be given in relation to the site stratigraphy due to the limited remains of the burnt material, the absence of cut features and the severe disturbance of overlying layers.

Phase 1: Bedrock

Carboniferous Limestone, more specifically Dartry Limestone (massive cherty calcarenite wackestone), underlies this area. Carboniferous rocks which underlie most of Sligo date to about 355–310 million years ago. This limestone was a product of the consolidation of plant and animal remains, which had disintegrated on the seabed to form layers of sedimentary rock rich in calcium carbonate (Mitchell and Ryan 1997).

Phase 2: Glacial Moraine (Substratum)

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

Phase 3: Environmental Stabilisation/Soil Formation (10,000–2000 BC)

No surviving evidence.

Phase 4: Site Occupation

It became apparent that a deposit was present of extremely shallow burnt material (maximum thickness 0.25m) with no discernible cut (refer Plate 3). At the northern edge of this deposit a second context underlay the main fill (C.104). This comprised very compact smooth light grey sand with charcoal flecks. This deposit was concentrated in the southwest corner of the larger overlying deposit. A small isolated spread of black, charcoal-enriched material with abundant burnt stones was identified underlying the smooth grey material (C.106, refer Plate 4). Again, no cut was discernible. The deposit measured 0.80m east—west by 1m and was 0.15m in thickness.

Phase 5: Site Abandonment

No surviving evidence due to modern disturbance.

Phase 6: Post-Medieval Activity

Topsoil (C.101) was mechanically removed to reveal a deposit of charcoal-enriched material containing burnt stone and measuring 11.50m east—west by 8m north—south (C.105). It was clear from the stratigraphic matrix overlying and surrounding this deposit that several layers of redeposited natural had built up in the area as a result of machine activity (C.102 and C.108), perhaps during the Carrowroe Roundabout construction in 1997. To the north, four metres from the deposit of burnt material, re-deposited material measuring up to 1.4m in depth was noted (refer Plate 2).

4.5 Interpretation and Discussion

In this chapter, the results of the excavation will be reviewed. The questions presented under the excavation methodology subheading are also addressed here. As outlined above however, the disturbed and truncated nature of the material excavated was such that very little was revealed about the site's function or date. With this in mind, the research questions have been revised to fit the limitations of the site and the extremely poor preservation of material. Post-excavation research questions included:

- Was the presence of a *fulacht fiadh* evident?
- Could the nature, extent or function of the feature be determined?
- What is the relationship of this monument, if any, to others in the immediate vicinity?
- How does the excavation of this monument add to our knowledge of the distribution of *fulachta fiadh* in the northwest?

During construction of the N4/Carrowroe Roundabout in 1997, artificial mounds of earth were created to the north and south of the site. These mounds were up to 15m in height to the south and 2–3 metres in height to the north. Excavated material from road construction, gravel, re-deposited natural subsoil and rotten organic matter was continually compressed and disturbed by machinery during these works.

On removal of the topsoil at Site 1G, it was evident that the area directly overlying and adjacent to the burnt material had been highly disturbed. A very small area of burnt black material, similar to that commonly associated with *fulachta fiadh* underlay C.104 in the southeastern corner of the site. Measuring 0.80m east—west by 1m and 0.15m in maximum thickness, this feature comprised black charcoal-enriched silty sand with frequent burnt stones and crushed charcoal. Roughly sub-rectangular in shape, it was initially believed that this feature may represent the only surviving cut

feature, possibly a trough. However, on excavation, the shallow nature of the deposit, combined with the absence of any cut, proved the theory incorrect.

As a result of the truncated and disturbed nature of the site, it is impossible to extrapolate whether a *fulacht fiadh* was present at any time in the past. The only conclusion made with confidence is that a highly disturbed deposit of burnt material resembling that typically found in association with *fulachta fiadh* was revealed.

