N6 KINNEGAD – ATHLONE SCHEME PHASE 2: KILBEGGAN TO ATHLONE DUAL CARRIAGEWAY

SITE A016/007; E2635: SEEOGE 2

FINAL REPORT

ON BEHALF OF WESTMEATH COUNTY COUNCIL

12 JUNE 2009

IAC Irish Archaeological Consultancy

PROJECT DETAILS

Project Reference No.	WH/00/112
Project	N6 Kinnegad – Athlone Road Scheme: Phase 2, Kilbeggan – Athlone Dual Carriageway
Ministerial Direction Reference No.	A016/007
NMS Registration Number	E2635
Excavation Director	Ed Lyne
Senior Archaeologist	Shane Delaney
Consultant	Irish Archaeological Consultancy Ltd, 120b Greenpark Road, Bray, Co. Wicklow
Client	Westmeath County Council
Site Name	Seeoge 2
Site Type	Burnt Mound
Townland	Seeoge
Parish	Kilcleagh
County	Westmeath
NGR (Easting)	E 215278
NGR (Northing)	N 237859
Chainage	10175–10200
Height m OD	82–84m OD
RMP No.	N/A
Excavation Start Date	23 February 2006
Excavation Duration	31 days
Report Type	Final
Report Date	12 June 2009
Report By	Ed Lyne

ACKNOWLEDGMENTS

This report has been prepared by Irish Archaeological Consultancy Ltd on behalf of Westmeath County Council and the National Roads Authority in advance of the construction of the N6 Phase 2: Kilbeggan to Athlone Dual Carriageway Scheme.

The excavation was carried out in accordance with the Directions of the Minister for the Environment, Heritage and Local Government (DOEHLG), in consultation with the National Museum of Ireland (NMI) issued under Section 14 of the National Monuments Acts 1930–2004.

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ABSTRACT

Irish Archaeological Consultancy Ltd (IAC), funded by Westmeath County Council (WCC) and the National Roads Authority (NRA), undertook an excavation in the townland of Seeoge at the site of Seeoge 2 in advance of the proposed N6 Phase 2: Kilbeggan to Athlone Dual Carriageway Scheme (Figures 1 and 2). The following report describes the final results of archaeological fieldwork at that site. The area was fully excavated by Ed Lyne under Ministerial Direction (A016/007) and NMS Registration Number E2635 issued by the DOEHLG in consultation with the National Museum of Ireland. The fieldwork took place between 23 February and 13 April 2006.

A very substantial burnt mound C4 was recorded and removed to reveal a range of associated features. These included at least two and possibly up to four troughs, a probable well or pit, various pits and a substantial rectangular structure. C4 comprised of a 35m x 20m x 0.76m deep (max. dimensions) mound of burnt stone and charcoal (Figures 4 and 9; Plates 1 and 2). A mound such as this would have formed over time as heat-shattered stones from the troughs were discarded after each use, or more accurately prior to each re-use. Given its size, this mound must represent many repeated uses of the troughs on site over a prolonged period of time, perhaps several generations.

The two definite troughs were located at different elevations, perhaps indicative of use at alternate times depending on the level of the water table. The trough at the higher elevation was rectangular in plan with rounded corners. A shallow linear cut along its northern edge suggested that some kind of organic lining had once existed.

The second trough was frequently under the water table during excavation, and once excavated was permanently full of water. It could be suggested that this trough was used in summer or during dry spells, though clearly we cannot be sure of how the hydrology has changed over the millennia. A finely worked piece of flint in the form of a plano-convex knife was recovered from the fill of this trough (E2635:121:1). Based on its form it predates the site, and the patination on its surface suggests that it was exposed to the elements for a considerable amount of time prior to being introduced to the trough (Figure 11). This may suggest that this was considered to be a ‘special’ object, and that it was placed in the trough as a deliberate deposit, perhaps as a foundation offering.

A number of pieces of bone were recovered from this feature, including one substantial animal joint, reinforcing the possibility that this burnt mound was used at times at least for the cooking of meat. The large bone recovered was identified as a horse femur, and there was possible evidence for the bone having been cut. This might suggest the butchery of horse on site.

A number of preserved timbers were recovered in the base of this trough, in the form of five stakes or pegs and two possible planks, all of oak (Timbers 1, 2 and 3A–E) (Figure 5; Plate 7). These are likely to have had some structural purpose. One possibility could be that they were used to somehow partition the trough into two parts, perhaps to keep the heated stones to one side, but allowing the heated water to move freely into a stone-free side. Unfortunately, as it seems we only have a few pieces of this arrangement of timbers, it is difficult to say with certainty what their function was.

Adjacent to the burnt mound C4, and partially sealed by it, was a large rectangular structure defined by a set of well-defined postholes. This took the form of a northwest

to southeast oriented rectangle tapering slightly toward the south-eastern end (Figure 4; Plate 8). In the northwest section of the structure a deposit of sizeable stones C8 was identified on the surface (Figures 4 and 6; Plate 2). It could be suggested that these formed an internal wall, or perhaps over-ground support for the central posts. An alternative may be that these were connected with a possible sweat-house function for the structure, and were being heated and placed within the structure.

The mound and structure may have originally respected each other as C4 only partially overlay the structure (Figure 4), and a certain amount of mound-type material (burnt and heat-shattered stones) was found in some of the postholes suggesting that they were broadly contemporary. Some slumping or settling of the mound over time could account for the overlap. Structures have been found in association with burnt mounds before, such as a probable timber hut excavated by M.J. O'Kelly at Ballyvourney, Co Cork in 1952 (Waddell, 1998. 175).

Posthole fills C114 and C76 produced the only finds from the structural postholes; a natural retouched chunk (E2635:114:1) with one retouched steep end which was probably used as an end scraper and a piece of chert debitage E2635:76:1. In terms of function, the structure is unlikely to have been a domestic dwelling, as it lacked any concentration of domestic artefacts. Some form of sweat-house or similar function connected with the burnt mound is most likely, and as mentioned above deposit C8 is perhaps indicative of its being a sweat-house.

Given its size (surely one of the larger burnt mounds excavated to date), it is likely that the site at Seeoge 2 must have been either intensively used or used for a very prolonged period of time – perhaps both. As regards the dating of the site, a sample of pomoideae charcoal from posthole fill C14 was dated to (2 sigma calibration) 901–816 BC (2712 +/- 19 BP, UBA 9161), while a sample of blackthorn (*Prunus*) charcoal from trough fill C19 was dated to (2 sigma calibration) 764–416 BC (2473 +/- 26 BP, UBA 8581). While there is no overlap in these date ranges, neither is the difference between them very large. Given that the structure might have been erected when the site was established, while the trough would have been repeatedly emptied and refilled for every use, it is perhaps to be expected that there would be some variation in date between the structure and the trough. It is perhaps appropriate to see this as an approximation of the lifespan of the site. Seeoge 2 can therefore be seen as a late Bronze Age/Iron Age site, perhaps with a lifespan of up to a few centuries.

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1 INTRODUCTION

1.1 General

This final report describes the results of the excavation carried out at the site of Seeoge 2 in the townland of Seeoge, Co. Westmeath (Figure 1 and 2) as part of an archaeological mitigation program associated with the N6 Phase 2: Kilbeggan to Athlone Dual Carriageway Scheme. Archaeological fieldwork was carried out under ministerial direction by Ed Lyne of Irish Archaeological Consultancy Ltd (IAC Ltd) and was funded by Westmeath County Council & National Roads Authority under the National Development Plan 2000–2006, 2007–2013 and the EU Structural fund.

The possibility of this site being of archaeological significance was initially identified as a result of the carrying out of a scheme wide pre-development archaeological and cultural heritage impact assessment (Riada Consult, 2003). At this stage a single, un-inscribed or decorated squat, flat-topped stone (0.85m in length by 0.60m in width by 0.85m in height) with four distinctive sides, set firmly in the ground, was identified and was given the designation of CHS (Cultural Heritage Site) 18. Directly adjacent to this site was another identified area of interest designated CHS 20 (a burnt mound).

As a result of archaeological assessment undertaken by IAC Ltd. in August 2005 (Ministerial Direction No. A016/029; NMS Registration No. E3273) a number of further previously unidentified archaeological features (three spreads of heat shattered stone) were uncovered. All features identified during the assessment phase were subsequently re-located and the site was fully excavated during the resolution phase of the project which took place between 23 February and 13 April 2006 with a team of 1 director, 2 supervisors and 11 site assistants. Based on the results of both the assessment and excavation phases it is clear that this site was actually the site identified originally as CHS 20 and not that of CHS18.

The site was located on a very gentle southwest facing slope on the edge of flat boggy pastureland at a height of 82–84m OD c. 2.5km WSW of Moate (Westmeath OS sheet 30).

The site was assigned the following identification data:

Site Name: Seeoge 2; Ministerial Direction No.: A016/007; NMS Registration Number: E2635; Route Chainage (Ch): 10175–10200; NGR: 215278/237859.

1.2 Proposed Development

The proposed N6 Kinnegad–Athlone Scheme is to be constructed in two phases. The Phase 2 Kilbeggan–Athlone scheme will consist of a dual carriageway that will run for a distance of approximately 29km. The location of the route is predominantly to the south of the existing N6 and there will be access to the local road network through the seven grade separated junctions located at Athlone, Farnagh, Moate and Kilbeggan. The cross-section of the mainline consists of 2m wide verges, 2.5m wide hard shoulders, 7m wide two-lane carriageways and a 3m wide central reserve. This central reserve will accommodate 1m hard strips and a safety barrier. In addition to the mainline dual carriageway there is a further 0.3km of standard dual carriageway to the south of Athlone Interchange to connect to the existing N6 and 1.2km to the south of Kilbeggan Interchange to connect to the existing N52.

1.3 Archaeological Requirements

The archaeological requirements for the N6 Kilbeggan to Athlone Dual Carriageway Scheme, are outlined in the Ministerial Directions issued to Westmeath County Council by the Minister for Environment, Heritage and Local Government under

Section 14A (2) of the National Monuments Acts 1930–2004 and in the terms of the contract between Westmeath County Council and Irish Archaeological Consultancy Ltd. These instructions form the basis of all archaeological works undertaken for this development. The archaeological excavation works under this contract are located between the townlands of Kilbeggan South, Co. Westmeath and Creggan Lower, Co. Westmeath.

The proposed N6 was subjected to an Environmental Impact Assessment, the archaeology and cultural history section of which was carried out by Sheila Lane and Associates and presented in 2003. The Record of Monuments and Places, the Sites and Monuments Record, Topographical files, aerial photography, the Westmeath Archaeological Urban Survey and literary sources were all consulted. One phase of geophysical survey was also conducted at selected sites along the proposed route by Target Archaeological Geophysics. As a result of the paper survey, field inspections and geophysical survey, a number of potential sites were recorded in proximity to this section of the overall route alignment.

Advance archaeological testing was completed by IAC Ltd and excavation of the sites identified during testing was conducted by IAC Ltd on behalf of Westmeath County Council.

1.4 Methodology

The topsoil was reduced to the interface between natural and topsoil using a 20 tonne mechanical excavator 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.

An environmental strategy was devised at the beginning of the excavation. Features exhibiting large amounts of carbonised material were the primary targets. Wood samples were retrieved and maintained in waterlogged condition for analysis.

In the instances where artefacts were uncovered on site they were dealt with in accordance with the guidelines as issued by the NMI and where warranted in consultation with the relevant specialists. All artefacts, ecofacts and paper archive are currently stored in IAC offices, Lismore, Co Waterford and will ultimately be deposited with the National Museum of Ireland.

Radiocarbon dating of the site was carried out by means of AMS (Accelerator Mass Spectrometry) dating of identified and recommended charcoal samples. All calibrated AMS dates in this report are quoted to 2 Sigma.

All excavation and post excavation works were carried out in consultation and agreement with the Project Archaeologist, the National Monuments Section of the DOEHLG and the National Museum of Ireland.

2 EXCAVATION RESULTS

Detailed descriptions of contexts are given in Appendix 1. The site matrix is detailed in Figure 12.

2.1 Phase 1: Natural Drift Geology

The dominant bedrock geology identified along the corridor of the proposed route are Lower Carboniferous rocks, mainly limestone lithologies, which overlay Devonian Old Red Sandstone rocks. Carboniferous volcanic rocks were also identified as being present locally in the form of sills passing through the bedrock sequences (Riada Consult, 2003). The underlying geology of the area is overlain by occasional moraines and small glacial hillocks covered by grey brown podzolic soils.

The subsoil C3 above bedrock encountered at Seeoge 2 was uniform across the site and consisted of a yellowish brown fairly loose silty clay.

2.2 Phase 2: Burnt Mound

Features Sealed by Burnt Spread C4

2.2.1 Rectangular Trough C32 and Possible Wooden Framework C104

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
19	32	1.78	N/A	0.54	Irregular dark brown loose silty clay	Fill of trough cut C32
32	N/A	2.41	1.42	0.49	Rectangular cut with a flat base	Trough pit
103	104	0.77	0.07	0.06	Brown medium compacted silty clay	Remains of lining?
104	N/A	0.77	0.12	0.1	Linear cut relating to possible pit lining	Linear cut

Finds: None

Interpretation:
Cut C32 was one of the key features on site, and consisted of a sizeable rectangular pit or trough (82.67m OD at base) with slightly rounded corners (Figs 4 and 8; Plates 3 and 4). This trough was generally full of water during excavation, but it did seem to begin to dry out after prolonged dry periods. It was filled with a stony charcoal-rich material C19. It was situated on slightly elevated ground at the eastern end of the site. Directly associated with the trough was a thin and shallow linear cut C104 along its northern edge which appeared to represent some sort of framework that would have lined the top edge of the trough. This was filled with charcoal stained silty clay C103. Adjacent to the trough to the east was a small pit C55 and stakeholes C99 and C18, whose proximity to the trough suggests a connection (Cf. Section 2.2.4).

This trough is likely to have been one of two main troughs on site (Cf. Section 2.2.2), and is likely to have been used and reused throughout the lifetime of the site for heating water for various purposes. A sample (0.05g) of blackthorn (*Prunus*) charcoal from trough fill C19 was dated to (2 sigma calibration) 764–416 BC (2473 +/- 26 BP, UBA 8581) which, given the fact that the trough would have been cleared out before every re-use, is likely to have been towards the end of the lifetime of the site. This nonetheless suggests a late Bronze Age/Iron Age date for the site.

2.2.2 Large Sub-Circular Trough C122 and Associated Features

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
121	122	4	3.1	0.6	Black to grey soft burnt-mound-like material	Fill of trough
122	N/A	3.6	3.38	0.6	Sub rounded/irregular pit/trough cut	Trough
133	137	2.9	2.8	0.2	Dark brown firm peaty-organic layer	Organic layer

134	137	3	3	0.2	Black to grey burnt-stone-rich material	Deposit
135	137	3.5	3	0.25	Dark brown firm peaty organic layer	Organic deposit
136	122	0.6	0.5	0.08	Grey soft sandy lens	Lens within C121
137	N/A	N/A	N/A	N/A	Edge of burnt mound around trough C122	Cut, or edge of C4
150	151	0.08	0.08	0.14	Circular in plan. Dark brown loose silty clay	Poss. stakehole fill
151	N/A	0.08	0.08	1.14	Circular cut with tapered base	Possible stakehole

Finds:

Context	Find Number	Material	Period	Description
121	E2635:121:1	Flint	Prehistoric	Flint plano-convex knife

Interpretation:
In the southern part of the site another large pit interpreted as a trough (81.96m OD at base) was recorded C122 (Figure 4 and 9; Plate 6). This appeared to have been re-cut on at least one occasion and was somewhat irregular in shape. This pit was frequently under the water table during excavation, and once excavated was always full of water. It could be suggested that this trough was used in summer or during dry spells, and that trough C32 was used when the area around trough C122 was flooded, though clearly we cannot be sure of how the hydrology has changed over the millennia. This pit was filled primarily by grey/black silty clay C121 with burnt stone and charcoal inclusions. A lens of soft grey sandy material C136 was found in the upper west part of C121.

A finely worked piece of flint in the form of a plano-convex knife was recovered from the fill of this trough (E2635:121:1) (Figure 11; Appendix 2.1). Also, a number of preserved timbers were recovered in the form of five probable stakes or pegs and two possible planks (Timbers 1, 2 and 3 A-E) (Figure 10; Appendix 2.3), which with one exception were found to have been driven into the natural clay at the base of trough C122, the other peg having been found in the trough fill (Plate 7). These timbers were all oak (Appendix 2.3)

It is not clear what precisely the function of these pegs was, but as can be seen from their layout (Plate 7) they are likely to have had some structural purpose. Perhaps they were used to hold a lining in place which has not survived, or another possibility could be that they were used to somehow partition the trough into two parts, perhaps to keep the heated stones in one side, but allowing the heated water to move freely into a stone-free side. Unfortunately, as it seems we only have a few pieces of this arrangement of timbers, it is difficult to say with certainty what their function was.

A number of pieces of bone were recovered from this pit, including one substantial animal joint (Appendix 2.2), and one hazelnut shell. This may reinforce the possibility that this burnt mound was used at times at least for the cooking of meat.

Where the cut of this trough met ground level it was observed that the overlying mound material C4 respected the trough, and that the material overlying the trough fill directly was somewhat different (Plate 6). What is not entirely clear is whether the mound built up around the trough, hence respecting it, or if the trough was cut while the mound was already in existence, hence cutting through C4 in order to get to the natural clay (Figure 9). While it seems more likely that the mound built up around the trough and always respected it, the edge of C4 around C122 was given cut number C137 for recording purposes. The fills or deposits overlying the main trough fill C122 consisted of a dark brown peaty deposit C135 sealed by grey/black burnt stone-rich peaty clay C134 and finally a dark brown peaty layer C133 which was very similar to C135 (Figure 9).

A single posthole or large stakehole C151 was located just inside the southern edge of the trough C122. This was tapered in profile. Its fill C150 was a dark brown silty clay. It may originally have been another piece of the trough-lining.

2.2.3 Possible Troughs C154 and C155

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
146	154	1.6	0.82	0.23	Black/dark grey silty clay	Poss trough fill
147	155	1.77	0.86	0.24	Black silty clay with burned stone inclusions	Poss trough fill
154	N/A	1.6	0.82	0.23	Oval cut with flat base	Cut of shallow oval pit
155	N/A	1.77	0.86	0.24	Oval cut with concave base	Cut of shallow oval pit

Finds: None

Interpretation:
Two further possible troughs were recorded on site, both found at the southwest end of the site, uncovered under the edge of the mound C4 (Figure 4). These two features C154 and C155 were very similar, oval in shape and concave; neither was very large or deep (Plates 11 and 12). It is likely that they may have represented single use troughs at the periphery of the site, or pits of unknown purpose. They were filled with grey/black silty clay material similar to the burnt mound C4. These fills were C146 and C147 respectively.

2.2.4 Other Features Sealed by Burnt Mound Spread C4

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
20	N/A	1.3	1	0.03	Black soft ash with small pieces of charcoal	Spread
54	55	0.6	0.53	0.15	Black medium compacted silty clay	Fill of pit
55	N/A	0.6	0.53	0.15	Irregular in plan with irregular corners	Cut of pit
93	111	1.14	0.69	0.14	Black loose clay silt and stones	Fill of possible well
98	99	0.18	0.09	0.26	Dark brown medium compacted silty clay	Fill of stakehole
99	N/A	0.18	0.09	0.26	Rounded in plan. Shape of base tapered	Cut of stakehole
110	111	1.14	0.69	0.42	Stone with some brown and black soil	Fill of a possible well
111	N/A	1.14	0.69	0.5	Oval in plan N–S	Cut of possible well
148	149	1.4	1.15	0.3	Brown medium compacted silty clay	Fill of pit C149
149	N/A	1.4	1.15	0.3	Oval cut with concave base	Cut of pit

Finds: None

Interpretation:
The contexts listed above consist of five features found under C4 the burnt mound including a probable well pit.

An oval pit C111. located c. 3m south of trough C32,has been interpreted as a probable well feature (Figure 4, Plate 5). This was loosely filled with sizeable stones C110 and an upper layer of charcoal-rich mound-like material C93. After excavation this feature was permanently full with water, even during long dry spells, and would appear to be permanently below the water table.

A small oval pit C149 was found south of trough C122, filled with brown silty clay and stones C148. No function was apparent, but it is likely to have related to the trough in some way. Another irregular pit C55 was found adjacent to trough C32 to the east. This was filled with black silty clay C54. Immediately south of this was stakehole C99 which was filled with dark brown silty clay C98. An irregular spread of charcoal and ash C20 was also recorded beneath C4.

Rectangular Structure Partially Sealed by Burnt Spread
Adjacent to the burnt mound C4, and partially sealed by it, was a large rectangular structure defined by an arrangement of well-defined postholes (Figure 12).

2.2.5 Postholes of Structure and Possible Internal Wall

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
8	N/A	3.5	2.6	0.6	Dark brown silty clay + mostly big stones	Large stone feature
14	15	0.63	0.49	0.59	Mid brown loose silt	Fill of large posthole
15	N/A	0.63	0.49	0.59	Round/oval cut	Large posthole
21	22	1.1	1	0.09	Grey-brown soft clay silt	Posthole fill
22	N/A	1.7	1.16	0.7	Irregular cut with concave base	Poss. pit/posthole
23	24	0.31	0.28	0.53	Mid brown loose silty clay	Fill of posthole
24	N/A	0.31	0.28	0.53	Round cut with a concave base	Cut of deep posthole
41	56	0.22	0.18	0.3	Grey charcoal-stained loose silty clay	Fill of posthole
42	67	0.84	0.47	0.08	Dark brown black loose silty sand	Fill of a small pit
44	22	1.5	0.9	0.27	Grey soft silty clay. Inclusions of charcoal	Fill of pit/posthole
45	22	0.7	0.35	0.29	Dark grey firm clay with burnt stones	Lower fill of cut C22
46	47	0.115	0.085	0.08	Dark/black fairly compact silty clay	Fill of poss stakehole
47	N/A	0.115	0.085	0.08	Oval cut with a tapered blunt point	Cut of stakehole
48	49	0.13	0.08	0.13	Dark/ black fairly compact silty clay	Fill of stakehole
49	N/A	0.13	0.08	0.13	Tapered stakehole	Cut of stakehole
56	N/A	0.22	0.18	0.3	Oval cut with slight undercut at E	Cut of posthole
59	86	0.36	0.2	0.25	Grey brown compact clayey silt	Fill of posthole
62	79	circular	0.4	0.3	Dark grey firm silty clay	Fill of large posthole
65	77	0.33	0.28	0.15	Grey brown loose silt	First fill of posthole
67	N/A	0.84	0.47	0.08	Oval in plan	Small pit
68	69	0.23	0.23	0.17	Black medium compacted silt	Fill of small posthole
69	N/A	0.23	0.23	0.17	Circular cut with concave irregular base	Cut of posthole cut
71	78	0.28	0.18	0.25	Brown loose sandy silt charcoal inclusions	Fill of posthole
77	N/A	0.33	0.28	0.15	Oval in plan N–S with an uneven base	Cut of posthole
78	N/A	0.27	0.26	0.48	Oval in plan E–W with an uneven base	Cut of posthole
79	N/A	circular	0.4	0.3	Circular in plan with a concave base	Cut of posthole
80	81	0.23	0.23	0.07	Light brown medium clay silt	Fill of posthole C81
81	N/A	0.23	0.23	0.3	Circular in plan with a tapered base	Cut of posthole
82	83	N/A	N/A	0.17	Brown loose silt	Fill of a posthole
83	N/A	0.34	0.28	0.16	Oval in plan with an uneven bas	Cut of a posthole
86	N/A	0.36	0.3	0.25	Oval cut with concave base	Cut of posthole
87	86	N/A	0.05	0.25	Grey brown medium sandy silt	Fill of posthole
88	89	0.33	0.33	0.22	Grey brown medium compact sandy silt	Fill of posthole
89	N/A	0.33	0.33	0.22	Circular cut	Cut of posthole
90	81	0.23	0.23	0.21	Black medium compact clay silt	Fill of posthole
91	81	0.23	0.23	0.18	Grey loose clay silt	Fill of posthole
106	107	0.43	0.43	0.29	Light black medium compacted silty clay	Fill of posthole
107	N/A	0.43	0.43	0.29	Circular cut	Cut of posthole
108	109	0.42	0.45	0.16	Circular mid brown loose clay	Poss. Posthole
109	N/A	0.42	0.45	0.16	Rounded cut with concave base	Cut of posthole
141	145	0.27	0.2	0.46	Dark/orange brown clay silt	Fill of posthole
145	N/A	0.27	0.2	0.46	Sub-rounded cut with tapered base	Cut of posthole

Finds: None

Interpretation:
The above contexts together define a structure that was identified on the northern edge of the burnt mound C4. This structure (8m east–west by 4m north–south) was

defined by a rectangular arrangement of substantial postholes and posthole clusters, and took the form of a northwest to southeast oriented rectangular structure tapering slightly toward the south-eastern end (Figures 4, 5; Plate 8).