Fulachta fiadh form the largest number of single prehistoric monuments in Ireland. The addition of a possible fulacht fiadh to the archaeological record, especially one as poorly preserved as that excavated on the current site, is far from enlightening. No evidence for dating or analysis was present, no evidence for individual cut features could be found, and the deposits excavated were highly disturbed.

The current number of *fulachta fiadh* sites exceeds 4000, with a clear concentration of monuments in the southwest of the country. Dates from *fulachta fiadh* vary considerably from the prehistoric to medieval period, but undoubtedly a predominance of dates from the second millennium BC prevails (Brindley *et* al 1989-90).

It is interesting to note that of the 19 *fulachta fiadh* excavated in the northwest (Counties Sligo, Mayo, Leitrim, Roscommon), 13 were identified during road schemes and the remaining during water pipe/sewerage works (Excavation.ie, Database of Irish Excavation Reports). The absence of excavated sites in Donegal may be due to a reduced rate of linear development.

Such high density of identification along these linear development schemes, and an obvious concentration of monuments in clusters (4 excavated in total along the Drumsna–Jamestown Bypass Scheme), would suggest that the frequency of *fulachta fiadh* in the northwest has been grossly under-represented. Work on the Caltragh Sewerage Scheme and the current proposed N4 SIRR skirting Sligo Town has resulted in a further of 14 *fulachta fiadh*, or burnt mounds, being added to the archaeological record. Along the route of the N4 SIRR, these include: Site 1A, 2 *fulachta fiadh*; Site 1D, 1 *fulacht fiadh*; Site 1E, 1 *fulacht fiadh*; Site 1F, 3 burnt mounds of which 1 was a possible *fulacht fiadh*; Field G, 4 *fulachta fiadh*; Site 2D, 3 *fulachta fiadh* (one preserved *in situ*).

While post-excavation work is still ongoing for the N4 SIRR route, excavation of other sites identified in the same area as this and high distribution of *fulachta fiadh* suggests they formed part of a larger landscape of activity from prehistoric times onwards. The activities at these other sites were: domestic (Bronze Age hut sites: Licence No 03E0542, report pending); ritual (henge monument/causewayed enclosure: Licence No 03E0535); and burial (cremation burial pits: Licence No 03E0546).

Conclusion

The evidence was too insubstantial to confirm Site 1G as anything other than a severely truncated deposit of burnt material. However the concentration of other *fulachta fiadh* in the vicinity could allow the extrapolation that Site 1G once also functioned as a *fulacht fiadh*. As already noted, in Ireland these monuments often occur in clusters and have also been linked, albeit infrequently, to other monuments in the landscape (Limerick/Lough Gur; Cooney and Grogan 1999, 132). The concentration of sites excavated along the narrow route of the N4 SIRR is an indication of the richness of the archaeological landscape around Sligo. This landscape of activity could also extend both east and west of the route to potentially form an even richer archaeological record.

5. ARCHIVE CONTENTS

5.1 Stratigraphical Report

This report details each unit in the stratigraphical sequence, starting with the earliest.

C.103 Natural subsoil. Compact friable orange brown sandy silt, gritty feel. Abundant small to medium-sized stones and riverine pebbles of average size 0.01m by 0.02m by 0.02m and some larger sandstone 0.80m by 0.50m by 0.50m.

C.106 Disturbed deposit of *fulacht fiadh* type material. Small spread of black charcoal-enriched silty sand with frequent burnt stones and crushed charcoal. This spread measured 0.80m east—west by 1m and was 0.15m in maximum thickness.

C.104 Deposit. Smooth light grey sand with occasional charcoal flecks. Disturbed layer of maximum thickness 0.20m.

C.105 Deposit. Disturbed *fulacht fiadh* type material. Dark grey to black charcoal-enriched silty sand with frequent burnt stones and rare post-medieval pottery sherds. Maximum thickness 0.12m.

C.107 Deposit. Similar to C.105 but isolated deposit measuring 0.60m in diameter and 0.05m in thickness.