In the northwest section of the structure a deposit of sizeable stones C8 was identified on the surface (Figures 5; Plate 2). It could be suggested that these may have formed some sort of internal wall, or perhaps above ground support for the central posts. An alternative may be that these were connected with a possible sweat-house function for the structure, and were being heated and placed within the structure.

The mound and structure may have originally respected each other as C4 only partially overlay the structure (Figure 4), and a certain amount of mound-type material (burnt and heat-shattered stones) was found in some of the postholes suggesting that they were broadly contemporary. Some slumping or settling of the mound over time could account for the overlap. Structures have been found in association with burnt mounds before, such as a probable timber hut excavated by M.J. O'Kelly at Ballyvourney, Co Cork in 1952 (Waddell, 1998. 175). A sample of pomoideae charcoal (0.5g) from posthole fill C14 was dated to 2712+/-19 BP (UBA 9161; Appendix 2.4). The 2 sigma calibrated result for this was 901–816 BC. A sample (0.05g) of blackthorn (*Prunus*) charcoal from trough fill C19 was dated to 2473+/-26 BP (UBA 8581; Appendix 2.4), the 2 sigma calibrated results was 764–416 BC. While there is no overlap in these date ranges, neither is the difference between them very large. Given that the structure might have been erected when the site was established, while the trough would have been repeatedly emptied and refilled for every use, it is perhaps to be expected that there would be some variation in date between the structure and the trough. It is perhaps appropriate to see this as an approximation of the lifespan of the site.

Some of the key postholes were C15 filled with C14 (see date above); C22 which may have been a pit or large posthole and was filled first with burnt-stone-rich grey firm clay C45, then secondary fill C44 (grey soft silty clay with charcoal and burnt stone inclusions) and finally charcoal-rich C21 (Plate 10). Posthole C24 was filled with charcoal-rich clay C23; C56 filled with C41; C69 which was filled with charcoal-rich C68 was in turn cut by C67 (filled with charcoal and burnt-stone-rich C42).

Further stakeholes or postholes included C47 filled with charcoal flecked C46; C49 filled with charcoal flecked C48; C79 filled with charcoal-flecked C62; C83 filled with C82 which was in turn cut by C77 (filled with charcoal stained C65); C78 filled with C71; C81 filled primarily with charcoal flecked C91, then burnt-stone and charcoal-rich C90 and finally charcoal flecked C80; C86 filled with charcoal-rich C87, above which was charcoal rich C59; C89 filled with charcoal flecked C88; C107 filled with burnt-stone and charcoal-rich C106; C109 filled with charcoal stained C108; and large stakehole or posthole C145 filled with charcoal stained clay silt C141.

2.2.6 Inter-cutting Postholes C100, C116, C117, C118, C119, C120 and C124

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
40	100	0.43	0.38	0.5	Dark brown/black silty clay	Fill of posthole
95	116	0.5	0.4	0.41	Dark brown/black, mid loose silty clay	Posthole fill
96	117	0.42	0.38	0.24	Dark brown/black, mid-loose silty clay	Fill of posthole
100	N/A	0.43	0.38	0.5	Oval cut with flat base	Cut of a posthole
102	119	0.26	0.18	0.21	Dark brown/black, mid loose silty clay	Fill of posthole
105	118	0.33	0.33	0.25	Dark brown/black silty clay	Fill of posthole
114	120	0.21	0.18	0.22	Grey charcoal stained silty clay	Fill of a posthole

116	N/A	0.50	0.40	0.41	Linear cut with concave base	Posthole
117	N/A	0.42	0.38	0.24	Round cut with rounded base	Cut of a posthole
118	N/A	0.33	0.33	0.25	Round cut with a flat base	Cut of posthole
119	N/A	0.26	0.18	0.21	Oval cut with rounded base	Cut of posthole
120	N/A	0.21	0.18	0.22	Sub-circular cut with a flat base	Cut of posthole
123	124	0.20	0.18	0.12	Grey charcoal stained soft-firm silty clay	Fill of posthole
124	N/A	0.20	0.18	0.12	Oval cut with flat base	Cut of posthole

Finds:

Context	Find Number	Material	Period	Description
114	E2635:114:1	Flint	Bronze Age	Flint retouched artefact

Interpretation:
At the southwest corner of the structure there were two clusters of postholes, often inter-cutting each other. These could represent some sort of internal structure, but it is perhaps more likely that they represent the replacement of one post by another on a number of occasions (Plate 9). This corner is the closest part of the structure to the mound, and also to the waterlogged low lying part of the site, so it is possible that moisture and the resulting decay of posts were a bigger problem here than elsewhere in the structure. It is also the corner that would be hit hardest by the prevailing south-westerly winds. Due to the similar nature of the fills, it was generally impossible to distinguish which postholes were cutting which.

The contexts above relate to the first of these groups of inter-cutting postholes. C100 was an oval posthole filled by charcoal-stained silty clay C40. This posthole was inter-cutting with posthole C116 to the east. It was not clear which was the primary posthole. C116 was filled by C95 which was indistinguishable from C40. C116 was inter-cutting posthole C117 to the east. C117 was filled by C96, again similar to C40 and C95. C118 cut C116 to the north; this was filled by C105, brown/black charcoal-stained silty clay. Posthole C119 inter-cut C118 to the north; this was filled by C102, again a charcoal-stained silty clay. Two further small postholes inter-cut each other and this group to the east; these were C120 and C124 and they were filled by C114 and C123 respectively. These both consisted of charcoal-stained grey silty clay. C114 produced the only find from this group of postholes, a natural retouched chunk (E2635:114:1) with one retouched steep end which was probably used as an end scraper (Appendix 2.1).

2.2.7 Inter-cutting Postholes C57, C58, C72, C73 and C94

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
39	57	0.45	0.4	0.4	Dark grey firm clay silt	Fill of posthole
57	N/A	0.45	0.4	0.4	Circular cut	Cut of posthole
58	N/A	0.4	0.36	0.34	Circular cut with circular base	Cut of posthole
72	N/A	0.45	0.38	0.42	Circular cut	Cut of a posthole
73	N/A	0.36	0.32	0.4	Circular cut with circular base	Cut of posthole
74	72	0.45	0.44	0.4	Dark grey firm clay silt	Fill of posthole
75	73	0.36	0.32	0.4	Dark grey firm clay silt	Fill of posthole
76	58	0.4	0.36	0.34	Sub circular dark grey firm clay silt.	Fill of posthole
94	N/A	0.4	0.33	0.35	Circular cut with circular base	Cut of posthole
97	94	0.4	0.33	0.35	Dark grey firm clay silt	Fill of posthole

Finds:

Context	Find Number	Material	Period	Description
76	E2635:76:1	Chert	Bronze Age	Debitage

Interpretation:
The contexts above relate to the second of the groups of inter-cutting postholes at the southwest end of the structure on site. These were posthole C57 filled by charcoal-rich C39, C72 which cut C57 to the west and was filled by charcoal and burnt stone rich C74. C94 was a small posthole which cut C57 to the east and was filled by charcoal-stained C97. This posthole was in turn cut by C73 to the east and C58 to the south. C73 was filled by burnt-stone and charcoal-rich C75, while C58 was filled by dark grey charcoal and burnt-stone rich C76. C76 produced the only find from this group of postholes, a piece of chert debitage E2635:76:1 (Appendix 2.1).

2.2.8 Postholes C27, C31 and C144

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
10	27	0.62	0.44	0.20	Dark brown medium compact clay	Fill of oval pit
11	31	0.31	0.23	0.26	Medium brown loose silty clay	Poss. Posthole
27	N/A	0.62	0.44	0.20	Oval cut with flat base	Cut of circular pit
31	N/A	0.31	0.23	0.26	Oval/circular in shape	Poss. posthole
142	144	0.22	0.18	0.10	Dark brown fairly compact silty clay	Fill of posthole
144	N/A	0.22	0.18	0.10	Oval cut with flat base	Cut of posthole

Finds: None

Interpretation:
Three outlying postholes are described above, which may relate to this structure, or could represent isolated pits or postholes (Figure 4 and 5). These are C27, a pit or posthole that could have functioned as the southwest post of the structure at one time, and was filled by C10; C31, a possible posthole c. 1m to the southeast of C27 filled by C11 which had inclusions of charcoal and burnt stones; and finally C144 which was located c. 3m northwest of the structure and was filled by C142, a silty clay with rare inclusions of charcoal.

Burnt Mound Spreads and Surrounding Features

2.2.9 Burnt Spreads

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
4	N/A	35	20	0.76	Dark grey/black loose burnt stone/silty clay	Large burnt mound.
28	N/A	3.5	2.6	0.1	Black clay silt with inclusions of stones	Burnt stone spread
29	N/A	2.53	0.82	0.4	Black darkish brown clayey silt	Burnt stone spread
60	N/A	0.33	0.27	0.06	Grey/brown medium compact sandy clay	Material from mound
61	N/A	0.42	0.32	0.08	Grey/brown/black sandy clay	Material from mound
64	132	7	1.8	0.1	Dark grey/black soft friable sandy silt	Charcoal fill/deposit
132	N/A	7	1.8	0.1	Irregular depression or cut oriented NW–SE	Cut of pit/depression

Finds: None

Interpretation:
The contexts above represent the various burnt spreads and mounds recorded on site. The most significant and by far the largest of these was C4, which sealed the majority of the features on site (83.67m OD at top of mound; 82.87m OD at base).

This comprised of a 35m x 20m (max.) x 0.76m deep mound of dark grey/black loosely compacted material, made up mostly of burnt stone and charcoal (Figures 4 and 9; Plates 1 and 2). Given its size, this mound must represent many repeated uses of the troughs on site over a prolonged period of time, perhaps generations.

Of the other burnt spreads, C60 and C61 probably represented little more than deposits of material transported from the main mound over time, while C64, located just north of the structure on site, was a spread of sandy silt with a high charcoal content (c. 40%) and no burnt stone (Figure 4). It sat in a slight depression or cut (C132) in the eastern part of site on ground upslope from the mound, and may represent the dumping of material from a hearth over a period of time (Figure 4). The clay beneath this material did not seem to be scorched, and so in-situ burning would not seem to be likely. This spread had been truncated to the north by post-medieval feature C70.

Two further small spreads of burnt stone and charcoal C28 and C29 were located c. 20m southeast of the main area beyond the pond (not shown on figure). These appear to represent little more than short-lived episodes of satellite activity from the main site, and in both cases were made up of dark brown/black clayey silt with burnt stone and charcoal inclusions.

2.2.10 Features Surrounding Burnt Spreads

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
12	112	2.5	3.9	0.33	Dark brown loose silt	Fill of possible pit
112	N/A	2.5	3.9	0.33	Large oval depression/pit	Possible pit
113	112	2.5	3.9	0.18	Black loose clayey silt	Base layer of poss pit
125	127	0.51	0.43	0.08	Grey loose clayey silt	Fill of shallow pit
127	N/A	0.51	0.43	0.08	Round cut with a concave base	Cut of circular pit
131	139	0.82	0.82	0.13	Mid brown hard clay sand	Fill of pit
138	139	0.82	0.82	0.13	Grey hard silty clay	Fill of pit
139	N/A	1.46	0.82	0.13	Circular cut	Cut of pit

Finds: None

Interpretation:
The above contexts consisted of various pits and spreads that were excavated on site but which were not directly associated with either the troughs or structure. Most were pits of no obvious function, while the largest (C112) was possibly a natural depression on the edge of the waterlogged area, which silted up with charcoal-rich run-off from the burnt mound C12. The base fill within C112 consisted of loose black clay silt with burnt stone inclusions (C113).

Pit C127 was a circular pit located in the northwest corner of the site. It was filled with C125, grey clay-silt with occasional charcoal inclusions. Nothing was recovered that would suggest a function. Pit C139 was a larger sub-circular pit located c.2m southwest of C127. This was filled with primary fill (C138), a hard grey silty clay with charcoal inclusions, and secondly C131, a mid-brown clay-sand. Again, nothing was retrieved to suggest a definite function.

2.3 Phase 3: Modern and Non-Archaeological Features

2.3.1 Features C6, C13, C16, C18, C25, C70 and C152

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
5	16	2.66	2.4	0.28	Dark brown/black friable clayey silt	Prob. Root Burning
6	N/A	N/A	N/A	N/A	Pond in SE part of site	Natural Pond. N.A.
7	N/A	N/A	0.9	N/A	Very dark brown loosely compacted silt	Silting of drain/ditch
13	N/A	21	1	0.5	Linear cut with flat base	Cut of ditch
16	N/A	2.66	2.4	0.28	Irregular/sub-rounded cut with flat base	Burnt tree roots. N/A
17	18	0.57	0.31	0.23	Black loose clayey silt	Poss. root burning
18	N/A	0.57	0.31	0.23	Irregular cut with irregular base	Root-bole
25	N/A	10	1.35	0.26	Linear cut with sloping base	Cut of ditch
26	13	9.5	0.3	0.4	Wall in ditch C7 on its north edge	Stone revetment
30	25	10	1.35	0.26	Mid-grey medium compacted clay silt	Fill of ditch
37	25	0.62	N/A	0.15	Light brown loose sandy clay	Ditch fill
38	25	1.06	N/A	0.22	Black mid compacted silty clay	Ditch fill
66	70	1.28	0.34	0.19	Dark brown soft and friable silty clay	Fill of ditch
70	N/A	1.28	0.34	0.19	Rectangular cut with concave base	Cut of drain/ditch
92	25	10	10	0.14	Brown with yellow patches silty sand	Fill of ditch cut C25
101	N/A	N/A	N/A	N/A	Modern cut, assoc with post-med well	Cut of well
115	N/A	0.6	0.4	0.05	Brown and red loose clay silt	Very thin spread
152	N/A	unknown	0.8	0.25	Linear cut with a flat base	Modern drain/ditch
153	152	unknown	0.8	0.25	Grey hard silty clay	Fill of drain/ditch

Finds:

Context	Find Number	Material	Period	Description
7	E2635:7:1	Metal	PM	Iron bar

Interpretation:
The contexts outlined above consist of a range of modern and non-archaeological features (Figure 12). Four separate drainage ditches are represented, two of which cut through the mound, and a number of non-archaeological features, including a burnt tree-bole and a natural pond (C6) adjacent to C4 (Plate 13). Also listed is a cut (C101) associated with the post-medieval well, which could not be excavated due to water flooding in from the well.

The drainage ditches appeared to be post-medieval in date, and were deemed to be of no archaeological interest. Ditch C13 ran northwest to southeast across the site cutting through C4 and terminating in the pond C6. This ditch was revetted along its northerly side with loose dry-stone-walling C26, possibly to prevent the loose burnt mound material that would have been cut through from slipping back into the ditch. It had silted up completely over time with dark brown stony material C7.

Ditch C25 ran northeast–southwest across the site, cutting through the upper levels of burnt mound C4 (Figure 4) and interlinking with ditch C70 prior to connecting with the pond C6. It was filled at its southerly end with stony rooty clay C30, and elsewhere with sandy clay C37 which overlay black silty clay C38 and hard silty sand C92. Ditch C70 ran northwest–southeast across the site, linking into C25 which suggests that it is contemporary or later. It runs parallel to C13, so it is likely that all these ditches are contemporary, forming part of a single drainage system. C70 was filled with friable silty clay C66. C152 ran northwest–southeast across the southwest corner of site, parallel with C13 and C70, again suggesting that these were contemporary. This was a narrower ditch at just 0.25m wide, and was filled with grey

silty clay C153 with pebble inclusions. This ditch was under water for the duration of the excavation.

Some probable tree-boles/burnt tree roots were recorded. Largest of these was C16 filled with C5. This was likely to represent post-medieval land improvement. Some other shallow spreads with charcoal content representing field clearance were C18 filled with charcoal flecked C17; and spread C115, which may represent field clearance/root burning or possibly some run-off from spread C64.

2.4 Phase 4: Topsoil

2.4.1 Topsoil

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
1	N/A	Site	Site	0.2	Fairly loose dark brown silty clay	Topsoil
2	N/A	Site	Site	0.05	Mottled firm silty clay	Subsoil

Finds:

Context	Find Number	Material	Period	Description
1	E2635:1:1	Flint	Bronze Age	Flint blade
1	E2635:1:2	Flint	Bronze Age	Flint flake

Interpretation:
Phase 4 represents the topsoil and subsoil that sealed all of the archaeological deposits and features at Seeoge 2 (Figure 12). It consisted of two deposits C1 which sealed the entire site, and C2 which occurred in patches. C1 was a fairly loose dark brown silty clay, while C2 was a mottled firm silty clay with inclusions of stones and occasional charcoal flecks.

Two finds were recovered from topsoil C1. These were E2635:1:1, a flint blade, and E2635:1:2, a flint flake which showed evidence of being used as a knife (Appendix 2.1).

3 SYNTHESIS AND DISCUSSION

3.1 Landscape Setting

The new route of the N6 runs from south of Kilbeggan town to east of Athlone Co. Westmeath, crossing through the northern part of Co. Offaly for approximately 7.5km of its entire length. The landscape of this area is comprised of generally flat to undulating terrain. The underlying geology of the area is dominated by carboniferous limestone and is overlain by occasional glacial features such as moraines and eskers. The eskers dominate to the north and south of most of the route, with moraines featuring along parts of the western section toward Athlone. The soil cover varies considerably across the scheme, passing through soil complexes, grey brown podzols, boglands and alluvial deposits. The area is drained by the River Shannon through its tributaries, the Brosna, Boor, Cloghatanny and Gageborough rivers.

The site at Seeoge 2 was located 2.5km west of Moate, at the base of the southwest side of a gently sloping hill (82–84m OD), and at the very edge of a water-logged low-lying area. The underlying geology of the area is carboniferous limestone, which is overlain by occasional moraines and small glacial hillocks. The soil in this area is dominated by peat especially to the north where a small bog is located 600m from the site in Farnagh/Knockdomny townlands (25" OS map 1887–1913). In Glebe East townland 450m southwest of the site marshy lands were recorded on the 25" OS map (1887–1913). To the east and south grey brown podzolic soils dominate and would have provided better drained soils more conducive to habitation and agriculture. No wetlands are recorded on the OS maps in the immediate vicinity of the site but a spring is marked on the 6" OS map (1834–1842) and this may account for the waterlogged nature of the site. The closest stream was situated 650m to the northeast.

3.2 Archaeological Landscape (The Bronze Age)

Apart from the publication of archaeological inventories in some midland counties – such as Offaly (O'Brien and Sweetman 1997) for example (there is no archaeological inventory for Co. Westmeath) and peatland surveys by the Irish Archaeological Wetland Unit (Moloney *et al*. 1993) our knowledge of the prehistoric archaeology of the midlands is limited. We are reliant on data stored at the RMP (see Appendix 3) and information from a limited number of excavations within Westmeath and Offaly. The most important of these is Hencken's (1942) investigation at Ballinderry crannog II in the barony of Kilcoursey, Co. Offaly, which revealed a late Bronze Age settlement phase (see also Newman 1997 for a reappraisal of the archaeological evidence). However, this picture is quickly changing as a result of commercially-driven archaeology such as the gas pipeline to the west (Grogan *et al*. 2007) which runs mostly parallel a short distance to the north of the N6, and excavations in advance of this road scheme.

The gas pipeline has been extremely informative, revealing a range of archaeological sites in south Westmeath, a county that has traditionally witnessed only minor scholarly research, similar to, although in smaller quantities, those in landscapes that have received more extensive attention, (Grogan *et al*. 2007, 24). This is most apparent for the Bronze Age as both the gas pipeline and excavations along the N6 have identified a wealth of domestic and burial evidence covering the early, middle and late parts of the period.

The area immediately surrounding Kilbeggan has direct evidence for a range of Bronze Age sites including barrows, cists and an early Bronze Age pit burial (Grogan *et al*. 2007, 138, fig. 6.6). The cists, at Ardballymore (WM037-009) and Kilgaroan (WM037-010), are located in close proximity to a number of sites impacted by the N6

including those in the townlands of (moving east to west) Kilbeggan South, Tonaphort, Ballinderry Big, Kilgaroan, Ardballymore, Ballinderry Little, Correagh and Kilbeg. This is significant because sites within the majority of these townlands (except Ballinderry Little 1 which was not dated) have produced early to late Bronze Age evidence almost exclusively represented by burnt mounds or components of these.

Prior to the gas pipeline, a small number of excavations had occurred to the north and the northeast of the N6 including the cemetery sites at Knockast (Hencken and Movius 1934; Grogan 2004), Edmondstown (Mount and Hartnett 1993) and Ballybrennan, Barrettstown and Redmondstown (see Waddell 1990). Added to this is the crannog at Coolure, on Lough Derravaragh within the barony of Moycashel, which was the focus of archaeological survey, environmental investigation and artefactual and landscape research (O'Sullivan *et al*. 2007). The island was first occupied in *c*. 850 BC, during the late Bronze Age, and several late Bronze Age weapons and ornaments have been recovered nearby in the small bay (*ibid*.). The gas pipeline excavations have added considerably to our knowledge of the Bronze Age in this region and Grogan *et al*. (2007, 139) identified three principal Bronze Age focal zones in –

- The valleys of the Brosna and Clodiagh rivers to the south and east of Kilbeggan.
- The hilly terrain around the Hill of Uisneach.
- The slightly elevated area around Edmondstown to the west of Killucan.

South Westmeath was considered a 'quiet' zone prior to the gas pipeline and N6 excavations, but a much more intensive Bronze Age landscape has emerged possibly related to the major Bronze Age centre at Knockast (*ibid*, 161). The pipeline revealed a dominance of Bronze Age archaeology mainly dating to the middle and late parts of the period. Settlement, for example, is indicated by the middle Bronze Age house at Knockdomny 3km northwest of Moate town (Hull 2006), and by a number of burnt mounds such as Ballynagarbry, directly to the west of Moate, and at Williamstown (Grogan *et al*. 2007, 139). The N6 traversed the latter townland and revealed 2 burnt spreads dating to the Bronze Age.

Important late Bronze Age settlements were uncovered in advance of the N6 including the possible house at Creggan Lower 1 and the house, boundary fences and pits at Tober. When added to the large rectangular late Bronze Age house at Ballinderry crannog II (Newman 1997 has since argued for the presence of a second rectangular Bronze Age structure), identified as a thin black deposit which contained occupational debris and fragments of timbers and brushwoods and which produced many finds, mostly from the house, including pottery, knives, flesh-hooks, awls, rings, pins, beads and a variety of stone objects (Hencken 1942, 6–8), it demonstrates that this was a well-settled and established region notably in the later part of the period. This interpretation is further reinforced by the large number of burnt mounds that were discovered along the N6, including the notable clusters within certain townlands, for example, at Cregganmacar, Burrow or Glennanummer and Kilbeg.

In Athlone, at the western edge of the scheme and close to Creggan Lower, an assortment of high-status Bronze Age artefacts, mainly dating to the middle and late periods, are well represented including, for example, a gold lunula, bronze flat axes and rapiers and later gold items such as bar torcs, penannular bracelets, dress fasteners and ring money (Murtagh 2000, 9). The distribution of further high-status artefacts including the hoards from Ballinderry, Killulagh, Brockagh and Enniscoffey provide further evidence of a well settled Bronze Age landscape in this region (Eogan

1983; Grogan *et al.* 2007, 161). Both the pipeline and N6 excavations have demonstrated how quickly perceptions and knowledge of archaeological landscapes can change as new sites are revealed in areas previously thought to be mostly devoid of such.

Bronze Age Seeoge 2

Seeoge 2 consisted of a large burnt mound that sealed two troughs – one of which was dated to the late Bronze Age/early Iron Age transitional period (2 Sigma 764–416 BC, 2473 +/- 26 BP: UBA 8581) – and further pits or possible troughs. A large Bronze Age rectangular structure was recorded adjacent to the burnt mound, though few finds and no obvious occupational debris were associated with it. This produced a similar if slightly earlier date (2 Sigma 901–816 BC, 2712 +/- 19 BP: UBA 9161). A number of isolated pits and spreads were also found on the periphery of the site.

Parallels, in terms of site morphology and dating, are apparent across the scheme and within close proximity to Seeoge 2. Within the same townland, at Seeoge 1, an earlier dated site consisted of a burnt spread with no associated features. The site produced a middle Bronze Age 2 Sigma radiocarbon date of 1616–1457 BC (Lyne 2009a).

Excavations along the N6 have revealed many burnt mound sites of varying dates and forms. Boyanaghcalry 1 was situated just 1.5km to the west and consisted of a burnt mound which sealed a trough. The former was dated to 1605–1428 BC (2 Sigma) and the latter to 1608–1451 BC (2 Sigma) placing the site within the middle Bronze Age (Walsh 2009). Williamstown 2 was located 1.5km to the west of Boyanaghcalry 1 (approximately 3km west of Seeoge 2) and consisted of a burnt spread that sealed two possible troughs. Both troughs produced 2 Sigma dates of in the late Bronze Age 808–594 BC and 910–812 BC (Lyne 2009b), broadly contemporary with the dates from Seeoge 2. Another burnt mound site was dated to the middle Bronze Age within the same townland, at Williamstown 1 (Lyne 2009c).

The burnt mound site of Aghafin 1 was located half a kilometre to the east of Seeoge 2. The burnt mound covered three potential troughs and the former was dated, similarly to the trough at Seeoge 2, with a 2 Sigma result of 805–599 BC (Lynch 2009a). Moving further east again, approximately 2km away but still very much within this local landscape, lay the complex of burnt mound sites in the townland of Cregganmacar. At Cregganmacar 2, a burnt spread sealed one trough while another, to the northeast, contained four postholes (Lynch 2009b). A pit directly north of the burnt spread and with a similar fill, returned a 2 Sigma date range of 912–822 BC placing it in the late Bronze Age. Cregganmacar 3 consisted of a burnt mound that sealed a potential trough with postholes within its base (Lynch 2009c). The mound was dated to the middle Bronze Age. At Cregganmacar 1, a layer of burnt mound material sealed a single pit and four postholes and returned a 2 Sigma date range of 399–235 BC (Lynch 2009d). Another burnt mound site was excavated in the townland at Cregganmacar 4 although no trough was located. It was dated to the early Bronze Age (Lynch 2009e).

Archaeological investigations along the N6 therefore have revealed a number of burnt mound sites in close proximity to Seeoge 2 and some were contemporary including Williamstown 2 and Aghafin 1. The remaining sites spanned the Bronze Age with one dated to the Iron Age (Cregganmacar 1). This demonstrates that burnt mound sites, although similar in form, were in use across thousands of years.

The large late Bronze Age rectangular structure at Seeoge 2 produced a date somewhat earlier than the trough. Despite this they may be broadly contemporary,

allowing for the fact that the structure may have been erected when the site was established, while the trough would have been repeatedly re-cleaned and re-used through the lifetime of the burnt mound site; hence it would be likely to produce a date closer to the end of the sites usage.

The function of the structure is unclear but an absence of occupational debris probably rules out a domestic function. A large late Bronze Age rectangular structure was excavated on the crannog at Ballinderry II. This was clearly a house as it was associated with a number of artefacts and a distinct occupational layer (Hencken 1942). Another structure that was associated with a burnt mound site, although very different in form, was uncovered along the N6 at Burrow or Glennanummer 3. Twenty three stakeholes were present around a possible trough that may have formed a sweathouse (Coughlan 2009). Generally, however, very few excavations of burnt mound sites have produced evidence for structures. A noteworthy exception is Ballyvourney 1 where excavation revealed a small hut that was located to the west of the burnt mound on drier ground (O'Kelly 1954). Recent preliminary research on 39 burnt mound sites discovered along the route of the M3, Co. Meath, identified evidence for a possible structure at one site only, Drumree 1. This structure lay approximately 15m to the southeast of the burnt mound and no stratigraphical relationship between them could be determined (O'Connor 2007).

The vast majority of burnt mound sites date to the Bronze Age and were most commonly utilised during the middle and later parts of the period (Brindley *et al* 1989−90; Corlett 1997). The burnt mound site at Seeoge 2, which dates to the late Bronze Age/early Iron Age transitional period, marginally falls within this date-range but, as noted above, a small number of burnt mound sites on the N6 have produced similar dates.

The clustering of burnt mounds in Seeoge townland is replicated in other townlands, for example, at Cregganmacar, Burrow or Glennanummer and Kilbeg and this was also evident at Newtown (Stevens 2004a, 2004b, 2004c) and Enniscoffey/Caran (Molloy 2007a, 2007b, 2007c, 341–2), during excavations elsewhere in Co. Westmeath. Archaeological investigation on other sections of the N6 has also uncovered various burnt mound sites, for example at Stonehousefarm 6.1 and 6.2 (McDermott 2004).

3.3 Archaeological Typology Background (Burnt Mounds)

Fulacht Fiadh or burnt mound sites are one of the most common field monuments found in the Irish landscape. The last published survey (Power *et al*. 1997), carried out over a decade ago, recorded over 7,000 burnt mound sites and in excess of 1,000 sites have been excavated in recent years through development led archaeological investigations. In spite of this no clear understanding of the precise function of these sites has being forthcoming.

Burnt mound sites are typically located in areas where there is a readily available water source, often in proximity to a river or stream or in places with a high water table. In the field burnt mounds may be identified as charcoal-rich mounds or spreads of heat shattered stones, however, in many cases the sites have been disturbed by later agricultural activity and are no longer visible on the field surface. Nevertheless even disturbed spreads of burnt mound material often preserves the underlying associated features, such as troughs, pits and gullies, intact.

Ó Néill (2003–2004, 82) has aptly identified these sites as the apparatus and by-product of pyrolithic technology. This technology involved the heating or boiling of water by placing fire-heated stones into troughs of water. Small shallow round-

bottomed pits, generally referred to as pot boiler pits or roasting pits, are often associated with burnt mound sites. The purpose of these pits remains unclear. Occasionally large pits are also identified and may have acted as wells or cisterns. Linear gullies may extend across the site, often linked to troughs and pits, and demonstrate a concern with onsite water management. Post and stakeholes are often found on burnt mound sites and these may represent the remains of small structures or wind breakers.

Burnt mound sites are principally Bronze Age monuments and reach their pinnacle of use in the middle/late Bronze Age (Brindley *et al*. 1989−90; Corlett 1997). Earlier sites, such as Enniscoffey Co. Westmeath (Grogan *et al*. 2007, 96), have been dated to the Neolithic and later sites, such as Peter Street, Co. Waterford (Walsh, 1990, 47), have been dated to the medieval period. Thus although burnt mound sites generally form a components of the Bronze Age landscape, the use of pyrolithic technology has a long history in Ireland.

Although there is a general consensus that burnt mound sites are the result of pyrolithic technology for the heating or boiling of water, the precise function of these sites has, to date, not been agreed upon. Several theories have been proposed but no single theory has received unanimous support. The most enduring theory is that burnt mounds sites were used as cooking sites. O'Kelly (1954) and Lawless (1990) have demonstrated how joints of meat could be efficiently cooked in trough of boiling water. The use of burnt mound sites for bathing or as saunas has been suggested as an alternative function (Lucas 1965, Barfield and Hodder 1987, O' Drisceoil 1988). This proposal is largely influenced by references in the early Irish literature to sites of a similar character and is very difficult to prove, or disprove. Others, such as Jeffrey (1991), argue that they may have been centres of textile production for the fulling or dyeing of cloth. More recent demonstrations by Quinn and Moore (2007) have shown that troughs could have been used for brewing, however, this theory has been criticised by leading Irish environmentalists due to the absence of cereal remains from most burnt mound sites (McClatchie et al. 2007).

3.4 Discussion

3.4.1 Phase 1: Natural deposits

This phase represents the natural subsoil, which was cut or sealed by all subsequent archaeological features. For the purposes of recording on-site this phase of activity was allocated the context number C3. At the site of Seeoge 2 the subsoil was uniform throughout consisting of a yellowish brown silty clay.

3.4.2 Phase 2: Prehistoric Archaeological Activity

The following section deals with the prehistoric activity on site, under a number of headings based on function, form etc. No phasing was possible within this section; all features are considered to be broadly contemporary (Figure 12).

Features sealed by the burnt spreads

The burnt spreads on site, particularly the main spread C4, sealed a number of features. These consisted of both pits and troughs. The main troughs on site appeared to be C32 and C122. C32 consisted of a sizeable rectangular pit or trough with slightly rounded corners (Figures 4 and 8; Plates 3 and 4). This trough was generally full of water during excavation. It was filled with a stony charcoal-rich material C19 and was situated on slightly elevated ground at the eastern end of the site. Directly associated with the trough was a thin and shallow linear cut C104 along its northern edge which appeared to represent some sort of framework that would

have lined the top edge of the trough, suggesting that some kind of organic lining had once existed.

This trough is likely to have been used and reused throughout the lifetime of the site for heating water for various purposes. A sample of blackthorn (*Prunus*) charcoal (0.05g) from trough fill C19 was dated to (2 sigma calibration) 764–416 BC (2473 +/- 26 BP, UBA 8581) which, given the fact that the trough would have been cleared out before every re-use, is likely to have been towards the end of the lifetime of the site. This nonetheless suggests a late Bronze Age/Iron Age date for the site.

Trough C122 was located in the southern part of the site (Figure 4 and 9; Plate 6) and was somewhat irregular in shape. This pit was frequently under the water table during excavation, and once excavated was permanently full of water. It could be suggested that this trough was used in summer or during dry spells, and that trough C32 was used when the area around trough C122 was flooded, though clearly we cannot be sure of how the hydrology has changed over the millennia. This pit was filled primarily by grey/black silty clay C121.

A finely worked piece of flint in the form of a plano-convex knife was recovered from the fill of this trough (E2635:121:1) (Figure 11; Appendix 2.1). Based on its form this predates the site, and the patination on its surface suggests that it was exposed to the elements for a considerable amount of time prior to being introduced to the trough (Appendix 2.1). This may suggest that this was considered to be a 'special' object, and that it was deposited in the trough as a deliberate deposit, perhaps as a foundation offering. A number of preserved timbers were recovered in the base of this trough, in the form of five probable stakes or pegs and two possible planks, all of oak (Timbers 1, 2 and 3 A–E) (Figure 10; Plate 7) (Appendix 2.3). It is not clear what precisely the function of these pegs was, but as can be seen from their layout they are likely to have had some structural purpose. One possibility could be that they were used to somehow partition the trough into two parts, perhaps to keep the heated stones to one side, while allowing the heated water to move freely into a stone-free side. Unfortunately, as it seems we only have a few pieces of this arrangement of timbers, it is difficult to say with certainty what their function was.

A number of pieces of bone were recovered from this pit, including one substantial animal joint (Appendix 2.2), and one hazelnut shell. This may reinforce the possibility that this burnt mound was used at times at least for the cooking of meat. The bone recovered was identified as a horse femur, and there was possible evidence for the bone having been cut (Appendix 2.2). This might suggest the butchery of horse on site; a possible parallel for this is found at the burnt mound at Fahee South in the Burren in Co. Clare (Waddell 1998, 177).

Two further possible troughs were recorded on site, both found at the southwest end of the site, uncovered under the edge of the mound C4 (Figure 4). These two features C154 and C155 were very similar, oval in shape and concave; neither was very large or deep (Plates 11 and 12). It is likely that they may have represented single use troughs at the periphery of the site, or pits of unknown purpose. A possible well-pit C111 was found 3m south of trough C32; this seemed to be permanently below the water table during the excavation, constantly filling with water. This may have been used as a water source for trough C32 when required.

Rectangular Structure partially sealed by Burnt Spread

Adjacent to the burnt mound C4 and partially sealed by it was a large rectangular structure defined by a set of stout postholes. This took the form of a northwest to southeast oriented rectangle tapering slightly toward the southeastern end (Figure 4

and 12; Plate 8). In the southwest corner of the structure there was a particular concentration of postholes, many of which were inter-cutting. These could represent some sort of internal structure, but it is perhaps more likely that they represent the replacement of one post by another on a number of occasions (Plate 9). This corner is the closest part of the structure to the mound, and also to the waterlogged low lying part of the site, so it is possible that moisture and the resulting decay of posts were a bigger problem here than elsewhere in the structure. It is also the corner that would be hit hardest by the prevailing south-westerly winds.

In the northwest section of the structure a deposit of sizeable stones C8 was identified on the surface (Figure 5; Plate 2). It could be suggested that these formed some sort of internal wall, or perhaps over-ground support for the central posts. An alternative may be that these were connected with a possible sweat-house function for the structure, and were being heated and placed within the structure.

The mound and structure may have originally respected each other as C4 only partially overlay the structure (Figure 4), and a certain amount of mound-type material (burnt and heat-shattered stones) was found in some of the postholes suggesting they are broadly contemporary. Some slumping or settling of the mound over time could account for the overlap. Structures have been found in association with burnt mounds before, such as a probable timber hut excavated by M.J. O'Kelly at Ballyvourney, Co Cork in 1952 (Waddell, 1998. 175).

A sample of pomoideae charcoal (0.5g) from posthole fill C14 was dated to (2 sigma calibration) 901–816 BC (2712 +/- 19 BP, UBA 9161), while a sample of blackthorn (*Prunus*) charcoal from trough fill C19 was dated to (2 sigma calibration) 764–416 BC (2473 +/- 26 BP, UBA 8581). This date range provides an approximation of the lifespan of the site indicating that whilst the structure may have been erected in the early years the trough would have had a series of later usage periods.

The only finds from the structural postholes comprise a natural retouched chunk (E2635:114:1) with one retouched steep end which was probably used as an end scraper and a piece of chert debitage E2635:76:1 (Appendix 2.1). It is likely that the structure represented some form of sweat-house or similar function connected with the burnt mound is most likely, and as mentioned above deposit C8 is perhaps indicative of its being a sweat-house.

Burnt Spreads and Surrounding Features

A number of burnt spreads were recorded and excavated on site. The most significant and by far the largest of these was C4, which sealed the majority of the features on site. This comprised of a 35m x 20m x 0.76m deep (max. dimensions) mound of dark grey/black loosely compacted material, made up mostly of burnt stone and charcoal (Figures 4, 9 and 12; Plates 1 and 2). A mound such as this would have formed over time as heat-shattered stones from the troughs were discarded after each use, or more accurately prior to each re-use. Given its size, this mound must represent many repeated uses of the troughs on site over a prolonged period of time, perhaps several generations.

Several spreads, including C60 and C61, appear to have represented small deposits of burnt material disturbed from the main area of activity. A further burnt spread C64 located north of the structure on site may represent the dumping of material from a hearth over a period of time.

Two further small spreads of burnt stone and charcoal C28 and C29, representing small scale satellite activity, were located c. 20m southeast of the main area.

Various pits were excavated on site which were not directly associated with either the troughs or structure. Despite this they are likely to have been contemporary with the main activity on site. Most were pits of no obvious function, while the largest C112 was possibly a natural depression on the edge of the waterlogged area, which silted up with charcoal-rich run-off from the burnt mound C12.

3.4.3 Phase 3: Modern and Non Archaeological Features

A range of modern and non-archaeological features were identified on site. Four separate drainage ditches were recorded, two of which cut through the mound. The non-archaeological features included a burnt tree-bole (C16, likely to represent post-medieval land improvement) and a natural pond (C6) adjacent to C4 (Figure 12; Plate 13). Also a cut was noted associated with a post-medieval well; this could not be excavated due to water flooding in from the well.

The drainage ditches appeared to be post-medieval in date, and were deemed to have no archaeological significance. Several of the ditches, C13, C70 and C152 appeared to form part of a single drainage system due to their location in respect of each other. Ditch C13 and C25 cut through the burnt mound C4.

3.4.4 Phase 4: Topsoil

This phase represents the topsoil that sealed all of the archaeological deposits and features on site. It consisted of two deposits; C1 which sealed the entire site, and C2 which occurred in patches. C1 was a fairly loose dark brown silty clay, while C2 was a mottled firm silty clay with inclusions of stones and occasional charcoal flecks.

The topsoil was removed by mechanical excavator fitted with a toothless bucket under strict archaeological supervision. Two finds were recovered from topsoil C1. These were E2635:1:1, a flint blade, and E2635:1:2, a flint flake which showed evidence of being used as a knife (Appendix 2.1). These are likely to have been disturbed from the underlying archaeological deposits in the past, perhaps as a result of ploughing, land improvement or even animal activity.

Environmental Information

A range of information was retrieved from specialist analysis of samples of charcoal and wood taken on site. A total of two hundred and eighty six fragments of charcoal were examined, and six species were identified from the assemblage. These were oak, ash, hazel, Prunus spp, holly and alder (Appendix 2.3). While the species present represent wood selection for firewood, they also give an indication of the species growing in the local environment at the time. This suggests the presence locally of ash-oak-hazel woodland, with blackthorn/cherry and holly also present. Also present was alder, a species indicative of wetland in the vicinity of the site.

The preserved timbers retrieved from trough C122 were in every case of oak, suggesting strongly that this was deliberately chosen as the favoured material for a structure such as a trough. Some tool marks were evident on the pegs, including a facet on one peg that indicated the use of a small metal axe in its preparation. The charcoal retrieved from the postholes of the rectangular structure did not clearly suggest a particular type of wood, as several species were identified. In one (C23) oak did dominate. This, coupled with the consistent use of oak in the structural timbers found in trough C122 suggests that oak may well have been the timber of choice for the rectangular structure also.

4 CONCLUSIONS

Seeoge 2 comprised a substantial burnt mound with a range of associated features dating to the late Bronze Age/ early Iron Age. Features included at least two and possibly up to four troughs, a probable well-pit, various pits and a substantial rectangular structure. The two definite troughs were located at different elevations, perhaps indicative of use at alternate times depending on the level of the water table. A number of preserved timbers were recovered in the base of one trough, in the form of five stakes or pegs and two possible planks, all comprising of oak (Appendix 2.3). A sample of blackthorn charcoal was dated to (2 sigma calibration) 764–416 BC (2473 +/- 26 BP, UBA 8581). A finely worked piece of flint in the form of a plano-convex knife (Figure 11) and several pieces of animal bone were recovered from the trough.

Adjacent to the burnt mound C4 and partially sealed by it was a large rectangular structure defined by a set of stout postholes. This took the form of a northwest to southeast oriented rectangular shaped structure tapering slightly toward the south-eastern end. A sample of pomoideae charcoal from a posthole was dated to (2 sigma calibration) 901–816 BC (2712 +/- 19 BP, UBA 9161). The discrepancy between the dates established for the structure and trough can be best explained by the fact that the structure would have been erected when the site was established, while the trough would have been repeatedly emptied and refilled for every use over a long period of time. It is perhaps appropriate to see this as an approximation of the lifespan of the site. Seeoge 2 can therefore be seen as a late Bronze Age/Iron Age site.

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PLATES

Plate 1: E2635: Burnt mound C4, pre-excavation, facing southwest

Plate 2: E2635: C4, mid-excavation, facing south, with stone deposit C8 in centre foreground

Plate 3: E2635: C32, post-excavation, facing west

Plate 4: E2635: Trough C32, post-excavation, facing west

Plate 5: E2635: Possible well feature C111, post-excavation

Plate 6: E2635: Section of trough C122, facing south.

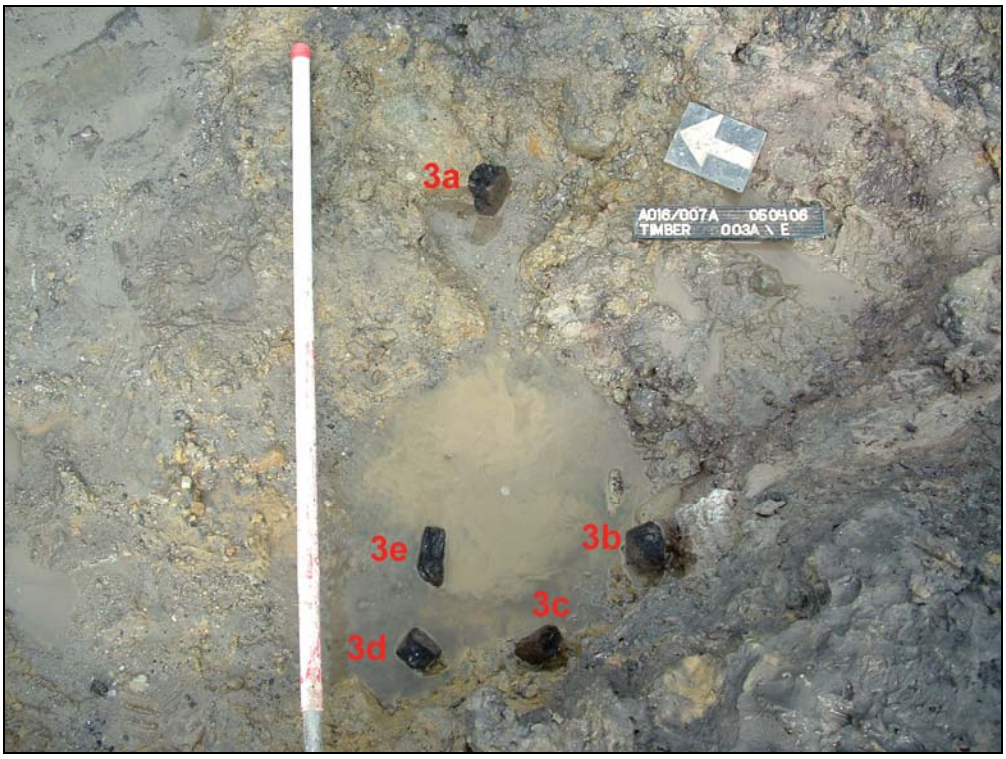

Plate 7: E2635: Stakes or pegs in situ in the base of trough C122

Plate 8: E2635: Rectangular structure north of C4, post-excavation, facing east

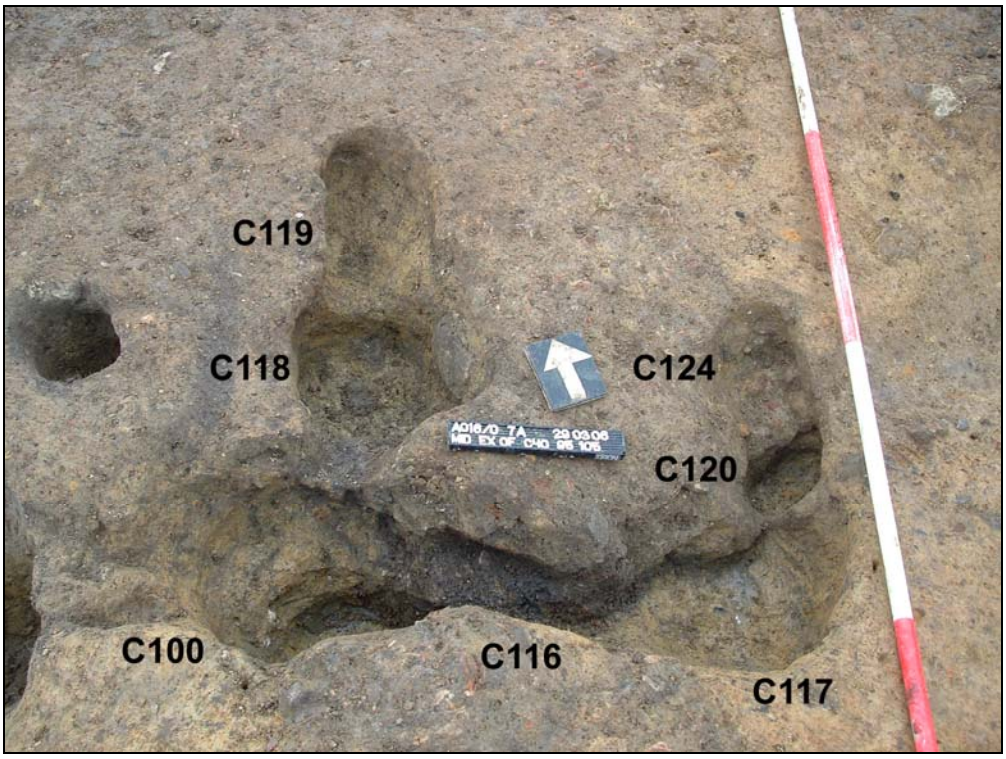

Plate 9: E2635: Cluster of postholes at west end of rectangular structure, facing NNE