C.108 Deposit. Re-deposited natural layer located at the western edge of and overlying the deposit C.105. Orange-brown sandy silt measuring 0.11m in maximum thickness.

C.102 Disturbed subsoil: very compact smooth light to mid grey sandy clay with rotting organic material present. Strong odour. Maximum thickness 0.45m.

C.101 Topsoil. Loose friable medium-brown sandy silt with stones and pebbles approx. 30%. Maximum thickness 0.20m.

5.2 Drawing Register

Plan No	Description
1	Pre-excavation plan of <i>fulacht fiadh</i> material; scale 1:50.
2	Sections A-A1 B-B1 (scale 1:20), C-C1 (scale 1:10).

5.3 Finds Register

Context No	Find No	Description
C.105	1	5 sherds of white glazed post-medieval pottery

5.4 Film Register

Film No	Description
03-24: CP136	Pre-excavation of site/Sections/Post-excavation and working shots

6. BIBLIOGRAPHY

- Barker, P. (1977) Techniques of Archaeological Excavation. Batsford. London.
- Bentgtsson H. and Bergh, S. (1984) in G. Burenhult (ed.) *The Archaeology of Carrowmore.* Environmental Archaeology and the Megalithic Tradition at Carrowmore, Co. Sligo, Ireland. Theses and Papers in North European Archaeology, No. 14. Stockholm.
- Bennett, I. (ed.) (1999) Excavations 1998: Summary accounts of archaeological excavations in Ireland. Wordwell, Bray.
- Bennett, I. (ed.) (2000) Excavations 1999: Summary accounts of archaeological excavations in Ireland. Wordwell, Bray.
- Bennett, I. (ed.) (2001) Excavations 2000: Summary accounts of archaeological excavations in Ireland. Wordwell, Bray.
- Bergh, S. (1995) Landscape of the Monuments. A study of the passage tombs in the Cúil Irra Region, Co. Sligo, Ireland. Stockholm.
- Bradley, J. (1987) Urban Archaeological Survey. OPW.
- Brindley, A.L. and Lanting, J.N. and Mook, W.G. (1989-90) Radiocarbon dates from Irish Fulachta Fiadh and other burnt mounds. *Journal of Irish Archaeology* 5 25–33.
- Buckley, V.M. (ed.) (1990) Burnt Offerings, International Contributions to Burnt Mound Archaeology. Wordwell. Bray.
- Burenhult, G. (1984). *The Archaeology of Carrowmore. Environmental Archaeology and the Megalithic Tradition at Carrowmore, Co. Sligo, Ireland.* Theses and Papers in North European Archaeology, No 14. Stockholm.
- Condit, T and Gibbons, M. (1991) A Glimpse of Sligo's Prehistory. Archaeology Ireland.
- Condit, T. and Simpson, D. (1998) 'Irish Hengiform Enclosures and Related Monuments: A Review' in A. Gibson and D. Simpson (eds) *Prehistoric Ritual and Religion*. Sutton Publishing.
- Cooney, G. (2000a) Landscapes of Neolithic Ireland. Routledge.
- Cooney, G. (2000b) 'Recognising Regionality in the Irish Neolithic' in *New Agendas In Irish Prehistory, Papers in Commemoration of Liz Anderson*. Wordwell.
- Cooney, G. (2002) From Lilliput to Brobdingnag: The Traditions of Enclosure in the Irish Neolithic' in G. Varndell and P. Topping (eds) *Enclosures in Neolithic Europe*. Oxbow Books.
- Cooney, G. and Grogan, E. (1999) Irish Prehistory. A Social Perspective. Wordwell.