Plate 10: E2635: Pit/posthole C22, during excavation, facing SSE

Plate 11: E2635: Trough C154, mid-excavation, facing NNW

Plate 12: E2635: Trough C155, mid-excavation, facing NNE

Plate 13: E2635: Pond immediately southeast of mound C4

APPENDIX 1 CATALOGUE OF PRIMARY DATA

Appendix 1.1 Context Register

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Finds	Context Above	Context Below
1	N/A	N/A	N/A	N/A	Topsoil	Fairly loose dark brown silty clay.	Flint blade and flake	-	Various
2	N/A	N/A	N/A	N/A	Subsoil	Mottled firm silty clay. Inclusions of stones, charcoal, sand, pebbles etc.		1	Various
3	N/A	N/A	N/A	N/A	Natural	Yellowish brown fairly loose silty clay.		Various	-
4	N/A	35	20	0.76	Large burnt mound	Dark grey/black fairly loose burnt stone/silty clay.		1, 2	Various
5	16	2.66	2.4	0.28	N/A Probable Agricultural Root Burning	Irregular in plan. Dark brown/black loose and friable clayey silt. Inclusions of pebbles >30mm.		1	16
6	N/A	N/A	N/A	N/A	Natural Pond. N.A.	Pond in SE part of area.		-	3
7	N/A	N/A	0.9	N/A	This context is natural silting of a drainage ditch dug through the burnt mound	Very dark brown loosely compacted silt. Inclusions of small stones and covered by burnt spread (C4) scatter. Ditch runs into pond to E, also deeper and large stones at this end.	Iron bar	1	26
8	N/A	3.5	2.6	0.6	Large stony feature	Dark brown silty clay. Inclusions of mostly big stones.		1	Various
9	N/A	N/A	N/A	N/A	VOID	VOID.			
10	27	0.62	0.44	0.2	Fill of oval pit.	Dark brown medium compact clay. Inclusions of 20% decayed stone.		4	27
11	31	0.31	0.23	0.26	Poss. Posthole	Oval N-S in plan. Medium brown loose silty clay. Inclusions of charcoal and burnt stones.		4	31
12	112	2.5	3.9	0.33	Top layer of a possible large pit	Large oval feature. Dark brown loose silt. Inclusions of smaller stones.		4	113
13	N/A	21	1	0.5	Cut of ditch. Related to C26. Ditch as a drainage system	Linear in plan. Break of slope top: gradual with sides N/A. Break of slope base: gradual. Shape of base: flat. Runs into pond at E end and gets deeper with some large stones.		26	4
14	15	0.63	0.49	0.59	Fill of a large poss. posthole	Mid brown loose silt. Inclusions of charcoal, burnt stones toward the bottom.		1	15
15	N/A	0.63	0.49	0.59	This is a large poss. posthole	Round/oval in plan.		14	3
16	N/A	2.66	2.4	0.28	Cut of burnt tree roots. N/A	Irregular/sub-rounded in plan, with sub-rounded corners. Break of slope top: gradual with irregular largely concave sides. Break of slope base: imperceptible with an irregular flattish base.		5	3

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Finds	Context Above	Context Below
17	18	0.57	0.31	0.23	Possibly naturally re-deposited material	Irregular in shape. Black loose clayey silt. Inclusions of charcoal.		4	18
18	N/A	0.57	0.31	0.23	Possibly naturally re-deposited material. The cut seems natural	Irregular in plan. Round corners. Break of slope top: sharp on NW corner, gradual on other sides. Irregular sides. Break of slope base: irregular, with an irregular shape of base.		17	3
19	32	1.78	N/A	0.54	Fill of trough cut C32. Very rectangular in shape	Irregular dark brown loose silty clay. Inclusions of large stones, small stones and lots of charcoal.		4	32
20	N/A	1.3	1	0.03	Mix of ash and small pieces of charcoal. Natural with red burnt patches underneath	Irregular in plan. Black soft ash with small pieces of charcoal.		1	3
21	22	1.1	1	0.09	Pit fill similar to mound material	Irregular in plan. Grey-brown soft clay silt. Pebbles and charcoal and small burnt stones.		4	22
22	N/A	1.7	1.16	0.7	Poss. cooking pit/posthole	Irregular in plan. Shape of base: rounded.		21	3
23	24	0.31	0.28	0.53	Fill of a deep posthole	Round in plan. Mid brown loose silty clay. Inclusions of charcoal.		8	24
24	N/A	0.31	0.28	0.53	A deep posthole	Round in plan with a concave base.		23	3
25	N/A	10	1.35	0.26	Cut of ditch	Linear in plan NE–SW. Break of slope top: sharp with sloping sides. Break of slope base: gradual with base sloping towards SW.		30	3
26	13	9.5	0.3	0.4	Stone wall. Possible revetment of ditch feature	Linear feature, E–W orientation. Wall made up of large stones (up to 0,30m x 0,20m) arranged in a loosely regular manner.		7	13
27	N/A	0.62	0.44	0.2	Cut of circular pit	Oval in plan N–S. Break of slope top: sharp with steep sides. Break of slope base: gradual with a flat base.		10	3
28	N/A	3.5	2.6	0.1	Spread of stones and burnt material in natural cavity	Irregular/oval in plan. Black clay silt with inclusions of stones.		1	3
29	N/A	2.53	0.82	0.4	Spread of stones and burnt material	Irregular in plan. Black darkish brown clayey silt with inclusions of stones and charcoal.		1	3
30	25	10	1.35	0.26	Fill of ditch. Ditch runs width of the grid and continues on	Sub-oval in plan. Mid-grey medium compacted clay silt. Very stony and rooty.		1	25
31	N/A	0.31	0.23	0.26	Poss. Posthole	Oval/circular in shape. The deepest part in middle of the base.		11	3

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Finds	Context Above	Context Below
32	N/A	2.41	1.42	0.49	Trough pit. Rectangular in shape with sharp corners	Rectangular pit. Break of slope top: S facing and N facing are non perceptible, rest is sharp. Sides are vertical initially then convex towards the bottom (exp. NW facing section which is sloping. Break of slope base: sharp with a flat base.		19	3
33					VOID	VOID.			
34					VOID	VOID.			
35					Non archaeological	Non Archaeological.			
36					Non archaeological	Non Archaeological.			
37	25	N/A	0.62	0.15	Ditch fill	Fill of C25. Light brown loose sandy clay.		1	38
38	25	N/A	1.06	0.22	Ditch fill	Bottom Fill of C25 Black mid compacted silty clay.		37	25
39	57	0.45	0.4	0.4	Fill of posthole	Circular in plan. Dark grey firm clay silt, inclusions of charcoal, burnt stone and pebbles. Fill contains some redeposit subsoil.		4	57
40	100	0.43	0.38	0.5	Fill of posthole	Oval/round in plan. Dark brown/black, charcoal stained silty clay. Inclusions of charcoal >10%, decayed stone >10%, charcoal indicating possible burning of post in situ.		4	100
41	56	0.22	0.18	0.3	Fill of possible posthole	Grey charcoal-stained fairly loose silty clay. Inclusions of decayed stone 15%. Fill is greyish black due to charcoal flecks.		4	56
42	67	0.84	0.47	0.08	Thin layer of burnt material that fills a small pit	Dark brown black loose silty sand charcoal. Inclusions of charcoal and burnt stones.		1	67
43					VOID	VOID.			
44	22	1.5	0.9	0.27	Fill of pit/posthole	Grey soft silty clay. Inclusions of charcoal: pebble and burnt stones. Similar to C4.		21	45
45	22	0.7	0.35	0.2	Lower fill of cut C22, charcoal rich	Irregular in plan. Dark grey firm clay with inclusions pebbles and small burnt stones.		44	22
46	47	0.115	0.085	0.08	Fill of poss. stakehole, quite shallow	Dark/black fairly compact silty clay with inclusions of flecks of charcoal.		4	47
47	N/A	0.115	0.085	0.08	Cut of poss. stakehole	Oval in plan E–W with a tapered blunt point.		46	3
48	49	0.13	0.08	0.13	Fill of poss. stakehole	Oval E–W in plan. Dark/ black fairly compact silty clay. Inclusions of flecks of occasional flecks of charcoal.		4	49

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Finds	Context Above	Context Below
49	N/A	0.13	0.08	0.13	Cut of possible stakehole	Oval E–W in plan with base being a tapered rounded, almost sharp point.		48	3
50					Non archaeological	Non Archaeological.			
51					Non archaeological	Non Archaeological.			
52					Non archaeological	Non Archaeological.			
53					Non archaeological	Non Archaeological.			
54	55	0.6	0.53	0.15	Fill of pit	Irregular in plan. Black medium compacted silty clay. Inclusions of 2 pieces of burned bone, the odd stone and charcoal. Two pieces of burnt bone were found in this fill.		4	55
55	N/A	0.6	0.53	0.15	Cut of pit	Irregular in plan with irregular corners.		54	3
56	N/A	0.22	0.18	0.3	Cut of posthole	Oval in plan NW–SE. and slightly undercut at E. with base being stepped at E and sharp all around.		41	3
57	N/A	0.45	0.4	0.4	Cut of posthole	Circular in plan. Break of slope top: sharp with steep sides. Break of slope base: sharp with base being sub-circular.		39	3
58	N/A	0.4	0.36	0.34	Cut of posthole	Circular in plan. Break of slope sharp with very steep sides. Break of slope base sharp with circular base.		4	59
59	86	0.36	0.2	0.25	Fill of posthole. Material of burnt post in situ?	Almost circular in plan. Grey brown compact clayey silt with inclusions of charcoal.		58	3
60	N/A	0.33	0.27	0.06	Redeposited material from mound	Oval in shape NE–SW. Grey/brown medium compact sandy clay with charcoal inclusions.		1	3
61	N/A	0.42	0.32	0.08	Redeposited material from the mound	Oval in plan E–W. Grey/brown/black medium compact sandy clay with inclusions of charcoal.		1	3
62	79	N/A	0.4	0.3	Large posthole, related to other postholes in structure	Circular in plan. Dark grey firm silty clay with inclusions of small stones and flecks of charcoal.		1	79
63					Non archaeological	Non Archaeological.			
64	N/A	7	1.8	0.095	Fill/deposit of charcoal-rich soil. Represents possible burning in situ	Irregular in plan NW–SE. Dark brown blackish grey fairly soft and friable sandy silt. Inclusions of occasional stones (up to 0,15m), common charcoal >40% and redeposited natural (mix) in lower level.		1	3
65	77	0.33	0.28	0.15	First fill of posthole	Oval in plan N–S. Grey brown loose silt with inclusions of flakes of charcoal.		1	77

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Finds	Context Above	Context Below
66	70	1.28	0.34	0.19	Fill of ditch, formed through backfill	Linear in plan NW–SE. Dark brown fairly soft and friable silty clay. Occasional inclusions of pebbles/stones (>0,05m), clay, decayed roots.		1	70
67	N/A	0.6	0.47	0.08	Small pit	Oval in plan.		42	3
68	69	0.23	0.23	0.17	Fill of small circular posthole cut by C67 at the N end	Circular in plan cut by C67 at the N edge. Black medium compacted silt with modest amount of clay. Inclusions of charcoal and small burnt stones.		67	69
69	N/A	0.23	0.23	0.17	Cut of posthole cut by C67 at the N part	Circular in plan. Break of slope top: sharp with steep sides. Break of slope base: gradual with base being rounded and irregular.		68	3
70	N/A	1.28	0.34	0.19	Cut of drainage ditch. Probable post-medieval	Rectangular in plan NE–SW with angular corners. Break of slope top: gradual with sides being irregular, yet concave. Break of slope base: imperceptible with base being rounded, a bole shape.		66	3
71	78	0.28	0.18	0.25	This is possibly a posthole	Oval in plan. Brown loose sandy silt with inclusions of charcoal in the middle.		1	78
72	N/A	0.45	0.38	0.42	Cut of a posthole, filled by C74	Circular in plan. Break of slope top sharp with steep near vertical sides sloping slightly to S. Break of slope base sharp with circular base slightly sloping to S.		74	3
73	N/A	0.36	0.32	0.4	Cut of posthole	Circular in plan. Break of slope top: sharp with concave and steep sides. Break of slope base: sharp with a circular base.		75	3
74	72	0.45	0.44	0.4	Fill of posthole cut C72. Same as cuts C57, C58	Circular in plan. Dark grey firm clay silt with inclusions of charcoal, burned stones and pebbles. Redeposit in upper part.		4	72
75	73	0.36	0.32	0.4	Fill of posthole	Circular in plan. Dark grey firm clay silt. Inclusions of burnt stones, pebbles, charcoal.		4	73
76	58	0.4	0.36	0.34	Fill of posthole	Sub circular dark grey firm clay silt. Inclusions of charcoal, burnt stones and pebbles.	Chert debitage	4	58
77	N/A	0.33	0.28	0.15	Cut of posthole	Oval in plan N–S with an uneven base.		65	3
78	N/A	0.27	0.26	0.48	Cut of posthole	Oval in plan E–W with an uneven base.		71	3
79	N/A	N/A	0.4	0.3	Cut of well defined posthole	Circular in plan with a concave shape of base.		62	3
80	81	0.23	0.23	0.07	Fill of posthole C81 Associated with C40 and cuts C31, C56	Circular in plan. Light brown medium clay silt. Inclusions of modest amounts of charcoal and 3 small pebbles.		4	81

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Finds	Context Above	Context Below
81	N/A	0.23	0.23	0.3	Cut of a tapered posthole with 3 fills	Circular in plan with a pointed base.		80	3
82	83	N/A	N/A	0.17	Fill of a prehistoric posthole	Brown loose silt with inclusions of small stones.		77	83
83	N/A	0.34	0.28	0.16	Cut of a prehistoric posthole or pit. This cut is re-cut by C77	Oval in plan E–W with an uneven shape of base.		82	3
84					Non archaeological	Non Archaeological.			
85					Non archaeological	Non Archaeological.			
86	N/A	0.36	0.3	0.25	Cut of posthole	Oval in plan NE–SW. Break of slope top: sharp with sides concave and vertical at E. Break of slope base: sharp with an oval base.		87	3
87	86	N/A	0.05	0.25	Fill is packing material around post	Grey brown medium sandy silt, with inclusions of charcoal and decayed stones.		1	87
88	89	0.33	0.33	0.22	Fill of posthole	Circular in plan. Grey brown medium compact sandy silt with inclusions of charcoal.		1	89
89	N/A	0.33	0.33	0.22	Cut of posthole	Circular in plan. Break of slope top: sharp with concave, stepped sides.		88	3
90	81	0.23	0.23	0.21	Fill of posthole	Circular in plan. Black medium compact clay silt with inclusions of charcoal and stones.		80	91
91	81	0.23	0.23	0.18	Fill of posthole	Circular in plan. Grey loose clay silt, with inclusions of charcoal and stones.		90	81
92	25	10	10	0.14	Fill of ditch cut C25	S-facing irregular. Brown with yellow patches hard silty sand with inclusions of occasional small stones and a few roots.		1	25
93	111	1.14	0.69	0.14	Fill of possible prehistoric well	Egg shaped in plan N–S. Black loose clay silt with inclusions of charcoal and stones.		4	110
94	N/A	0.4	0.33	0.35	Cut of posthole	Circular in plan. Break of slope top: sharp with steep sides. Break of slope base: sharp with a circular base.		97	3
95	116	0.5	0.4	0.41	Same as C40, fill formed between two postholes C100 and C117	Linear E–W. Dark brown/black, charcoal stained mid loose silty clay. Inclusions of charcoal >10%, decayed stone >10%, decayed stone >10%. Possibly to place plank between postholes C100 and C117.		4	116
96	117	0.42	0.38	0.24	Fill of posthole, contains charcoal and decayed stone	Round/oval in plan. Dark brown/black, charcoal stained mid-loose silty clay. Inclusions of charcoal >10%, decayed stone >10% sub-angular stones >10% 0,10m max, possibly packing stones.		8	117

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Finds	Context Above	Context Below
97	94	0.4	0.33	0.35	Most of fill was redeposit real fill only 2 or 3 cm wide in bottom	Circular in plan. Dark grey firm clay silt with inclusions of charcoal.		4	94
98	99	0.18	0.09	0.26	Fill of two possible stakeholes	Dark brown medially compacted silty clay, with inclusions of small stone.		1	99
99	N/A	0.18	0.09	0.26	Cut of possible stakehole	Rounded in plan. Shape of base tapered.		98	3
100	N/A	0.43	0.38	0.5	Cut of a posthole	Oval in plan E–W. Break of slope top: sharp all around but gradual at SE. Vertical sides. Break of slope base: flat.		40	3
101					Unexcavated modern ditch	Unexcavated modern ditch.		1	3
102	119	0.26	0.18	0.21	Fill of posthole post probably burned in situ	Oval in plan NNW–SSE. Dark brown/black, charcoal stained mid loose silty clay. Inclusions of charcoal >10%, decayed stone >10%, sub angular stone >10%, heat shattered stone >8%. Possible packing stones.		4, 8	119
103	104	0.77	0.07	0.06	Possible remains wooden framework	Long and linear in plan. W facing. Brown medium compacted silty clay, with inclusions of small flecks of charcoal.		4	104
104	N/A	0.77	0.12	0.1	Possible cut of an earlier wooden framework relating to the trough. The cut is quite shallow	Long and linear in plan. Break of slope top: sharp with sides concave at S and at N-facing side vertical. Runs parallel and close to the trough C32.		103	3
105	118	0.33	0.33	0.25	Fill of posthole. Post probably burned in situ	Dark brown/black, charcoal stained mid-loosely compacted silty clay with inclusions of silty clay. With inclusions of charcoal >10%, decayed stone >10%, sub angular stones >10%, heat shattered stones >8%.		4, 8	118
106	107	0.43	0.43	0.29	Fill of posthole	Circular in plan. Light black medium compacted silty clay with inclusions of small stones (some burnt) and charcoal.		4	107
107	N/A	0.43	0.43	0.29	Cut of posthole. Part of rectangular/square structure	Circular in plan. Break of slope top: sharp with vertical sides. Break of slope base: gradual except SW facing corner sharp. Base sloping to NE.		106	3
108	109	0.42	0.45	0.16	Poss. posthole. Part of structure	Circular Mid brown mid/loose. Inclusions of occasional stones, shells and charcoal.		4	109
109	N/A	0.42	0.45	0.16	Cut of poss. posthole. Could be part of structure	Rounded in plan. Break of slope top: sharp. Sides: NW facing side is vertical, with other sides concave. Break of slope base: sharp base slightly sloping to S.		108	3

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Finds	Context Above	Context Below
110	111	1.14	0.69	0.42	Fill of a possible prehistoric well. Fill very similar to the sealing mound material C4	Egg shaped/oval in plan. Stone with some brown and black soil. The fill consists of rocks loosely compacted with inclusions of burnt stones.		93	111
111	N/A	1.14	0.69	0.5	Cut of a possible prehistoric well	Oval in plan N–S.		110	3
112	N/A	2.5	3.9	0.33	Large oval feature. Possibly natural	Large oval in plan. Disturbed by tree at W. Underwater to N.		113	3
113	112	2.5	3.9	0.18	Stony bottom layer of large pit/depression. Disturbed by tree	Large oval feature. Black loose clayey silt with inclusions of burnt stones.		12	112
114	120	0.21	0.18	0.22	This is the fill of a posthole	Oval in plan. Grey, partially charcoal stained medium compact silty clay. Rare inclusions of decayed stone and ash.	Flint scraper	8	120
115	N/A	0.6	0.4	0.05	Very thin spread interpreted as staining from C64. N/A	Oval in plan SW–NE. Brown with charcoal and red loose clay silt with inclusions of charcoal and one burnt stone.		1	3
116	N/A	0.5	0.4	0.41	Possibly cut of plank between postholes C100–C117	Linear E–W in plan. Break of slope top: sharp with sides vertical. Break of slope base: sharp with a pointed shape of base.		95	3
117	N/A	0.42	0.38	0.24	This is the cut of a posthole	Round in plan. Break of slope top: sharp all around, gradual at NE with vertical sides. Break of slope base gradual with rounded base.		96	3
118	N/A	0.33	0.33	0.25	Cut of posthole	Round in plan. Break of slope top: sharp with vertical sides. Break of slope base: sharp with a flat base.		105	3
119	N/A	0.26	0.18	0.21	Cut of posthole	Oval in plan with rounded base.		102	3
120	N/A	0.21	0.18	0.22	Cut of posthole	Sub-circular in plan with a flat base.		114	3
121	122	4	3.1	0.6	Fill of trough cut C122. Similar to C4	Black to grey soft burnt-mound-like material, with inclusions of burnt stones, worked timber and a flint blade.	Chert knife	135	122
122	N/A	3.6	3.38	0.6	This is the cut of a trough related to the burnt mound	Sub rounded/irregular in plan.		121	3
123	124	0.2	0.18	0.12	Fill of posthole	Grey charcoal stained soft-firm silty clay with occasional flecks of charcoal and ash.		8	124
124	N/A	0.2	0.18	0.12	Cut of posthole	Oval in plan, flat base.		123	3
125	127	0.51	0.43	0.08	Fill of circular shallow pit	Round in plan. Grey loose clayey silt with inclusions of occasional charcoal.		1	127

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Finds	Context Above	Context Below
126					Non archaeological	Non Archaeological			
127	N/A	0.51	0.43	0.08	Cut of circular pit	Round in plan. Break of slope top gradual with a concave base.		125	3
128					VOID	VOID			
129					Non archaeological	Non Archaeological.			
130					Non archaeological	Non Archaeological.			
131	139	0.82	0.82	0.13	Fill of cut C139 a possible pit	Circular in plan. Mid brown hard clay sand with root disturbance.		1	138
132	N/A	7	1.8	0.095	Cut of spread/fill C64. Cut by modern ditch C70	Irregular in plan NW–SE with irregular sub-rounded corners.		66	64
133	137	2.9	2.8	0.2	Organic layer. Similar to C135	Dark brown firm peaty-organic layer. Inclusions of very few burnt stones and pebbles.		1	134
134	137	3	3	0.2	Burnt mound like material, but with fewer stones and more organic in texture	Black to grey soft fulacht material with inclusions of burnt stones.		133	135
135	137	3.5	3	0.25	Organic deposit, filling possible cut C137 and sealing C121	Irregular in plan. Dark brown firm peaty organic layer. Inclusions of very few burnt stones and pebbles.		134	121
136	122	0.6	0.5	0.08	Fill of cut C122	Sloping towards W–E. Grey soft sandy lens with inclusions of small pebbles. Within fill C121.		135	121
137	N/A	N/A	N/A	N/A	Edge of the burnt mound, as it respects trough C122	Edge of the burnt mound, directly associated with the trough cut C122, and considered as a cut for convenience of description.		121	4
138	139	0.82	0.82	0.13	Fill of cut C139, possible pit.	Round in plan. Grey hard silty clay with inclusions of charcoal and stones.		131	139
139	N/A	1.46	0.82	0.13	Cut of possible pit	Circular in plan. Break of slope top sharp with sides vertical except for the E facing which is slightly concave and SW facing concave.		138	3
140					Non archaeological	Non Archaeological.			
141	145	0.27	0.2	0.46	Fill of posthole	Sub rounded in plan. Dark/orange brown clay silt. Inclusions of stones (up to 0.08m) and charcoal. Top 0.05m of fill frequent inclusions of charcoal, darker than main fill which is sterile.		64	145
142	144	0.22	0.18	0.1	Fill of posthole	Oval in plan N–S. Dark brown fairly compact silty clay with rare flecks of charcoal.		1	144
143					Non archaeological	Non Archaeological.			

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Finds	Context Above	Context Below
144	N/A	0.22	0.18	0.1	Cut of possible shallow isolated posthole	Oval in plan. Break of slope top: gradual at E, sharp at W with sides gradual at E and vertical at W, sloping at E. Break of slope base: sharp at W, gradual at E with flat base.		142	3
145	N/A	0.27	0.2	0.46	Cut of posthole or large stakehole	Sub rounded in plan. Break of slope top: sharp with very steep/near vertical sides. Break of slope base: sharp with base being a tapered blunted point (stone obstruction).		141	3
146	154	1.6	0.82	0.23	Oval pit fill of possible trough fill	Oval in plan NE–SW. Black/dark grey medium compacted silty clay. Inclusions of burnt stones aprox. 60–70%.		4	154
147	155	1.77	0.86	0.24	Oval shaped pit-fill. Similar to burnt mound material C4	Oval N–S. Black medium silty clay with inclusions of burned stones approx. 85%.		4	155
148	149	1.4	1.15	0.3	Fill of pit C149. Sealed by C4	Oval in plan. Brown medium compacted silty clay with inclusions of stones.		4	149
149	N/A	1.4	1.15	0.3	Cut of pit	Oval NW–SE in plan. Break of slope top: sharp at E and gradual on other sides with sides concave. Break of slope base: gradual with oval base.		148	3
150	151	0.08	0.08	0.14	Fill of poss. posthole/ stakehole	Circular in plan. Dark brown loose silty clay.		121	151
151	N/A	0.08	0.08	1.14	Cut of possible stakehole	Circular in plan. Break of slope top: sharp with vertical sides, S facing side is sloping slightly N–S. Break of slope: sharp with a tapered base.		150	122
152	N/A	N/A	0.8	0.25	Modern drainage feature	Linear NW–SE. Break of slope sharp with sides sloping at 45 degrees, smooth. Break of slope base: sharp with a flat base.		1	153
153	152	N/A	0.8	0.25	Fill of modern drainage feature	Linear in plan NW–SE. Grey hard silty clay with inclusions of pebbles.		152	3
154	N/A	1.60	0.82	0.23	Cut of shallow oval pit associated with C147	Oval in plan NE–SW. Break of slope top: gradual with gradual sides. Break of slope base: gradual and a flat base.		146	3
155	N/A	1.77	0.86	0.24	Cut of shallow oval pit	Oval in plan. Break of slope top: gentle with concave-smooth sides. Shape of base is concave.		147	3

Appendix 1.2 Catalogue of Artefacts

Registration Number	Context	Item No.	Simple Name	Full Name	Material	No. of Parts	Description
E2635:1:1	1	1	Lithic	Flint blade	Flint	1	Potentially Bronze Age flint blade
E2635:1:2	1	2	Lithic	Flint flake	Flint	1	Potentially Bronze Age flint flake-clear evidence for usage as knife
E2635:7:1	1	1	Metal	Iron bar	Meta;	1	Solid iron bar
E2635:76:1	76	1	Lithic	Chert Debitage	Chert	1	Debitage
E2635:114:1	114	1	Lithic	Retouched artefact	Chert	1	Potentially Bronze Age retouched flint object-evidence for usage as end scraper
E2635:121:1	121	1	Lithic	Plano-convex knife	Chert	1	Plano-convex knife. Datable from Bronze Age to Neolithic-

Appendix 1.3 Catalogue of Ecofacts

A total of 54 bulk soil samples were taken during the course of excavation at this site. Of these 11 were processed by means of flotation and sieving through a 250µm mesh. The resulting retrieved samples of this process are listed below. In addition to this a total of 12 charcoal samples, 7 timbers, 4 bone samples, 2 burnt bone samples and 1 charred hazelnut sample were hand retrieved on-site. Details of these samples can also be found listed below.

1.3.1 Animal bone

The pieces recovered on site consist of one sample from post-medieval ditch C7, one animal tooth from possible pit fill C113 and perhaps most importantly two samples from trough fill C121, including one large animal bone joint. The remainder came from sieving.

Context number	Sample number	Feature	Sample weight (g)
1	10	Topsoil	10
7	1	Ditch	12
19	23	Trough	0.5
121	55	Trough	138
113	65	Large possible pit	6
121	80	Trough/pit	2

1.3.2 Burnt bone

Burnt bone was recovered on site and from sieving and given sample numbers. As can be seen by the table below the amounts are minimal and fragmentary. Identification of species was impossible as a result.

Context number	Sample number	Feature	Sample weight (g)
2	28	Subsoil	5
40	45	Posthole	3
55	46	Pit	5

1.3.3 Charcoal

A total of ten key charcoal samples were recovered from sieving samples from various contexts and subsequently sent for identification.

Context number	Sample number	Feature	Sample weight (g)
14	2	Structural post hole C15 Area A	10g
19	10	Fill of C32 trough Area A	5g
23	14	Structural post hole C24 Area A	3.7g
19	23	Fill of C32 trough Area A	7.6g
42	27	Stakehole C67 Structure Area A	6.9g
76	29	Posthole C58 Structure Area A	1.8g
59	34	Posthole C86 Structure Area A	0.1g
59	37	Posthole C86 Structure Area A	0.9g
105	49	Posthole C118 Structure Area A	0.1g
64	62	Burnt spread Area A	3.5g

1.3.4 Carbonised nuts, possible hazelnuts

One carbonised nut was recovered. This came from C121, the fill of trough C122.

Context number	Sample number	Feature	Sample weight (g)
121	73	Trough/pit	Neg.

1.3.5 Wood

A total of nine samples (100%) of wood from the base of the trough were recovered. This was in the form of 5 wooden pegs or stakes that were driven into the clay at the base of the trough, and 3 possible small planks. The final piece appeared to be a root, but had initially been thought to be a fragmentary timber. The pieces were all relatively small, and therefore would probably not be suitable for dendrochronological dating. However, the wood did appear to have a number of apparent cut or split marks. Those pieces that survived the lifting process reasonably well were submitted for specialist examination (Appendix 2.3).

Context number	Sample number	Feature	Element
121	1	Trough	Plank
121	2	Trough	Plank
121	003 A	Trough	Peg
121	003 B	Trough	Peg
121	003 C	Trough	Peg
121	003 D	Trough	Peg
121	003 E	Trough	Peg
121	4	Trough	Possible plank frag.
121	5	Trough	Probable root frag

Appendix 1.4 Archive Checklist

Project: N6 Kilbeggan – Athlone	**Irish Archaeological Consultancy Ltd**	
Site Name: Seeoge CHS		
NMS Registration Number: E2635		
Ministerial Directive No.: A016/007		
Site director: Ed Lyne		
Date: November 2007		
	Items (quantity)	**Comments**
Field Records		
Site drawings (plans)	22	
Site sections, profiles, elevations	52	
Other plans, sketches, etc.	0	
Timber drawings	5	
Stone structural drawings	0	
Site diary/note books	1	
Site registers (folders)	2	
Survey/levels data (origin information)	On Plans	Digital copy also
Context sheets	155	
Wood Sheets	8	
Skeleton Sheets	0	
Worked stone sheets	0	
Digital photographs	383	
Photographs (print)	10	
Photographs (slide)	0	
Finds and Environ. Archive		
Flint/chert	5	
Stone artefacts	0	
Pottery (specify periods/typology)	0	
Ceramic Building Material (specify types eg daub, tile)	0	
Metal artefacts (specify types - bronze, iron)	0	
Glass	0	
Other find types or special finds (specify)	0	
Human bone (specify type eg cremated, skeleton, disarticulated)	0	
Animal bone	6	+ 3 burnt fragments
Metallurgical waste	0	
Enviro bulk soil (specify no. of samples)	54	
Enviro monolith (specify number of samples and number of tins per sample)	0	
Security copy of archive	Yes	IAC Ltd + Ed Lyne

Appendix 1.5 Copy of Registration No. Document from DoEHLG

National Monuments
Acts (1930-2004)
Ministerial Directions
Record Number for
archaeological activity

AN ROINN COMHSHAOIL, OIDHREACHTA AGUS RIALTAIS ÁITIÚIL
DEPARTMENT OF THE ENVIRONMENT, HERITAGE
AND LOCAL GOVERNMENT

File: Direction No. A16

Registration Number: E2635

Directions have been issued to Murty Hanly on behalf of Westmeath County Council in order to regulate archaeological activities carried out on N6 Kilbeggan to Athlone (Phase 2).

Application having been duly made to me by Ms. Patricia Lynch of c/o ADS Ltd,, Windsor House,, 11 Fairview Strand,, Fairview, Co. Dublin.

For a registration number to record excavation at the site of Seeoge 007 being part of the townland of SEEOGE in the County of Westmeath.

This registration is not an archaeological licence or consent but it is issued solely for archive purposes and to allow for the material from the activity to be registered with the National Monuments Service and the National Museum.

Signed ..... 31 October 2006

The Ministerial Directions for this site were originally in Patricia Lynch's name, but were transferred to Ed Lyne prior to commencement.

Appendix 1.6 Copy of Ministerial Direction Document

Section 14A(2) National Monuments Acts 1930-2004

Directions to Westmeath County Council for the carrying out of archaeological works on the N6 Kinnegad to Athlone dual carriageway road scheme (Phase 2 * Kilbeggan to Athlone).

1. Introduction

The project is an approved road development, having been approved by An Bórd Pleanála on 26th March 2004.

The development will consist of a dual carriageway that will run for a distance of approximately 57.5km.

In line with recommendations in the Environmental Impact Assessment for the scheme, archaeological investigations included site specific testing followed by a centreline test trench with staggered offsets. The request for directions has an attached strategy document that covers the proposed resolution works

These directions relate to Phase 2 works and are issued following the receipt by the Minister of reports on the testing work carried out in Phase 1.

2. Directions

All aspects of the archaeological works should be conducted in accordance with provisions of the policy and advice notes on archaeological excavations issued by the Department and in line with the provisions of the Code of Practice agreed with the National Roads Authority. Archaeological works shall be carried out in accordance with the Strategy for Proposed Works submitted with the application seeking Directions.

3. Project Archaeologist

The Project Archaeologist appointed for the road development should ensure that the archaeological works are carried out in accordance with the terms of the directions.
· Any changes to the agreed method statement for the excavations should be submitted to the National Monuments Section for approval.
· Any proposal to change any named director of a specific excavation should firstly be notified to the National Monuments Section for approval.

4. Conduct of Archaeological Excavations:

a) The archaeological excavations should be carried out in accordance with the specifications set out in the strategy document submitted to the Minister.
b) The National Monuments Section should be notified of the commencement date of the works on site.
c) The names of the archaeological consultants, including site directors should be submitted to the National Monuments Section in advance of the works commencing.

d) Where necessary the layout of the archaeological trenches should be adjusted to include additional archaeological features and deposits or areas of archaeological potential.
e) All archaeological objects recovered in the course of the test excavations should be treated and conserved in line with the advice notes and guidelines issued by the National Museum of Ireland.
f) A report on the progress of the archaeological works shall be submitted to the National Monuments Section every 4 weeks.

5. Record Number for the scheme:

The record number for the recording of archaeological works is A016/000. Sub-numbers may be allocated by the Project Archaeologist to the additonal works. These numbers should be notified to the National Monuments Section for agreement with full details of the archaeological works involved.

6. Detection Device:

Detection devices may be used as appropriate in the course of archaeological works to recover archaeological objects. Details of proposed methodologies should be notified to the National Monuments Section.

7. Reports:

1. A report on the results of the archaeological excavations should be submitted to the National Monuments Section within 4 weeks of the completion of the works on site. Should additional time be required to complete the report the National Monuments Section should be notified before the expiration of the 4-weeks period. A copy of the report should be sent to the National Museum of Ireland.
2. A summary of the excavation results for the site should be published in the Excavations Bulletin for the year when works are undertaken.

8. National Monuments (Subsection 14A(4)):

If during the carrying out of the archaeological excavations a site should prove to be a National Monument within the meaning of the National Monuments Acts (1930-2004) all works should stop and the National Monuments Section should be informed immediately.

9. Inspection of Works

Officers, servants or agents of the Minister may inspect the archaeological works at any time and full co-operation should be given to them in carrying out the inspections.

APPENDIX 2 SPECIALIST REPORTS

Appendix 2.1 Lithics Analysis Report – Dr. Farina Sternke

Appendix 2.2 Animal Bone Report – Camilla Lofqvist, Moore Group Ltd

Appendix 2.3 Charcoal and Wood ID Report – Ellen O'Carroll

Appendix 2.4 Radiocarbon Dating Results – QUB Laboratory

Appendix 2.5 The Small Finds – Catherine Johnson

LITHICS FINDS REPORT FOR A016/007 SEEOGE 2

DR. FARINA STERNKE MA, PHD

DEPARTMENT OF ARCHAEOLOGY
UNIVERSITY COLLEGE CORK

Introduction

Five lithic finds from the archaeological investigations along the route of the N6 Kilbeggan - Athlone Road at Seeoge, were presented for analysis. These are four flints and one chert artefact (Table 1), which were associated with the remains of a Bronze Age *fulacht fiadh*.

Find No.	Context	Material	Type	Cortex	Condition	Length (mm)	Width (mm)	Thickness (mm)	Complete	Retouch
E2635:1:1	Topsoil	Flint	Blade	No	burnt	30	11	7	No	No
E2635:1:2	Topsoil	Flint	Flake	Yes	patinated	39	20	5	Yes	No
E2635:76:1	76	Chert	Debitage	Yes	Reasonably Fresh	8	15	8	Yes	No
E2635:114:1	77	Flint?	Retouched Artefact	No	patinated	36	21	15	Yes	one steep end retouched
E2635:121:1	121	Flint	Plano Convex Knife	No	patinated	49	21	7	No	dorsal direct invasive

Table 1 Composition of the lithic assemblage from Seeoge (A016/007)

Methodology

All lithic artefacts were examined visually and catalogued using Microsoft Excel. The following details were recorded for each artefact: context information, raw material type, artefact type, the presence of cortex, artefact condition, length, with and thickness measurements, fragmentation and the type of retouch (where applicable). The technological criteria recorded are based on the terminology and technology presented in Inizan *et al.* 1999. The general typological and morphological classifications are based on Woodman *et al.* 2006.

Quantification

The lithics are four worked flints and one chert artefact (Table 1).

Provenance

The artefacts were recovered from the topsoil, a possible posthole and the bottom of a trough associated with a Bronze Age *fulacht fiadh* (Table 2).

Find Number	Context	Description	Type
E2635:1:1	1	Topsoil.	Blade
E2635:1:2	1	Topsoil.	Flake
E2635:76:1	76	Fill of posthole	Debitage
E2635:114:1	77	Cut of possible posthole	Retouched Artefact
E2635:121:1	121	Fill of trough	Plano Convex Knife

Table 2 Context Information for the Assemblage from Seeoge (A016/007)

Condition:

The lithics survive in variable condition (Table 3). All artefacts appear to be struck or modified and two artefacts are incomplete.

CONDITION	AMOUNT
Reasonably Fresh	1
Patinated	3
Burnt	1
Total	**5**

Table 3 Assemblage Condition from Seeoge (A016/007)

Technology/Morphology:

The artefacts represent various types of flaking products and two retouched artefacts (Table 3).

TYPE	AMOUNT
Blade	1
Flake	1
Debitage	1
Retouched Artefact	2

Table 4 Assemblage Composition from Seeoge (A016/007)

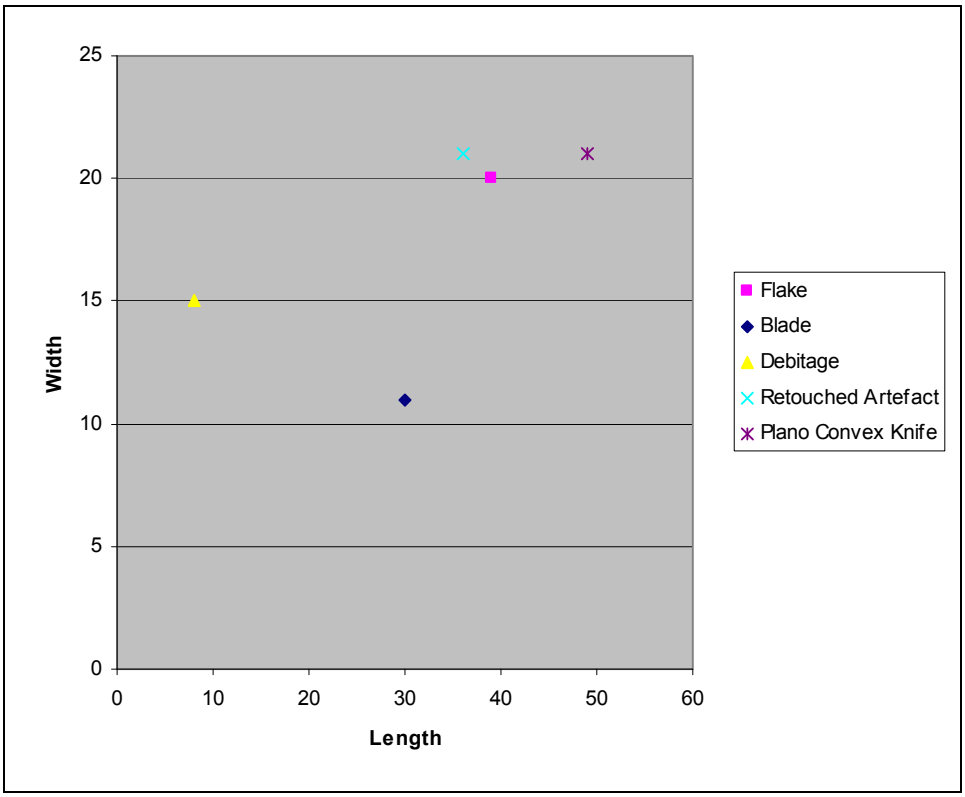

Figure 1 Dimensions (mm) of the Assemblage Components from Seeoge (A016/007)

The flint blade (E2635:1:1) and flake (E2635:1:2) were produced using a direct percussion technique on single platform cores made from beach pebbles. The flake appears to have been produced using a soft stone and displays clear evidence of use as a knife.

Retouched Artefacts:
The two retouched artefacts are a natural retouched chunk (E2635:114:1) with one etouched steep end which was probably used as an end scraper and a small well made Plano-Convex Knife (E2635:121:1).

Dating:
Plano-convex knives are found in Late Neolithic as well as in Early Bronze Age contexts. The plano-convex knife recovered at Seeoge is morphologically similar to other known Bronze Age examples (O'Hare 2005, Woodman *et al.* 2006). Plano-convex knifes are frequently found with urns and other pottery (O'Hare 2005). There is no question that this knife is Bronze Age in date, however. Based on its patination it must have been exposed to the elements for a few hundred years before it was introduced to (perhaps deliberately deposited in) the trough of the *fulacht fiadh*. The latter is certainly a possibility, especially in the Bronze Age. Unfortunately to-date, comprehensive research into the formation of patination is still absent.

The remainder of the assemblage is generally un-diagnostic, but not out of place in a Bronze Age context.

Conservation
Lithics do not require specific conversation, but should be stored in a dry, stable environment. Preferably, each lithic should be bagged separately and contact with

other lithics should be avoided, so as to prevent damage and breakage, in particular edge damage which could later be misinterpreted as retouch. Larger and heavier items are best kept in individual boxes to avoid crushing of smaller assemblage pieces.

Comparative Material

With the exception of the plano-convex knife which is a rare find in *fulachta fiadh*, the size and composition of the assemblage is typical for Irish burnt mounds. Recent excavations in the southeast of Ireland revealed a similar pattern of very small assemblages found in associated *fulachta fiadh*, e.g. the N25 Waterford By-Pass (Woodman 2006). These assemblages are dominated by the use of beach pebble flint which is often worked using the bipolar method or a very simple platform technology. Further, the re-use of earlier lithic material, in particular retouched tools, in the Later Bronze Age has recently been suggested by Young and Humphreys (1999, 232) and Edmonds (1995, 175). The plano-convex knife recovered at Seeoge could be one such incidence.

Discussion

The lithic finds from the archaeological investigations at Seeoge along the route of the N6 Kilbeggan - Athlone Road are a flint flake and blade, a small piece of chert debitage, a possible end scraper and small Plano Convex Knife. The assemblage most likely dates to the Bronze Age, based on its typology, technology and morphology and represents waste from lithic production as well as domestic use. The Plano-Convex knife the knife is undoubtedly a BA type, but it must pre-date the fulacht, possibly by several hundred years. It might represent an earlier phase of activity at the site, or alternatively may have been deposited ritually in the trough of the *fulacht fiadh*.

Recommendations for Illustration

- Plano-Convex Knife (E2635:121:1)

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Plates

Plate 1 Plano-Convex Knife (E2635:121:1) front

Plate 2 Plano-Convex Knife (E2635:121:1) reverse

OSTEOARCHAEOLOGICAL REPORT OF ANIMAL BONES FROM A016/007 SEEOGE 2, N6 ATHLONE TO KILBEGGAN ROAD SCHEME COUNTY WESTMEATH

MOORE GROUP

ANIMAL BONE REPORT PREPARED FOR IAC LTD

AUTHOR: CAMILLA LOFQVIST,

OSTEOARCHAEOLOGICAL SERVICES SECTION

DATE: SEPTEMBER 2007

Non-Technical Summary

This report describes the results of the osteoarchaeological analysis of animal bones retrieved during archaeological work carried out at A016/007 Seeoge along the N6 Athlone to Kilbeggan Road Scheme, Co. Westmeath. The author undertook the bone analysis for the Osteological Services Section of Moore Group (MOORE) on behalf of the client, IAC Ltd. The bone analysis was commissioned in order to get an osteoarchaeological aspect of the development site and to see if the bone material could provide additional information on the interpretation of the site. The purpose is also to broaden the understanding of animal consumption and animal husbandry at the site, through the osteological study of the animal remains. A total of 22 fragments from 21 anatomical units were retrieved. The bones were in a generally poor condition and had a total weight of 181.5g. The sample contained bones from five animal species. The animals identified were: horse, sheep/goat, cattle, deer and rodent. Due to difficulty in differentiation, sheep and goat bones have been analysed as one group (caprinae).

1. Introduction

1.1. Introduction

The Osteoarchaeological Services Section of Moore Group was commissioned to undertake an osteoarchaeological analysis of disarticulated animal bones retrieved during archaeological work at A016/007 Seeoge, N6 Athlone to Kilbeggan Road Scheme, Co. Westmeath. The osteoarchaeological analysis was carried out on behalf of IAC Ltd.

1.2. General osteological information

The purpose of this report is to broaden the understanding of animal consumption and animal husbandry at the site, through the osteological study of the animal remains. The aim is to use the bones as a means of archaeological interpretation of the site, either to support suggested theories or to point to other possible interpretations of the cultural heritage. As the osteological materials contain a large quantity of information; it is important from the start, to define the type of information that is going to be collected. The data gathered from this report was based on five different variables:

- Species distribution
- Anatomical distribution
- Age distribution
- Sex ratios and size variations
- Cut-/gnaw-marks and disease distribution.

In order to enable comparisons between the different materials it is important to be consistent in the use of analysis methods. If this is not fulfilled, the results would be impossible to compare. The osteological methods used in this report are presented in the section below.

2. Methodology

Identification of the bones was made by reference to Sisson and Grossman *The anatomy of the Domestic Animals* (Getty 1975), Schmid *Atlas of Animal bones* (1972), Hillson *Teeth* (1996), During´s *Bildkompendium i Animalosteologi* (unpubl) and a comparative collection of bones belonging to the author. A systematic bird bone identification was made by reference to Cohen & Serjeantson *A Manual for the Identification of Bird bone from Archaeological Sites* and where possible, the bones were identified to family level.