- Danaher, E. (2004) Report on Archaeological Excavation of an Early Neolithic Causewayed and Palisaded Enclosure at Magheraboy Co. Sligo. Report to be submitted to the Department of the Environment, Heritage and Local Government.
- De Valera, R. and O'Nuallain, S. (1961) Survey of the Megalithic Tombs of Ireland: Volume 1: Clare. Dublin.
- Edwards, N. (1990) The Archaeology of Early Medieval Ireland. Batsford.
- Elcock, 1883-1884 Edition Ordnance Survey.
- Flanagan, L. (2000) Ancient Ireland Life Before The Celts. Gill and Macmillan.
- Goransson, H. (1980) 'Pollen Analytical Investigations in Cloverhill Lough, Carrowmore, Co. Sligo, Ireland' in G. Burenhult (ed) *The Carrowmore Excavations Excavation Season 1980*. Stockholm Archaeological Reports No 7. Institute of Archaeology. University of Stockholm.
- Goransson, H. (1981) 'Pollen Analytical Investigations in Cloverhill Lough, Carrowmore, Co. Sligo, Ireland' in G. Burenhult (ed) *The Carrowmore Excavations Excavation Season 1981*. Stockholm Archaeological Reports No 8. Institute of Archaeology. University of Stockholm.
- Goransson, H. (1984) in G. Burenhult (ed) *The Archaeology of Carrowmore. Environmental Archaeology and the Megalithic Tradition at Carrowmore, Co. Sligo, Ireland.* Theses and Papers in North European Archaeology, No 14. Stockholm.
- Grogan, E. (2002) 'Neolithic Houses in Ireland: A Broader Perspective' in *Antiquity* 76, 517–25.
- Grogan, E. and Roche, H. (2002) 'Irish Palisade Enclosures A Long Story' in A. Gibson (ed) Behind Wooden Walls: Neolithic Palisaded Enclosures in Europe. BAR International Series 1013.
- Henken, H. (1939) A long cairn at Creeveykeel, Co. Sligo. J. Roy. Soc. Antig. Irl. 69.
- Henry, M. (2002) 'Magheraboy and Caltragh. Monitoring' In I. Bennett (ed.) Excavations 2000. Dublin. Wordwell.
- Herity, M. (1971–1976) Excavations 1971–1976: Summary of Archaeological Excavations in Ireland (ed.) T.G. Delaney. Association of Young Irish Archaeologists. Belfast.
- Hunt, J. (1974) Irish Medieval Figure Sculpture 1200–1600. Irish University Press.
- Joubert, S. (2002) 'Caltragh, Site 6. Fulacht Fiadh' in I. Bennett (ed) *Excavations 2000*. Dublin. Wordwell.
- Joubert, S. (2002) 'Caltragh, Sites 2 and 3. Fulacht Fiadh' in I. Bennett (ed) *Excavations 2000*. Dublin. Wordwell.

- Killanin, L. and Duignan, M. (1989) *The Shell Guide to Ireland*. Revised and updated by Peter Harbison 1995.
- MacDermot, C.V., Long, C.B. and Harney, S.J. (1996) *Geology of Sligo-Leitrim*. Geological Survey of Ireland. Department of Transport, Energy and Communications.
- Mallory, J.P. and McNeill T.E. (1991) *The Archaeology of Ulster*. Institute of Irish Studies. Belfast.
- Mitchell, F. and Ryan M. (1997) Reading the Irish Landscape. Town House.
- Monk, M. (2000) 'Seeds and soils of discontent: an environmental archaeological contribution to the nature of the Early Neolithic' in A. Desmond, G. Johnson, M. McCarthy, J. Sheehan and E. Shee Twohig *New Agendas in Irish Prehistory. Papers in commemoration of Liz Anderson*.
- Murphy, D. (1999) Report on Archaeological Assessment of Proposed Visitor Centre at Sligo Abbey, Co. Sligo. Report submitted to Dúchas, The Heritage Service.
- O'Donovan (1840) Ordnance Survey (OS) Name Book.
- Opie, H. (1996) 'Carrowgobbadagh Ringfort' In I. Bennett (ed) *Excavations 1995*. Dublin. Wordwell.
- O'Riordan, S.P. (1991) Antiquities of the Irish Countryside. Routledge. London.
- Oswald, A., Dyer, C. and Barber, M. (2001) *The Creation of Monuments Neolithic Causewayed Enclosures in the British Isles*. English Heritage.
- Petrie, 1837 Edition Ordnance Survey.
- Raftery, B. (2000) Pagan Celtic Ireland. The Enigma of the Irish Iron Age. Thames and Hudson.
- Saville, A. (2002) 'Lithic Artefacts from Neolithic Causewayed Enclosures: Character and Meaning' in G. Varndell and P. Topping (eds) *Enclosures in Neolithic Europe*. Oxbow Books.
- Sheridan, A. (2001) 'Donegore Hill and Other Irish Neolithic Enclosures: A View from Outside' in T. Darvill and J. Thomas (eds) *Neolithic Enclosures in Atlantic Northwest Europe. Neolithic Studies Group Seminar Papers* 6. Oxbow Books.
- Sligo Abbey. Guide Book, National Monuments Service, Dúchas, The Heritage Service.
- Spence, C. (ed) (1990) Archaeological Site Manual. Museum of London. London.
- Thorn, R.H. (1985) Sligo and West Leitrim Field Guide No. 8. Irish Association for Quaternary Studies.
- Waddell, J. (1998) The Prehistoric Archaeology of Ireland. Galway University Press.