During analysis of the material, all fragments were counted and identified to species, anatomical unit, part of anatomical unit, side and fusion stage. Pathology and cut/gnaw marks were also examined. Quantification was based on three methods:

NISP: Number of Identified Specimens. Indicates the total number of fragments found. The NISP is decided by different factors like the age of the animal, the size of the animal and how well the preservation was at the place where the bones were deposited.

MNI: Minimum Number of Individuals. Indicates the minimum number of individuals from every species that were present in the material. The MNI is calculated on the specimen of the most abundant skeletal element present, taking left and right side in consideration, as well as looking at the age of the animal. However, it is important to point out that MNI is only an estimate. MNE: Minimum Numbers of Elements. Indicates the minimum number of anatomical units that are present and what side they are from. MNE is used to calculate MNI and is used in the Fusion data tables. To allow for a young individual to grow the bones from a juvenile at birth are made up of several different parts. When the individual gets older the different parts grow together and form one bone. The parts of the bone grow together at different age-stages and this makes it possible to estimate the age of an animal. This means that three bone fragments can be part of the same bone element. For example: Proximal and distal epiphyses fused with the diaphysis. To avoid getting a higher MNE all loose epiphyses have to be paired with all unfused diaphysis. Age is based on fusion data and tooth eruption. Habermehl (1961) and Silver (1969) have been used to determine stages of fusion while Schmid (1972) and Hillson (1996) have been used to determine tooth eruption data. It should be noted that bone elements from juveniles are often underrepresented in bone materials, because they are very fragile and very easy to break.

Different formulae are used to calculate Estimated Shoulder Heights (ESH) for the different species. Matolsci (1970) and Fock (1966) are used to estimate height of withers for cattle while Teichert (1975) is used for sheep.

The average height of withers and average weight of the meat-producing animals has increased from Bronze Age to Modern time. For example, cattle during medieval times had an average height of 1.05m but by the late 18th century had this increased to an average height of 1.35m (Davis, 1987:178; tab 8:7). Along with size, the average weight of the animals had increased. The dressing-out weight for cattle and caprinae is 50% of the animal's total, live weight. The dressing-out weight for pig is 80% of the animal's total weight (McCormick, 1997:200). The size figures of cattle are based on Davis (1987:178; tab 8:7).

The genders of the animals are estimated from measurements of the horncore and the coxae. For cattle, Armitage & Clutton Brock (1976) is used for the estimation based on the horncore and Vretemark (1997) for the estimation based on the coxae. For caprinae Vretemark (1997) is used for the coxae. For pig and horse, the upper and lower Canine teeth are used to determine the sex.

The bones were searched for traces of gnawing, cut marks and pathology. The gnaw marks give information about how exposed the bones were after being discarded. A high percentage of bones with traces of gnawing indicates that the bones were left exposed so animals like dogs, rats and other scavengers had access to the bones. The cut marks can give valuable information about how the carcasses were butchered. These marks can also give information about if the animals were kept for their milk, as a source of meat, or if they played an important part in industrial production of for example hide or bone objects.

3. Result

Twenty-two bone fragments were submitted for examination. Ten of these were retrieved while sieving. These were examined and identified to species when possible. From these, a total of 6 fragments (c. 27%) were not possible to identify to species as the bones were too fragmented and burnt. The remaining 16 fragments (c. 73%) from 15 anatomical units (e.g. two fragments of the same femur were counted as a MNE of one) were identified and divided into species. (Table 1).

The total number of individual pieces of bone (NISP), anatomical units (MNE) and the total weight identified to species.					
Group	Nº of frag	Frag in %	MNE	Weight in g	Weight in %
Fragments identified to species	16	72.73%	15	173.5	95.59%
Unidentified fragments	6	27.27%	6	8.0	4.41%
Total	22	100%	21	181.5	100%

Table 1. Total NISP, MNE and weight identified to species.

Bones from five animal species were identified in the material: *Equus caballus* (horse), *Ovis aries/Capra hircus* (sheep/goat), *Bos taurus* (cattle), *Cervus* (deer) and rodent (Table 2, Appendix 1).

Sheep (Ovis) and goat (Capra) are difficult to distinguish from each other. For this reason, and due to the fragmented condition of the bones, these two species have been analysed together as one group (Caprinae). However, it is indicated in old Irish law-texts that the goat was never common and that the animal never played an important roll in the animal husbandry during early Irish farming (Kelly,1998:78).

Showing the total number of fragments (NISP), total number of anatomical elements (MNE) total number of individuals (MNI) and total weight for all species present.								
Species	NISP	NISP in %	MNE	MNE in %	MNI*	MNI in %	Weight	Weight %
Equus	3	18.75%	3	20.00%	1	20.00%	160	92.22%
Sheep/goat	2	12.50%	1	6.67%	1	20.00%	2	1.15%
Cattle	1	6.25%	1	6.67%	1	20.00%	5	2.88%
Deer	1	6.25%	1	6.67%	1	20.00%	6	3.46%
Rodent	9	56.25%	9	60.00%	1	20.00%	0.5	0.29%
Grand Total	16	100%	15	100%	5	100%	173.5	100%

Table 2. NISP, MNE, MNI and weight for all species. (*MNI=Minimum Number of Individuals)

The condition of the bone was in general bad and none of the bones were complete. The average weight per fragment of the 16 fragments identified to species was 10.8g. The average weight of the unidentified fragments was only 1.3g per fragment. This illustrates the high fragmentation of the unidentified fragments. Seven fragments displayed traces of having been exposed to burning. In general they were white or brown/white which indicated a high temperature during burning.

3.1. Horse; Equus

Three bone fragments of horse with a total weight of 160g were retrieved. The fragments were a tooth, femur fragment and a rib fragment. The femur fragment was a fused distal diaphysis so the animal was older then 3.5years at time of death. The diaphysis seems to have been cut up. The surface articulating with the patella was porous which could indicate a pathological condition. However, the condition of the bone seems to indicate this was caused post-mortem. The tooth fragment was retrieved during sieving.

3.2. Sheep/goat; Ovis/Capra
Two of the fragments retrieved were from the same distal tibial epiphysis of sheep or goat. This was a juvenile individual (lamb) which was younger than 15–20 months. The total weight was only 2g.

3.3. Cattle; Bos
One bone fragment of cattle was retrieved. This fragment was as part of a mandible and had been burnt. The colour of the fragment was white to white-brown which indicates it had been exposed to medium to high heat during burning. The total weight of the fragment was 5g.

3.4. Deer; Cervus
One deer-tooth fragment with a total weight of 6g was identified in the material. This tooth is a first molar from the upper jaw and the crown and root was slightly broken.

3.5. Rodent
Nine very small fragments with a total weight of less than 0.5g were retrieved while sieving. The size and shape of these suggests these might be claw fragments of a small rodent, possibly a mouse. The fragments were hard, slightly twisted and seem to have a tapering end which might be the tip of the claw. Claws are products of the skin, and are found at the tips of the digits of most four-legged animals. Claws consist of thick deposits of keratinized, flattened epithelial cells. Keratin is a fibrous protein that is also a major component of hair, the outer layer of skin, reptile scales, and bird feathers.

3.6. Unidentified fragments
Six small fragments with a total weight of 8g were not possible to identify. All six fragments were white coloured indicating they had been exposed to a high degree of burning.

4. Summary
Twenty-two bone fragments were submitted for examination. Ten of these were retrieved while sieving. The bone sample was examined and identified to species when possible. Six fragments (c. 27%) were not possible to identify to species as the bones were too fragmented and burnt. Sixteen fragments (c. 73%) from 15 anatomical units were identified and divided into species. The sample contained bones from five animal species. The animals identified were: horse, sheep/goat, cattle, deer and rodent. The bones were in a generally poor condition and had a total weight of 181.5g. No definite conclusions could be retrieved from the Seeoge bone assemblage due to the limited size of the bone sample.

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N6 Athlone to Kilbeggan Road Scheme, A016/007 Seeoge

Animal Bone Database

Appendix: 1

Bag	Sample No	Context	Animal	Element	Part of element	NIS P	MNE	Side	PR epi	P 1/3	M 1/3	D1/3	Di epi	J	M/F	C	G	P	Burnt	Descr C/P/G	Meas	Comment	Weight
1	46	54	Unid	Unid	Frag	4	4	-	-	-	-	-	-	-	-	-	-	-	4	-	-	white, well burnt	5
2	28	2	Bos	Mandible	Proc musc	1	1	Sin	-	-	-	-	-	-	-	-	-	-	1	-	-	white/brown, med. Burnt	5
3	80	121	O/C	Tibia	Dist epi	2	1	Sin	-	-	-	-	Unf	J	-	-	-	-	-	-	-	Fuse at 15-20 months	2
4	45	40	Unid	Unid	Frag	2	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-	white, well burnt	3
5	65	113	Deer	Tooth	Mand, M1 frag	1	1	Sin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
6	1	7	Equus?	Costae	Caput, collum, corpus frag	1	1	Dx	-	-	-	-	-	-	-	-	-	-	-	-	-	Caput fused	12
7	55	121	Equus	Femur	Dist diaph+epi frag	1	1	Dx	-	-	1	1	F	-	-	1	-	1	-	C:Pos chopped up dia, P:pos pat:por on tr pat	-	In bad cond.	138
8	10	1	Equus	Tooth	Max, 12	1	1	Sin	-	-	-	-	-	-		-	-	-	-	-	-	-	10
9	23	19	Rodent	Claw frag	Pos claw frag	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Pos claw frag of small rodent	0.5

CHARCOAL IDENTIFICATIONS

N6 KINNEGAD – ATHLONE SCHEME
PHASE 2: KILBEGGAN TO ATHLONE
DUAL CARRIAGEWAY

MINISTERIAL DIRECTION NUMBER: A016/007
NMS REGISTRATION NUMBER: E2635
SEEOGE 2

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1. Introduction

Twelve charcoal samples and seven wood samples were identified and analysed from excavations from a burnt mound dated to the Late Bronze Age and excavated at Seeoge, Co. Westmeath. This site is located in the townland of Seeoge, 3.5km W of Moate town, Co. Westmeath. The archaeological excavation was carried out by Irish Archaeological Consultancy Ltd on behalf of Westmeath County Council and the National Roads Authority in advance of the construction of the N6 Phase 2: Kilbeggan to Athlone Dual Carriageway Scheme.

The analysis of charcoal and wood can provide information on two different levels. The analysis is an important component of any post-excavation environmental work as it can help in re-constructing an environment hitherto lost to us, although this must be done with caution as sufficient sample numbers are required for a complete and full understanding of the immediate environment. Keepax suggest 50 charcoal samples in a European temperate climate. Charcoal and wood are also analysed and identified to determine what species are used and selected for particular functions on site i.e. postholes, wall posts, burnt remains of wattle and so on.

2. Methods

The process for identifying wood, whether it is charred, dried or waterlogged is carried out by comparing the anatomical structure of wood samples with known comparative material or keys (Schweingruber 1990). A wood reference collection from the Botanical Gardens in Glasnevin, Dublin was also used.

Charcoal

The soil samples were processed on-site. The flots were sieved through a 250 micron or a 1mm sieve, while the retent was put through a 2mm or 4mm sieve. All of the charcoal remains from the soil samples were then bagged and labeled.

The identification of charcoal material involves breaking the charcoal piece along its three sections (transverse, tangential and radial) so clean sections of the wood pieces can be obtained. This charcoal is then identified to species under a universal compound microscope reflected and transmitted light sources at magnifications x 10 - 400. By close examination of the microanatomical features of the samples the charcoal species are determined.

The purpose of the charcoal identifications was two-fold. In some cases the identifications were carried out prior to C14 dating in order to select specific species for dating and in other cases the charcoal was analysed for fuel selection policies and selection of wood types for structural use. Each species was identified, bagged together and then weighed. Insect channels were noted on the charcoal fragments identified as this may indicate the use of dead or rotting wood used for fuel or other such functions. The distinction can sometimes be made between trunks, branches and twigs if the charcoal samples are large enough. This was noted where possible. When charcoal samples showed indications of fast or slow growth this was also recorded. The samples identified for environmental reconstruction and wood usage were counted per fragment and then weighed. The smaller sample amounts with less than 50 fragments were all identified while 50 fragments were identified from the larger samples. In general the fragment count for charcoal was low from these features.

There are inherent problems in re-constructing the environment at the time of use of the site due to the low quantity of samples and charcoal fragments identified from the assemblages. Keepax concludes that, when working in a temperate climate, at least fifty samples should be identified from an archaeological site, to make it a viable

charcoal study, with a minimum of 25 samples (Keepax 1988). Notwithstanding the charcoal sample numbers, it is clear that the charcoal results coupled with the wood analysis throw up some interesting results and trends in relation to wood selection and use and woodland cover in the Bronze periods in Co. Westmeath.

Wood
Thin slices were taken from the transversal, tangential and longitudinal sections of each piece of wood and sampled using a razor blade. These slices were then mounted on a slide and glycerine was painted onto the wood to aid identification and stop the wood section from drying out. Each slide was then examined under an E200 Nikon microscope at magnifications of 10x to 500x. By close examination of the microanatomical features of the samples the species were determined. The diagnostic features used for the identification of wood are micro-structural characteristics such as the vessels and their arrangement, the size and arrangement of rays, vessel pit arrangement and also the type of perforation plates.

All of the wood excavated on each site was sampled for identification and further analysis. The wood samples were firstly washed and recorded on wood working sheets and were then identified as to species. Where appropriate, the samples were measured and described in terms of their function and wood technology. This included point types, split types and individual toolmarks such as facets and tool signatures.

A number of wood taxa cannot be identified to species or sub-species level anatomically. Sessile oak *(Quercus petraea)* and pedunculate oak *(Quercus robur)* are both native and common in Ireland and the wood of these species cannot be differentiated on the basis of their anatomic characteristics. English elm *(Ulmus procera)* and wych elm *(Ulmus glabra)* cannot be separated by their wood structure and identifications of elm are shown as *Ulmus* spp. There are also two species of birch (*Betula pendula* and *Betula pubescens*) and several species of willow therefore the identifications are given as *Betula* spp and *Salix* spp respectively. *Prunus* includes blackthorn (*Prunus spinosa*) and cherry (*Prunus padus/avium*) and sometimes it is difficult to differentiate between the different species of *Prunus* spp.

3. Description of the feature types
Seeoge (A016-007) comprised a large burnt mound of Late Bronze Age date on the edge of a natural wetland area, which overlay two definite troughs and a number of further pits or possible troughs. One of the troughs C121 produced *in-situ* wooden stakes and the degraded remains of planking. Furthermore a large rectangular structure was recorded on site adjacent to the burnt mound. A number of other isolated pits and spreads were recorded on the periphery of the site, which also presumably dated to the same period.

4. Results
Two hundred and eighty six fragments of charcoal were identified from twelve samples submitted for dating and environmental re-construction and woodland use. The fragment count was low for some of the samples and furthermore certain samples contained very tiny iron stained charcoal fragments and these were hard to identify. The charcoal is related to the burnt mound activity and some possible structural remains dating to Late Bronze Age period in Co. Westmeath. The fragment count of each taxon represented in the samples is given below in Figure 1 and Table 1.

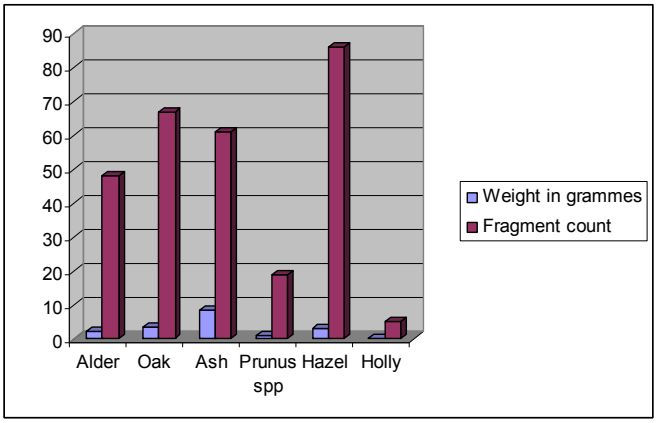

Figure 1: All taxa identified from the charcoal samples analysed

Table 1: Identifications from charcoal from Seeoge

Site no.	Context no.	Context type	Sample no.	Species	Comment
A016-7	19	Fill of trough	237 & 23	Alder (0.1g, 5f), Ash (0.6g, 18f), Oak (0.6g, 10f), Hazel (0.4g, 10f), Pomoideae (0.1g, 4f), Prunus (0.2g, 4f)	Dating. 764–416BC
A016-7	14	Fill of large posthole	2	Alder (0.2g, 5f), Oak (2.3g, 11f). Ash (0.3g, 11f), *Prunus* sp (0.4g, 5f), Hazel (0.6g, 10f), Pomoideae (0.1g, 3f), Birch (0.05g, 1f), Holly (0.05g, 1f)	Dating. 901–816BC
A016-7	59	Fill of stakehole	34	Hazel (0.1g, 3f,)	All identified
A016-7	42	Fill of pit	27	All ash (6.9g, 20f)	All identified
A016-7	59	Fill of posthole/structure BA	37	Alder (0.9g, 3f)	All identified
A016-7	76	Fill of posthole/structure BA	29	Alder (0.4g, 15f), Oak (10f, 0.2g), Ash (0.05g, 3f), Hazel (5f, 0.3g), *Prunus* spp (0.1g, 1f),	Very small fragments and hard to identify. Some insect holes.
A016-7	9	Fill of trough	10	Ash (0.3g, 10f), Hazel (1.3g, 35f), *Prunus* spp (0.1g, 3f)	
A016-7	105	Fill of posthole/BM	49	Alder (0.3g, 10f), Oak (0.1g, 6f), Blackthorn (0.1g, 5f)	All identified
A016-7	121	Fill of trough	70	Alder (0.3g, 10f), Ash (0.1g, 5f), Hazel (0.05g, 3f)	Very small fragments and hard to identify.
A016-7	23	Fill of posthole/BM	14	Alder (0.1g, 2f), Ash (0.2g, 5f), Oak (0.6g, 33f), Hazel (0.2g, 10f)	
A016-7	64	Burnt spread	62	Alder (0.1g, 3f), Ash (0.5g, 11f), Oak (0.2g, 5f), Hazel (0.4g, 20f), Holly (0.2, 5f)	

*g = grammes * f = fragment count

Table 2: Identifications from wood

Context	Timber No.	Element type	Feature type	Identification	Length	Diameter or width/Depth	Woodworking evidence	Recommendations
121	1	Plank	Trough timbers	Oak	0.25m	0.065 x 0.038m	Irregular split	Discard
121	2	Plank	Trough timbers	Oak	0.38m	0.068m x 0.045m	Irregular split	Discard
121	3A	Peg	Trough timbers	Oak	0.215m	0.085m x 0.01m	Cut to a pencil point. Long straight sides on point. No facets	Kept for dating
121	3B	Peg	Trough timbers	Oak	0.30m	0.058m x 0.012m	Cut to a pencil point. Long straight sides on point. No facets	Discard
121	3C	Peg	Trough timbers	Oak	0.29m	0.104m x 0.048m	Chisel pointed. 20°. No tooling	Discard
121	3D	Peg	Trough timbers	Oak	0.18m	0.041m x 0.13m	Split and squared to a point. No facets	Discard
121	3E	Peg	Trough timbers	Oak	0.21m	0.072m x 0.35m	Split and squared to a point. One small facet L 2.2cm x W 2cm. Flat.	Discard

5. Discussion and Conclusions of Charcoal and wood assemblage

Wood types identified the assemblages

There were six taxa types present in the charcoal and wood remains. The range of taxa identified from the features analysed includes large trees such as oak and ash and smaller scrub or hedgerow trees (hazel, *Prunus* spp & holly). Alder is a medium sized tree generally found growing near wetland areas. The charcoal is related to wood selection in relation to firewood used at the site as well as possibly structural wood from the posthole fills. The wood analysed is associated with the lining of a trough C121. The results suggest that there may have been ash-oak-hazel woodlands surrounding the sites during the Late Bronze Age period at Seeoge. Other dryland taxa present in the area were *Prunus* spp (blackthorn/cherry) and holly. Wetland taxa which includes alder was also present in the identifications which indicates an area of wetland close by to the site during the late Bronze Age.

Irregularly split planks (timber 1 and 2) were used as lining in the trough C121. They were too degraded to decipher any more information. The posts associated with trough C121 were also constructed from oak. Two of the posts (3D & 3E) were split and then squared to a point. Post 3E contained one small facet (toolmark) measuring 2.2cm in length c. 2 cm in width and the facet was flat which indicates the use of a small metal axe. The remaining posts were cut to a pencil point and chisel point. A chisel pointed post is where the end of a post is sharpened on two sides and a pencil point is where the end is sharpened on all sides. A pencil pointed end would have been sharper and better in the use as posts as it could be driven into the soil in an easier fashion.

It is difficult to discern from the charcoal identifications if any of the taxa present in the posthole fills are related to the posts that were once present in the structural features. This is due to the fact that there are several taxa present in the identifications from these features (Table 1). The charcoal may have fallen into the post holes pots depositional use. Insect holes were noted on the charcoal from C79. It is possible that oak was used as post material in C23 as oak dominates the charcoal identifications and oak was shown to be present as structural wood in the trough C121.

Further analysis, discussions and comparisons of results will form part of a final integrated charcoal and pollen study of the sites and the surrounding environment on this scheme which is being undertaken as part of the authors PHD thesis. These results will be published accordingly.

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RADIOCARBON DATING RESULTS
SEEOGE 2

CHRONO LABORATORY, QUEENS UNIVERSITY BELFAST

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Radiocarbon Date Certificate

Laboratory Identification: UBA-9161
Date of Measurement: 2008-05-22
Site: A016/007 Seeoge Co.Westmeath
Sample ID: S2 C14
Material Dated: Pomoideae
Pretreatment: AAA
Submitted by: IAC

^{14}C Date: 2712±19
AMS δ^{13}C: -22.5

Information about radiocarbon calibration

```
            RADIOCARBON CALIBRATION PROGRAM*
                       CALIB REV5.0.2
        Copyright 1986-2005 M Stuiver and PJ Reimer
*To be used in conjunction with:
Stuiver, M., and Reimer, P.J., 1993, Radiocarbon, 35, 215-230.
          Annotated results (text) - -
          Export file - c14res.csv
```

```
S2 C14
UBA-9161
Radiocarbon Age BP   2712 +/-   19
Calibration data set: intcal04.14c                  # Reimer et al. 2004
  % area enclosed       cal AD age ranges              relative area under
                                                     probability distribution
  68.3 (1 sigma)     cal BC 895- 869                        0.471
                            853- 827                        0.529
  95.4 (2 sigma)     cal BC 901- 816                        1.000
```

```
 References for calibration datasets:
PJ Reimer, MGL Baillie, E Bard, A Bayliss, JW Beck, C Bertrand, PG Blackwell,
  CE Buck, G Burr, KB Cutler, PE Damon, RL Edwards, RG Fairbanks, M Friedrich,
  TP Guilderson, KA Hughen, B Kromer, FG McCormac, S Manning, C Bronk Ramsey,
  RW Reimer, S Remmele, JR Southon, M Stuiver, S Talamo, FW Taylor,
  J van der Plicht, and CE Weyhenmeyer (2004), Radiocarbon 46:1029-1058.

Comments:
* This standard deviation (error) includes a lab error multiplier.
** 1 sigma = square root of (sample std. dev.^2 + curve std. dev.^2)
** 2 sigma = 2 x square root of (sample std. dev.^2 + curve std. dev.^2)
where ^2 = quantity squared.
[ ] = calibrated range impinges on end of calibration data set
0* represents a "negative" age BP
1955* or 1960* denote influence of nuclear testing C-14

NOTE:  Cal ages and ranges are rounded to the nearest year which
       may be too precise in many instances.  Users are advised to
       round results to the nearest 10 yr for samples with standard
       deviation in the radiocarbon age greater than 50 yr.
```

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Northern Ireland

Radiocarbon Date Certificate

Laboratory Identification:	UBA-8581
Date of Measurement:	2008-03-11
Site:	A016/007 Seeoge
Sample ID:	S23 C19
Material Dated:	Blackthorn
Pretreatment:	AAA
Submitted by:	IAC

^{14}C Date: 2473±26

AMS δ^{13}C: -32.4

Information about radiocarbon calibration

```
            RADIOCARBON CALIBRATION PROGRAM*
                       CALIB REV5.0.2
        Copyright 1986-2005 M Stuiver and PJ Reimer
*To be used in conjunction with:
Stuiver, M., and Reimer, P.J., 1993, Radiocarbon, 35, 215-230.
          Annotated results (text) - -
          Export file - c14res.csv
```

```
S23 C19
UBA-8581
Radiocarbon Age BP   2473 +/-   26
Calibration data set: intcal04.14c                # Reimer et al. 2004
  % area enclosed       cal AD age ranges           relative area under
                                                  probability distribution
  68.3 (1 sigma)     cal BC 752- 686                      0.390
                            667- 635                      0.201
                            623- 613                      0.051
                            595- 537                      0.343
                            528- 525                      0.015
  95.4 (2 sigma)     cal BC 764- 680                      0.319
                            673- 501                      0.618
                            494- 486                      0.009
                            463- 448                      0.018
                            442- 416                      0.037
```

```
 References for calibration datasets:
PJ Reimer, MGL Baillie, E Bard, A Bayliss, JW Beck, C Bertrand, PG Blackwell,
  CE Buck, G Burr, KB Cutler, PE Damon, RL Edwards, RG Fairbanks, M Friedrich,
  TP Guilderson, KA Hughen, B Kromer, FG McCormac, S Manning, C Bronk Ramsey,
  RW Reimer, S Remmele, JR Southon, M Stuiver, S Talamo, FW Taylor,
  J van der Plicht, and CE Weyhenmeyer (2004), Radiocarbon 46:1029-1058.

Comments:
* This standard deviation (error) includes a lab error multiplier.
** 1 sigma = square root of (sample std. dev.^2 + curve std. dev.^2)
** 2 sigma = 2 x square root of (sample std. dev.^2 + curve std. dev.^2)
where ^2 = quantity squared.
[ ] = calibrated range impinges on end of calibration data set
0* represents a "negative" age BP
1955* or 1960* denote influence of nuclear testing C-14

NOTE:  Cal ages and ranges are rounded to the nearest year which
       may be too precise in many instances.  Users are advised to
       round results to the nearest 10 yr for samples with standard
       deviation in the radiocarbon age greater than 50 yr.
```

THE N6 KILBEGGAN-ATHLONE ROAD PROJECT

THE SMALL FINDS FROM A016-007 SEEOGE 2

CATHERINE JOHNSON

Metal
The metal assemblage consists of a solid iron strip, of the sort that is used in wrought-iron work and is probably modern.