Woodman, P.C. (1978) 'The Mesolithic in Ireland', 58 in Oxford BAR British Series.

Woodman, P.C. (2000) 'Hammers and Shoeboxes: New Agendas for Prehistory' in *New Agendas* in *Irish Prehistory: Papers in commemoration of Liz Anderson*, 1–10. Wordwell. Bray.

Wood-Martin, W.G. (1882, 1889 and 1892) History of Sligo, Vols. i, ii, iii. Dublin.

7. APPENDICES

7.1 Test Excavation Licences

The licences below have been issued in connection with N4 SIRR.

Licence No	Townland	Site Type Field Ref Ref No		Consultancy	
00E0815	Caltragh	Habitation site	Field H	Site 5/26	Mary Henry Ltd
00E0816	Caltragh	Field system	Field E	Site 22	Mary Henry Ltd
00E0817	Caltragh	Megalithic structure	Field G	Field G	Mary Henry Ltd
00E0818	Caltragh	Field system	Field G	Field G	Mary Henry Ltd
00E0819	Caltragh	Fulacht fiadh	Field G	Site 6/25	Mary Henry Ltd
00E0859	Caltragh	Fulacht fiadh	Wetlands	Site 2 and 3	Mary Henry Ltd
01E0140	Various	Trial holes	N/A	Various	Mary Henry Ltd
01E0395	Caltragh	Prehistoric complex	Field G	Field G	Mary Henry Ltd
01E0500	Caltragh	Compound area	N/A	None	Mary Henry Ltd
01E0544	Caltragh	Prehistoric features	Field H	Site 27	Mary Henry Ltd
01E0942	Various	Various	Entire route	Various	Mary Henry Ltd
01E0945	Caltragh	Potential for prehistoric remains	Wetlands	Marsh	Mary Henry Ltd
01E0962	Caltragh	Drystone wall	Field E	Site 22	Mary Henry Ltd
01E0962	Caltragh	Fulacht fiadh	Field E	Site 22	Mary Henry Ltd
01E1063	Magheraboy	Enclosure	Field 15	Site 33	Mary Henry Ltd
01E1095	Tonafortes	Henge	Area 1A	Site 01	Mary Henry Ltd
03E0903	Sligo Town	Urban	n/a	n/a	ACS Ltd

Signed:				
Sue McCabe Archaeologist	_			
February 2005				



 ${\it Plate 1: Pre-excavation\ photograph\ of\ burnt\ material, facing\ north\ (03_24_CP136_25)}$



Plate 2: Disturbed and redeposited natural subsoil north of site 1G (03_24_CP136_17)



 ${\it Plate 3: Burnt spread during excavation, facing North (03_24_CP136_11)}$



Plate 4: Deposit of charcoal (03_24_CP136_13)



Plate 5: Burnt material (C105) overlying natural subsoil (03_24_CP136_2)

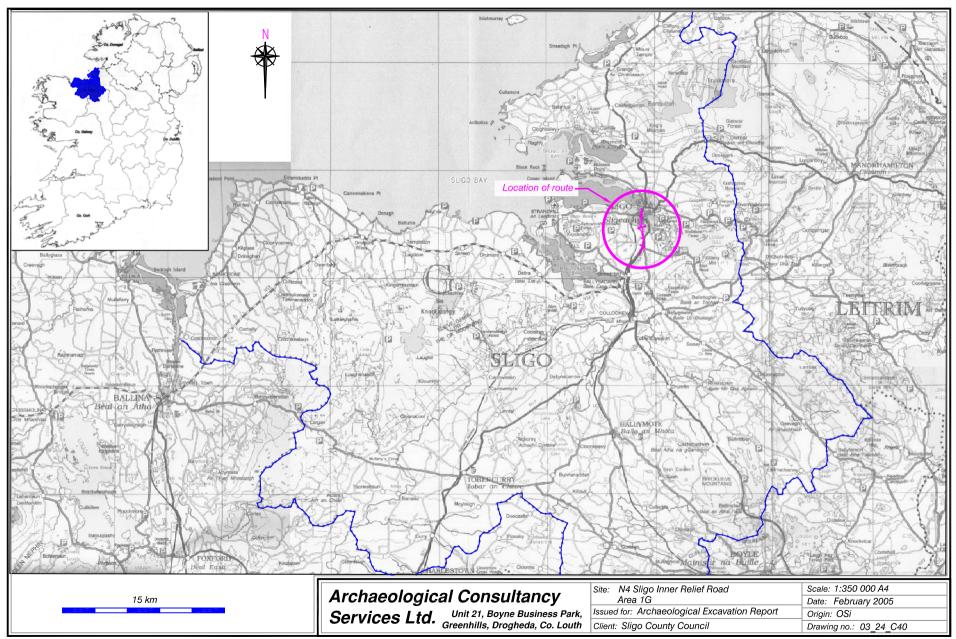


Fig. 1. Extract from OSi Ireland Map showing location of N4 Sligo Inner Relief Road



Figure 2: Proposed route of the N4 Sligo Inner Relief Road showing location of Area1G.