E2635:7:1 is a solid iron bar, slightly tapering, with a square section. It is bent and both ends are broken. The object is in fair condition, with some soil adhering to the surface. Three gritty protuberances, 110 and 75 mms apart, may be the result of corrosion or welding scars. L. 363 mms. W. 10 mms. T. 10 mms.

Recommendations: none

APPENDIX 3 LIST OF RMP SITES IN AREA

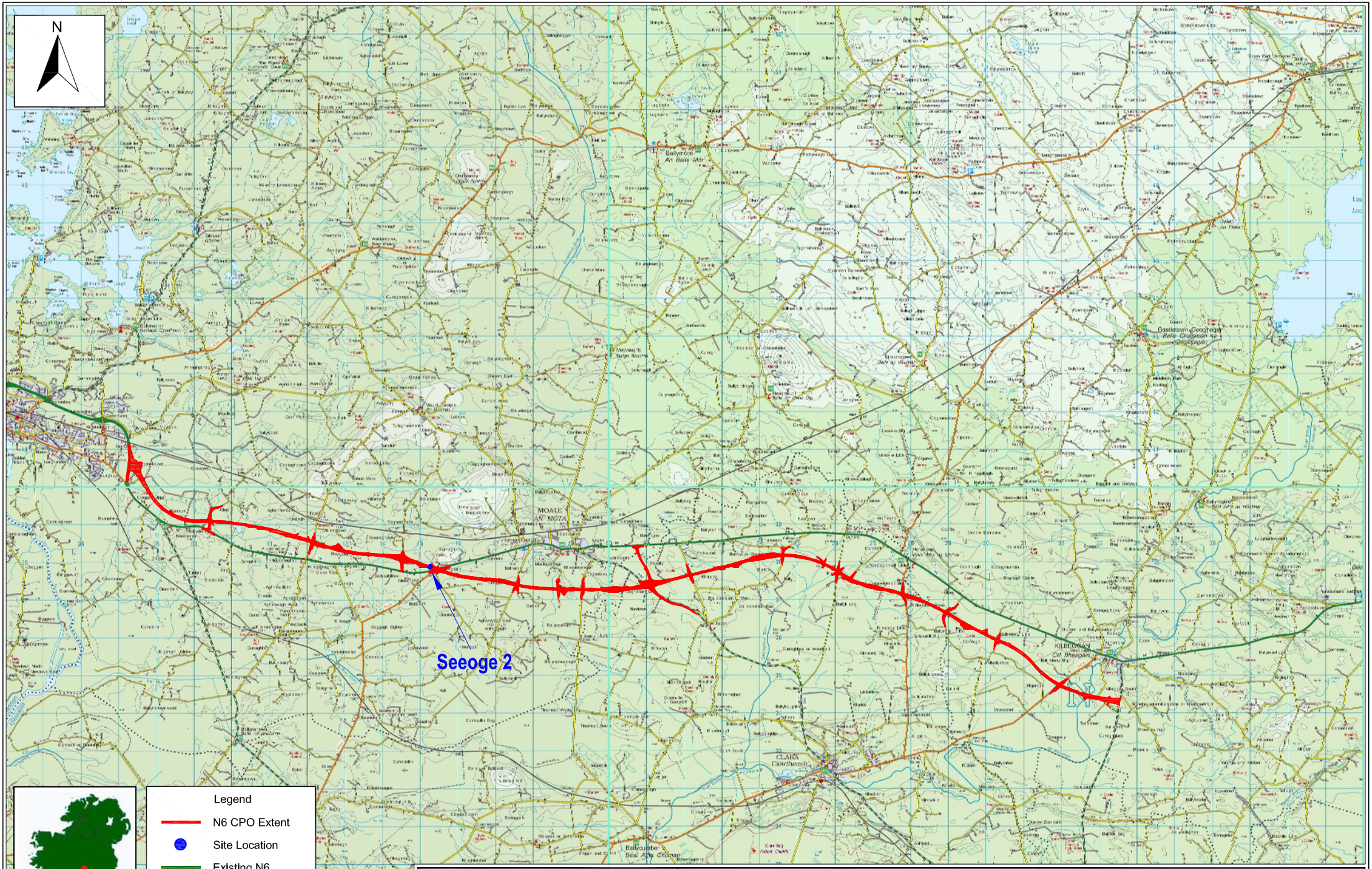
RMP No	Description
WM030-094	Earthwork
WM030-095	Ringfort
WM030-096	Ringfort
WM030-097	Earthwork
WM030-098	Ringfort
WM030-099	Castle site
WM030-100	Ringfort
WM030-101	Ringfort
WM030-102	Earthwork
WM030-103	Castle
WM030-105	Earthwork site
WM030-107	Ringfort
WM036-01301	Castle
WM036-01302	Church site
WM036-014	Earthwork site
WM036-015	Ringfort
WM036-016	Ringfort
WM036-017	Ringfort
WM036-018	Castle
WM036-019	Bullaun Stone
WM036-020	Mill site
WM036-021	Ringfort

See Figure 2 for location.

APPENDIX 4 LIST OF N6 SCHEME SITE NAMES

Site Name	Ministerial Direction No.	NMS Registration Number
Seeoge 2	A016/007	E2635
Moyally 7	A016/015	E2643
Kilcurley 1	A016/019	E2647
Cappydonnell Big 1	A016/025	E2653
Ardballymore 2	A016/028	E2656
Creggan lower 1	A016/030	E2658
Creggan lower 2	A016/031	E2659
Williamstown 1	A016/032	E2660
Williamstown 3	A016/033	E2661
Williamstown 4	A016/034	E2662
Boyanaghcalry 1	A016/035	E2663
Seeoge 1	A016/036	E2664
Aghafin 1	A016/037	E2665
Cregganmacar 1	A016/038	E2666
Cregganmacar 2	A016/039	E2667
Cregganmacar 3	A016/040	E2668
Curries 1	A016/041	E2669
Curries 2	A016/042	E2670
Culleenagower 1	A016/043	E2671
Moyally 2	A016/044	E2672
Moyally 1	A016/046	E3274
Moyally 3	A016/047	E2674
Moyally 5	A016/048	E2675
Moyally 6	A016/049	E2676
Tober 1	A016/051	E2677
Burrow or Glennanummer 1	A016/052	E2678
Burrow or Glennanummer 2	A016/053	E2679
Burrow or Glennanummer 3	A016/054	E2680
Russagh 4	A016/055	E2681
Russagh 1	A016/056	E2682
Russagh 2	A016/057	E2683
Russagh 3	A016/058	E2684
Kilbeg 1	A016/059	E2688
Kilbeg 2	A016/060	E2689
Kilbeg 4	A016/062	E2691
Kilbeg 5	A016/063	E2692
Kilbeg 6	A016/064	E2693
Kilbeg 7	A016/065	E2694
Correagh 1	A016/066	E3374
Ballinderry Little 1	A016/067	E2695
Ardballymore 1	A016/068	E2696
Kilgaroan 1	A016/069	E2697
Kilgaroan 2	A016/070	E2698
Kilgaroan 3	A016/071	E2699
Kilgaroan 4	A016/072	E2700
Kilgaroan 6	A016/074	E2702
Ballinderry Big 1	A016/076	E3275
Ballinderry Big 2	A016/077	E3276
Ballinderry Big 3	A016/078	E3277
Tonaphort 1	A016/079	E3278
Tonaphort 2	A016/080	E3279
Tonaphort 3	A016/081	E3280

Site Name	Ministerial Direction No.	NMS Registration Number
Kilbeggan South 1	A016/082	E3281
Kilbeggan South 2	A016/083	E3282
Kilbeggan South 3	A016/084	E3283
Cregganmacar 4	A016/085	E2703
Williamstown 2	A016/086	E2704
Kilbeg 8	A016/087	E3966



IAC Irish Archaeological Consultancy

Title:	E2635 Seeoge 2 site location on OS Discovery Series background
Project:	N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway
Client:	Westmeath County Council

Scale:	As Shown
Date:	27/03/09
Produced by:	P Higgins
Job No:	J2291
Figure No:	1

N

WM30-094

WM30-095

KNOCKDOMNY

MAGHERAMORE

KNOCKDOMNY

BOYANAGHCALRY

WM30-098

WM30-099

WM30-100

WM30-109

TULLAGHN

FARNAGH

Williamstown 3

Williamstown 4

Boyanaghcalry 1

WM30-101

Seeoge 1

WM30-102

WM30-103

Seeoge 2

SEEDGE

AGHAFIN

Aghafin 1

Cregganmacar 1

Cregganmacar 2

CREGGANMACAR

Cregganmacar 4

WM036-016

GLEBE EAST

BALLYCAHILLROE

WM036-014

WM036-014

WM036-015

KILL

BOGGAGH (CONRAD)

GORTEEN

WM036-009

WM036-012

WM036-014

BOGGAGH (EIGHTER)

BOGGAGH (FURY)

BOGGAGH (MALONE)

WM036-008

WM036-019

WM036-020

WM036-021

Legend

N6 CPO Line

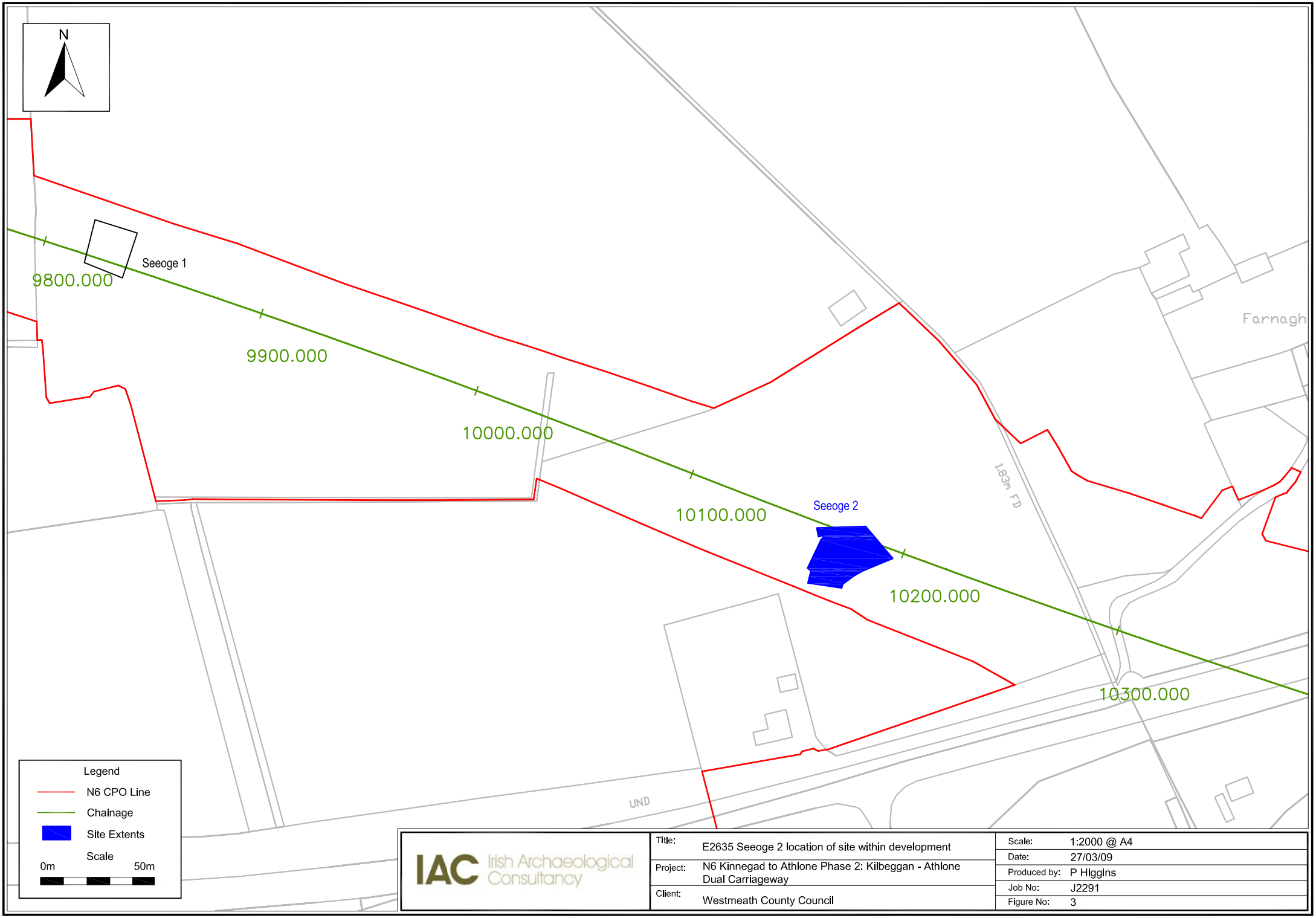
RMPs

Scale

0m 250m

Title:	E2635 Seeoge 2 showing RMPs with OS background		
Project:	N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway		
Client:	Westmeath County Council		
Scale:	1:10000 @ A3	Job No:	J2291
Date:	27/03/09	Figure No:	2
Produced by:	P Higgins		

IAC Irish Archaeological Consultancy



IAC Irish Archaeological Consultancy

Title:	E2635 Seeoge 2 location of site within development
Project:	N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway
Client:	Westmeath County Council

Scale:	1:2000 @ A4
Date:	27/03/09
Produced by:	P Higgins
Job No:	J2291
Figure No:	3

N

83.09

Pit C127

Posthole C144

Figure 5 inset

Ditch C70

18B

Pit C139

83.11

Pit C132

18A

215276E 237870N

215295E 237870N

21B

C16

Water logged area

Structure

83.595

83.71

Limit of excavation

Ditch C70

Ditch C25

83.675

Limit of burnt mound C4

Ditch C13

Pit C112

Tree Disturbance

C104

19A

19B

19C

Pit C55

Trough C32

C99

Pit C18

83.15

Limit of burnt mound C4

20A

Trough C154

Trough C155

82.57

Ditch C13

Well C111

215295E 237857N

Trough C122

Timber 2

20B

Modern ditch C152

Pit C149

Posthole C151

83.256

WELL

PUMP HOUSE

82.905

82.885

82.725

21A

82.43

82.79

POND C6

82.655

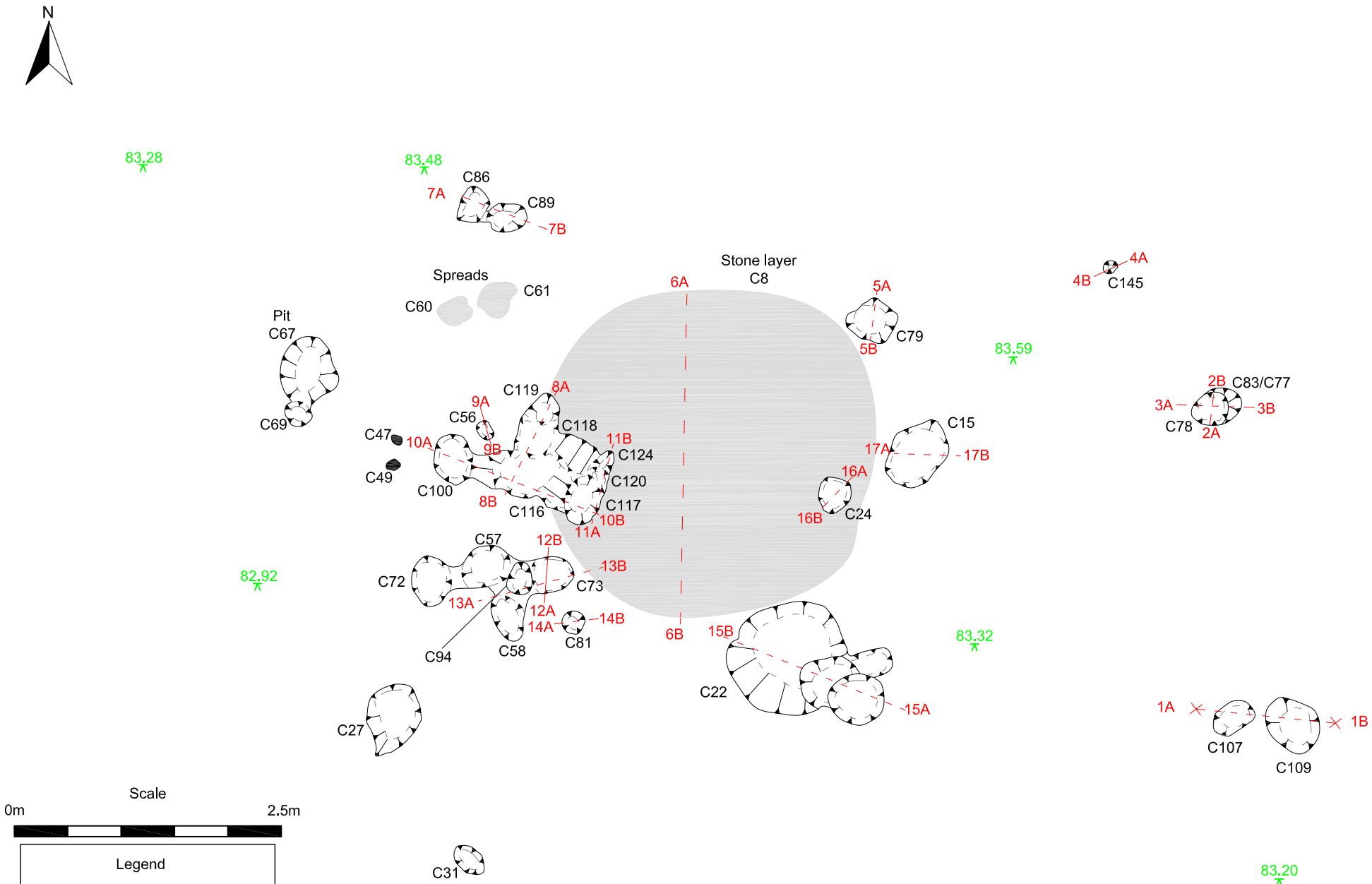
Scale

0m 5m

Legend

- Limit of Excavation
- Break of slope
- C## Cut numbers
- C## Fill numbers
- Sections
- Burnt mound deposits
- Structural postholes
- Pits associated with structure
- Stone
- 67.793 Reduced Levels

Title:	E2635 Seeoge 2 site plan		
Project:	N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway		
Client:	Westmeath County Council		
Scale:	1:100 @ A3	Job No: J2291	IAC Irish Archaeological Consultancy
Date:	27/03/09	Figure No: 4	
Produced by:	G Kearney		

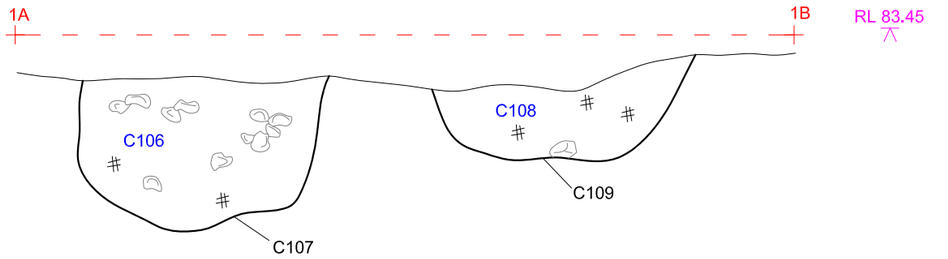


IAC Irish Archaeological Consultancy

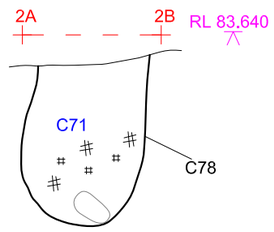
Title:	E2635 Seeoge 2 detail of structure
Project:	N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway
Client:	Westmeath County Council

Scale:	1:50 @ A4
Date:	27/03/09
Produced by:	G Kearney
Job No:	J2291
Figure No:	5

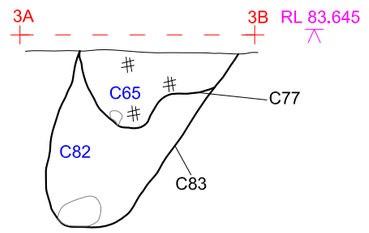
Seeoge 2
West facing section of C107 and C109



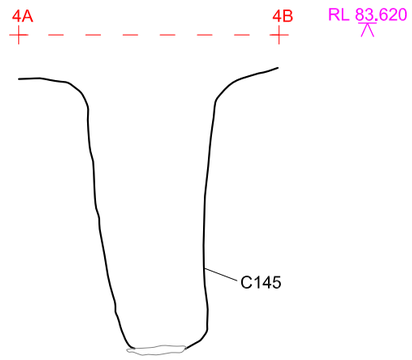
Seeoge 2
East facing section of C78



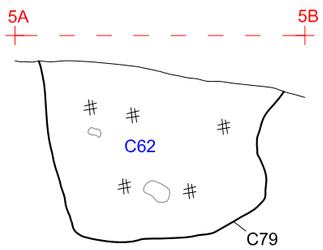
Seeoge 2
South facing section of C77 and C83



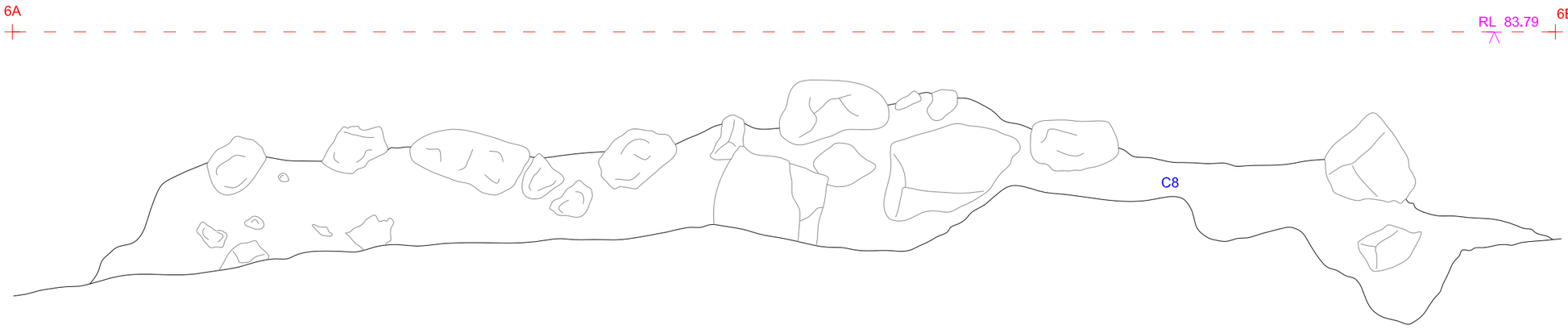
Seeoge 2
Northwest facing section of C145



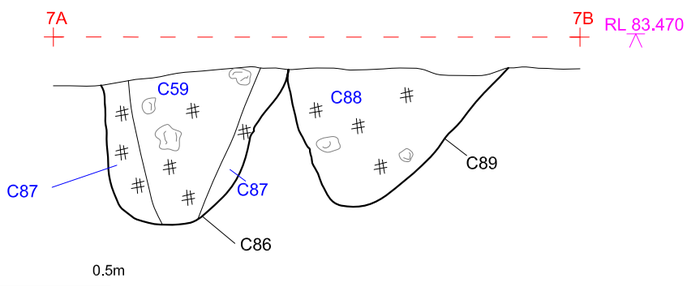
Seeoge 2
West facing section of C79



Seeoge 2
West facing section of C8

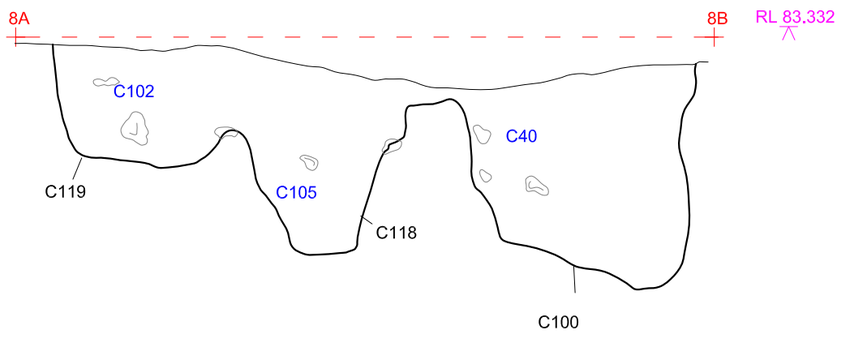


Seeoge 2
Southwest facing section of C86 & C89

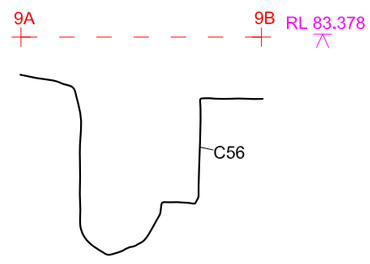


Scale
0m 0.5m

Seeoge 2
Northwest facing section of C100, C118, C119



Seeoge 2
Southwest facing section of C056



Legend

C##	Cut numbers
C##	Fill Numbers
	Stone
#	Charcoal
###.##	Reduced Levels

Title:	E2635 Seeoge 2 sections 1 - 9
Project:	N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway
Client:	Westmeath County Council
Scale:	1:10 @ A3
Job No:	J2291
Date:	27/03/09
Figure No:	6
Produced by:	G Kearney

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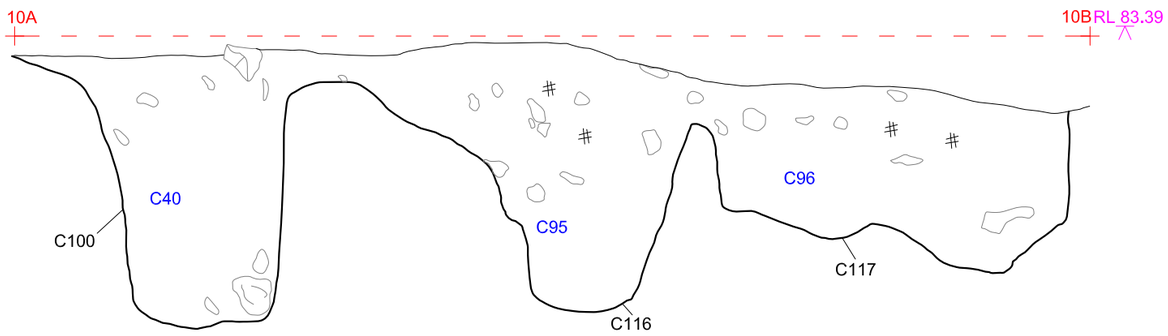
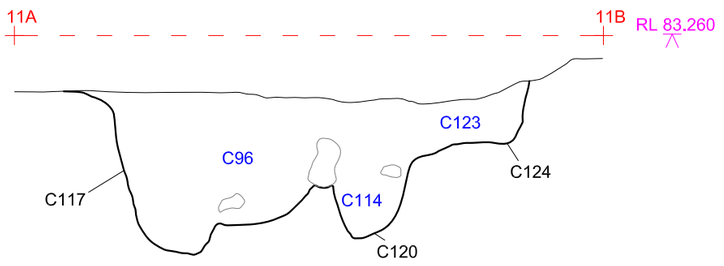
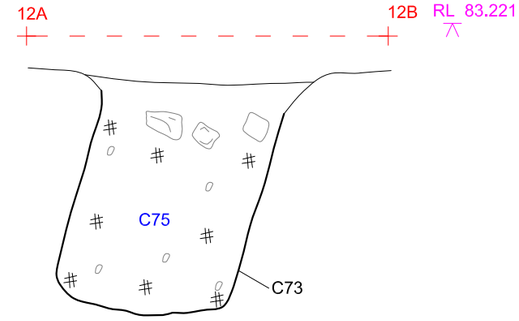
Seeoge 2
Southwest facing section of C100,116,117



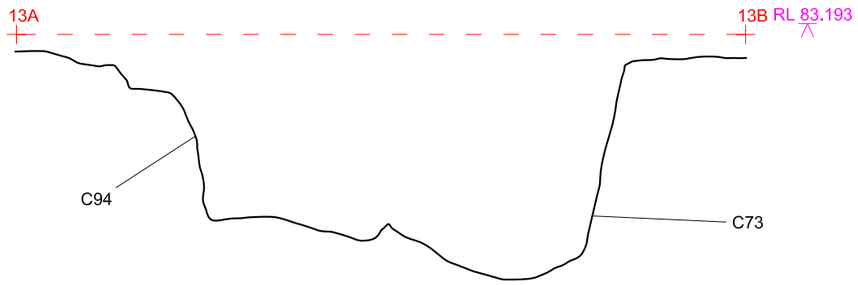
Seeoge 2
Southeast facing section of C117,120,124



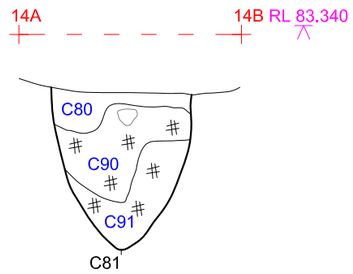
Seeoge 2
East facing section of C75



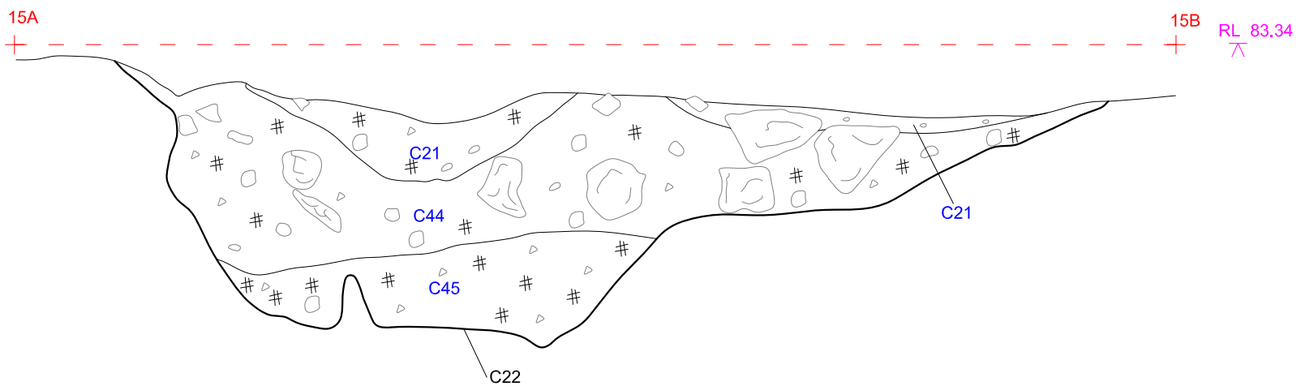
Seeoge 2
Southeast facing profile of C94 and C73



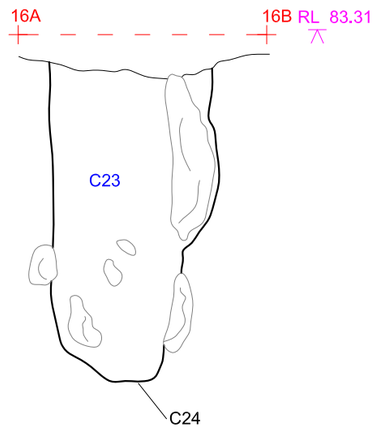
Seeoge 2
South facing section of C81



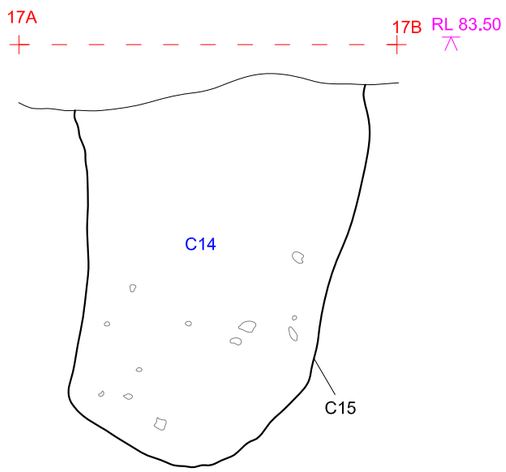
Seeoge 2
Northeast facing section of C122



Seeoge 2
Northwest facing section of C23



Seeoge 2
South facing section of C14



Scale

0m 0.5m

Legend

C##	Cut numbers
C##	Fill Numbers
	Stone
#	Charcoal
###.##	Reduced Levels

Title:	E2635 Seeoge 2 sections 10 - 17		
Project:	N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway		
Client:	Westmeath County Council		
Scale:	1:10 @ A3	Job No:	J2291
Date:	27/03/09	Figure No:	7
Produced by:	G Kearney		

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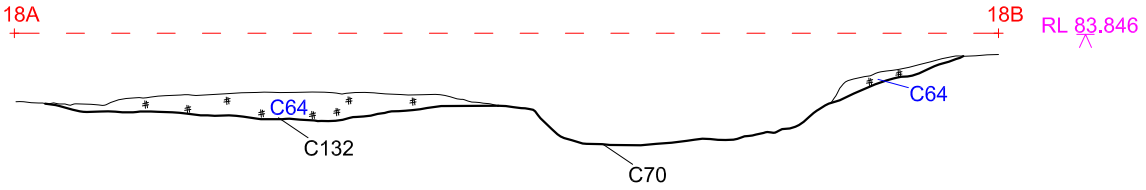
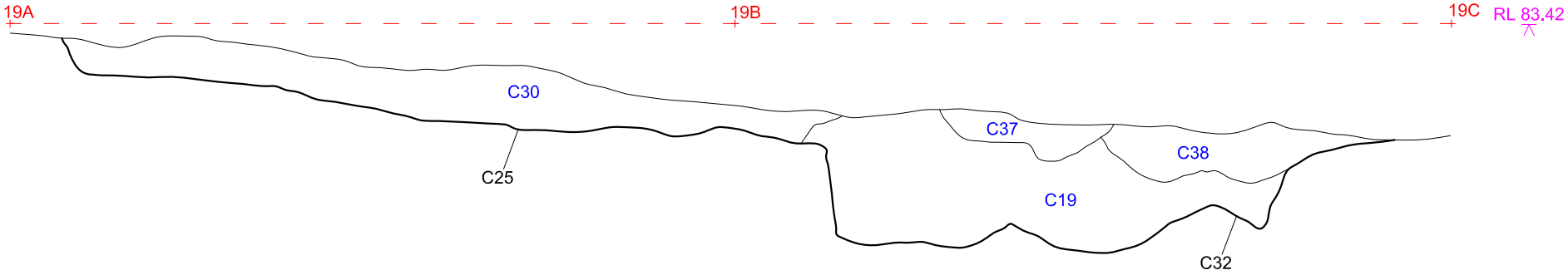
Seeoge 2
Southeast facing section of C132



Seeoge 2
Northwest facing section of C25 and C32



Scale
0m 1m

Legend

C##	Cut numbers
C##	Fill Numbers
	Stone
#	Charcoal
###.##	Reduced Levels

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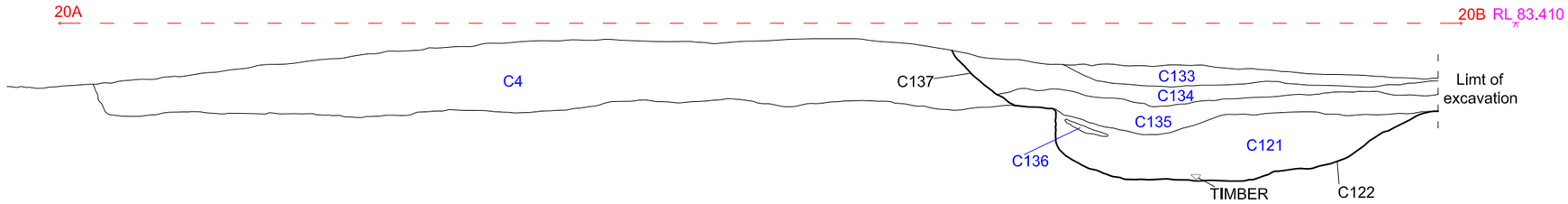
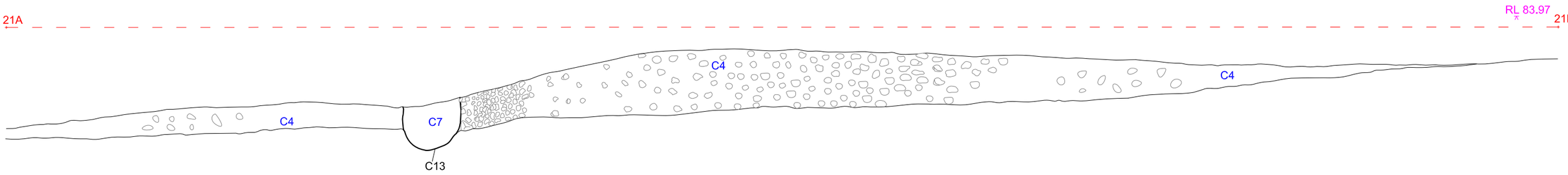
Title:	E2635 Seeoge 2 sections 18 - 19
Project:	N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway
Client:	Westmeath County Council

Scale:	1:25 @ A4
Date:	27/03/09
Produced by:	G Kearney
Job No:	J2291
Figure No:	8

Seeoge 2
Southwest facing section of C4, C122 and C137



Seeoge 2
Southeast facing section of C4, C13



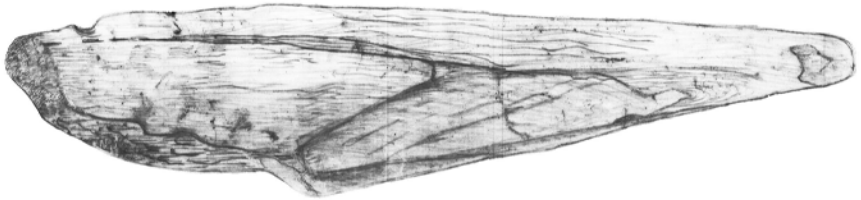
Scale
0m 2.5m

Legend

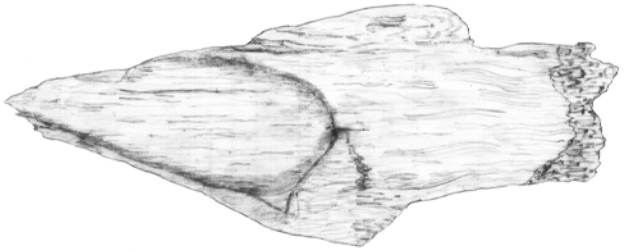
C##	Cut numbers
C##	Fill Numbers
	Stone
#	Charcoal
###.##	Reduced Levels

Title:	E2635 Seeoge 2 sections 20 - 21		
Project:	N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway		
Client:	Westmeath County Council		
Scale:	1:50 @ A3	Job No:	J2291
Date:	27/03/09	Figure No:	9
Produced by:	G Kearney		

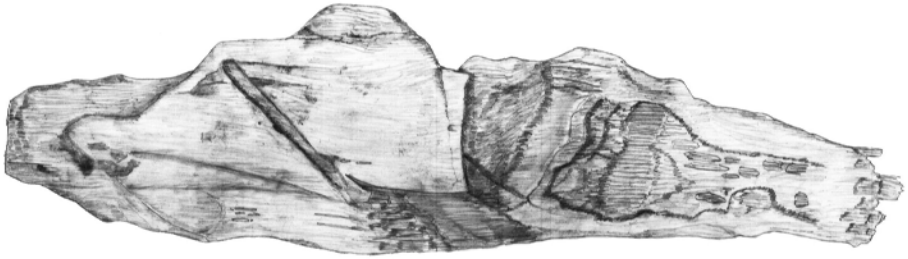
IAC Irish Archaeological Consultancy



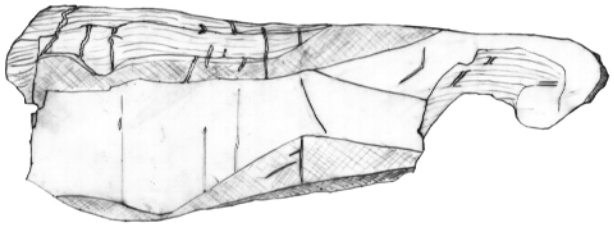
Timber 003 B Dwg #38



Timber 003 A
Dwg #40



Timber # 001
Dwg # 31



Timber 003 E Dwg #36:1

Scale

0m 0.25m

IAC Irish Archaeological Consultancy

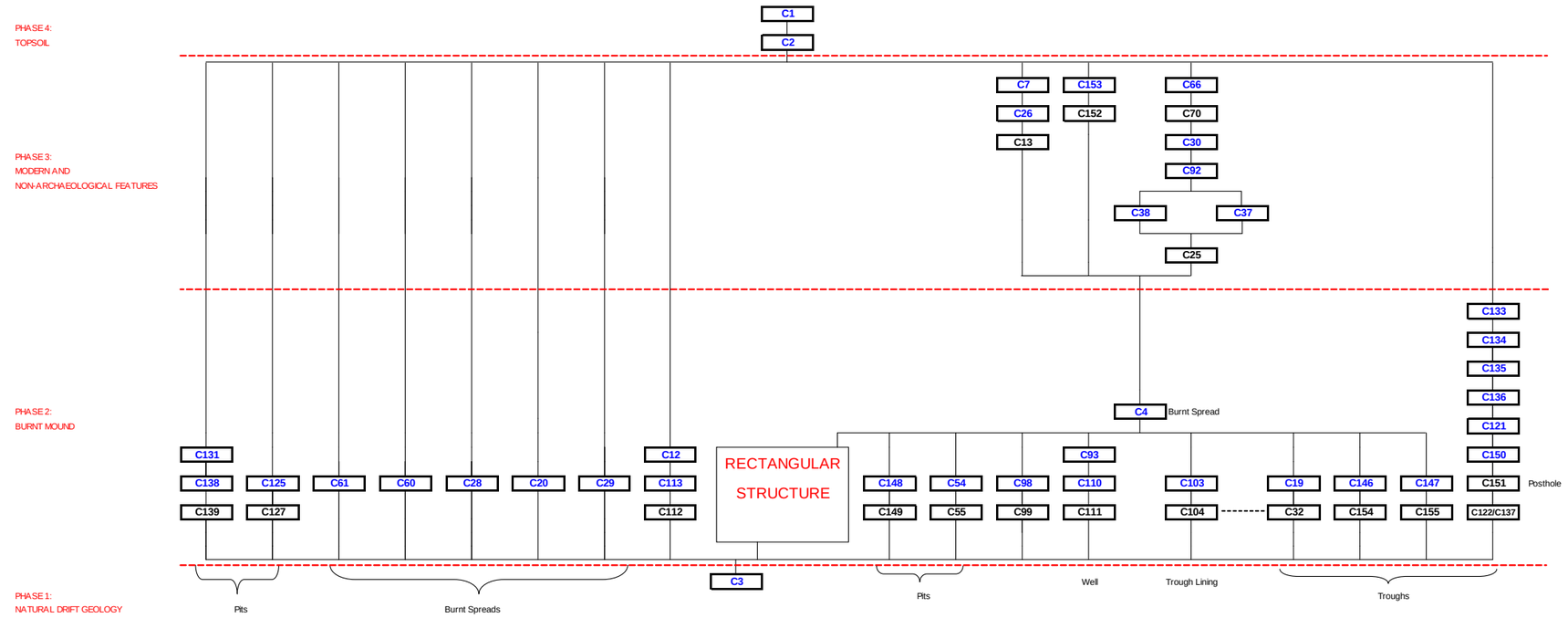
Title:	E2635 Seeoge 2 illustrations of selected timbers	Scale:	as shown
Project:	N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway	Date:	27/03/09
Client:	Westmeath County Council	Produced by:	G Kearney
		Job No:	J2291
		Figure No:	10

E2635:121:1

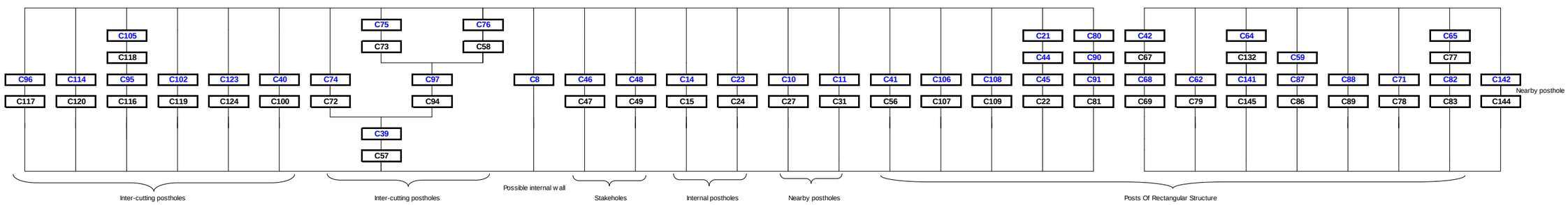
Scale

0mm 100mm

IAC Irish Archaeological Consultancy	Title: E2635 Seeoge 2 illustration of E2635:121:1	Scale:	1:1 @ A4
		Date:	27/03/09
	Project: N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway	Produced by:	G Kearney
		Job No:	J2291
	Client: Westmeath County Council	Figure No:	11



RECTANGULAR
STRUCTURE



CXXX = SPREADS AND FILL CONTEXTS
CXXX = CUT CONTEXTS

Title:	E2635 Seeoge 2 matrices		
Project:	N6 Kinnegad to Athlone Phase 2: Kilbeggan - Athlone Dual Carriageway		
Client:	Westmeath County Council		
Scale:	N.T.S.	Job No: J2291	IAC Irish Archaeological Consultancy
Date:	02/04/09	Figure No: 12	
Produced by:	G Kearney		