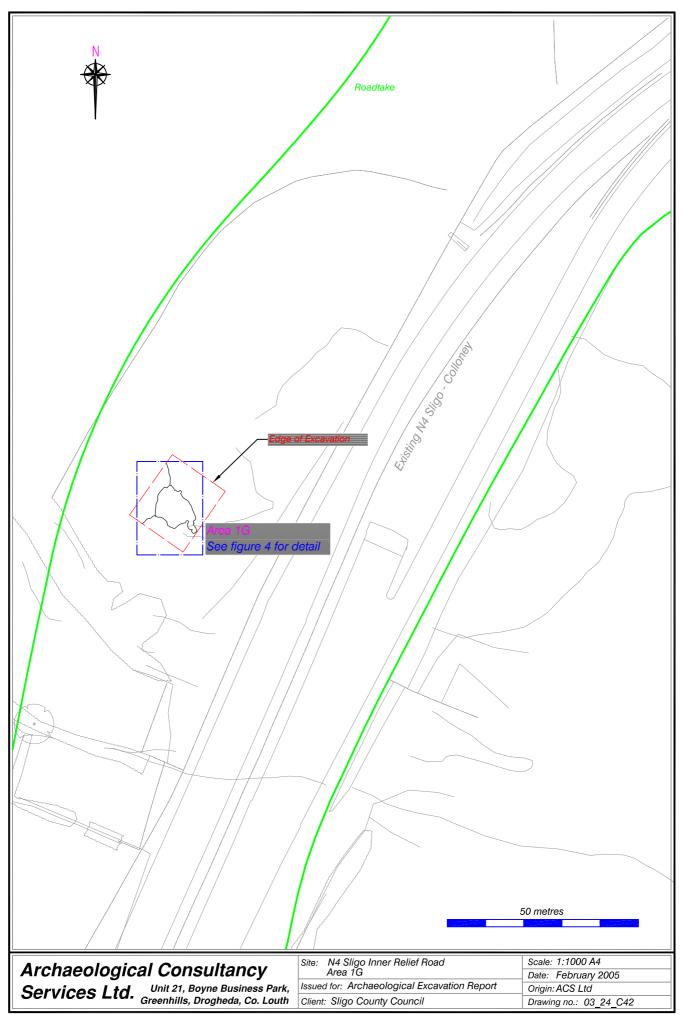


Figure 3: Southern section of N4 Sligo Inner Relief Road, showing location of Area 1G

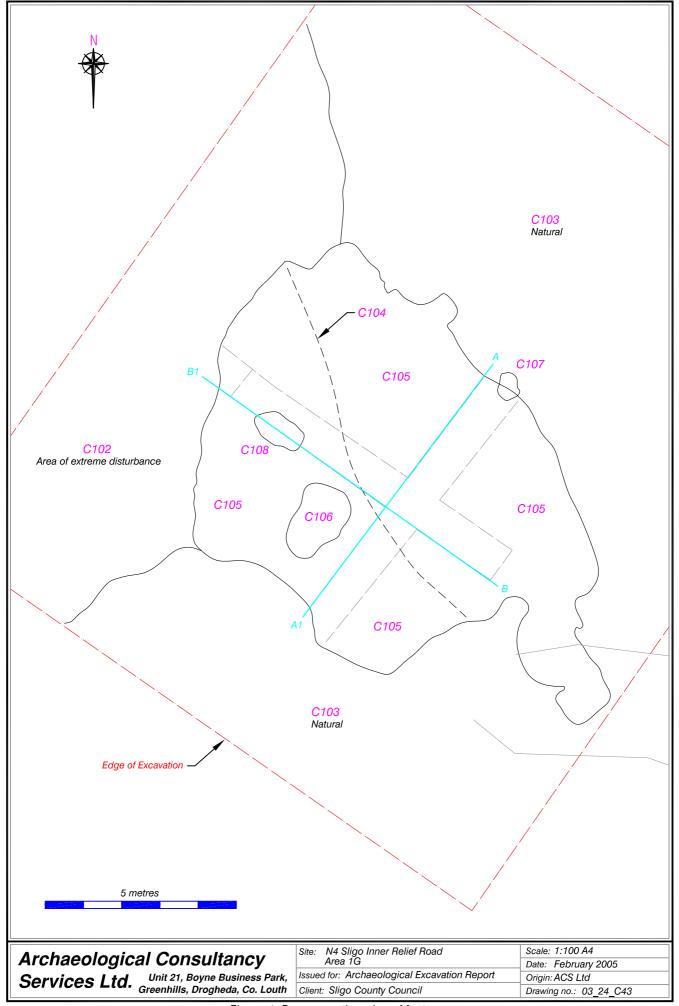


Figure 4: Pre-excavation plan of features

SECTION THROUGH BURNT SPREAD C105 24.553m OD Overcut to confirm natural C103 — Natural SECTION THROUGH BURNT SPREAD C105 **B**1 24.567m OD Natural C108— Redeposited 2 metres Site: N4 Sligo Inner Relief Road Area 1G Scale: 1:40 A4 Archaeological Consultancy Date: February 2005 Services Ltd. Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth Issued for: Archaeological Excavation Report Origin: ACS Ltd Client: Sligo County Council Drawing no.: 03_24_C44

Figure 5: Sections of Burnt Spread