Palaeoecology Research Services

Technical report: charred plant remains from excavations at Site 2B Magheraboy, nr Sligo, County Sligo, Republic of Ireland (site code: 03E0536)

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Technical report: charred plant remains from excavations at Site 2B Magheraboy, nr Sligo, County Sligo, Republic of Ireland (site code: 03E0536)

by

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Summary

Small quantities of charred plant remains recovered from deposits encountered during excavations at Site 2B Magheraboy, along the route of the Sligo Inner Relief Road, Sligo, County Sligo, Republic of Ireland, were submitted for analysis. Two main areas of archaeological activity were identified, namely and early medieval ringfort and part of a Neolithic causewayed enclosure, together with their respective associated features.

Ancient plant remains were mostly restricted to quantities (sometimes quite large) of wood charcoal, presumably from fuel. Charred grains were present in fairly small numbers in four of the samples, most were of barley but oat and bread/club wheat were also present in one deposit (Context 11). The grains and the fragments of hazel nutshell (in Contexts 3 and 69) most likely represent food waste but remains were too few to be of any great interpretative value.

Six of the samples contained sufficient suitable material for radiocarbon dating to be attempted via AMS, but none could be recommended for dating using the standard radiometric technique. After discussion with the excavator, material for dating was sorted from seven samples and returned for submission. Three of these were of material not ideal for dating but for which an approximate date for the deposit was considered crucial and the potential error acceptable.

KEYWORDS: SLIGO INNER RELIEF ROAD; MAGHERABOY; SLIGO; COUNTY SLIGO; REPUBLIC OF IRELAND; TECHNICAL REPORT; NEOLITHIC; EARLY MEDIEVAL; PLANT REMAINS; CHARRED PLANT REMAINS

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Introduction

An archaeological excavation was undertaken, between April and June 2003, by Archaeological Consultancy Services Ltd (ACS) at a site located at Magheraboy (Site 2B), nr Sligo, County Sligo, Republic of Ireland (grid reference: 16860, 33500). The works were undertaken as part of a series of interventions along the route of the Sligo Inner Relief Road.

Two main areas of archaeological activity were identified, namely and early medieval ringfort and part of a Neolithic causewayed enclosure, together with their respective associated features (including ditches, pits, linear and spread features and post holes). The continuation of the Neolithic causewayed enclosure and palisade trench beyond the excavation area of Site 2B was resolved under a separate licence (licence number: 03E0358) and designated as Site 2C. The remains from Site 2C are discussed elsewhere (including, in part, within Jaques *et al*. 2004).

Small quantities of charred plant recovered from the processing of eighteen bulk sediment samples, were submitted to Palaeoecology Research Services Limited (PRS), County Durham, UK, for analysis.

Methods

The sediment samples were processed by ACS prior to delivery to PRS and the charred plant remains recovered were submitted for analysis. The excavator's standard processing technique was employed. The soil samples were placed onto 1 mm nylon mesh in a sieving tank. The light organic fraction was washed over through a 2 mm sieve into a 500 micron sieve to collect the flots. Each of the soil samples was put through this system twice to ensure that as much material as possible was recovered.

Eighteen samples (representing thirteen contexts) of charcoal and other charred plant remains recovered from the deposits, were submitted for identification and for consideration as the basis for dating by radiocarbon assay or accelerator mass spectrometry (AMS).

Results

The eighteen samples were a mixture of those consisting of charcoal (sometimes in quite large quantities) and grain, with two including hazel nutshell. The grain comprised barley (in 4 samples) bread/club wheat (1) and oats (1). The greatest numbers of charcoal records were for oak (in six samples) with willow/poplar/ aspen (4), ?hawthorn/apple/rowan (3), hazel (3), ?alder (2), and ash (1). Details are presented in Table 1. Summary information regarding the suitability of the remains for radiocarbon dating is given in Table 2 (those samples for which the material was insufficient or not ideal have no entry, though for some of these material was subsequently submitted for dating, see Table 3).

Discussion

Ancient plant remains were mostly restricted to quantities (sometimes quite large) of wood charcoal, presumably from fuel. Charred grains were present in fairly small numbers in four of the samples (from Contexts 10, 11, 12 and 69), most were of barley but oat and bread/club wheat were also present in one deposit (Context 11). The grains and the fragments of hazel nutshell (in Contexts 3 and

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69) most likely representing food waste. These remains were too few to be of any great interpretative value.

Six of the samples contained sufficient suitable material for radiocarbon dating to be attempted via AMS, but none could be recommended for dating using the standard radiometric technique. After discussion with the excavator, material for dating was sorted from seven samples (from Contexts 3, 10, 12, 57, 69, 75 and 121 see Table 3) and returned for submission. Three of these were of material not ideal (and/or of rather low sample size) for dating but for which an approximate date for the deposit was considered crucial and the potential error acceptable.

Retention and disposal

Other than those required for radiocarbon dating, all of the recovered remains should be retained as part of the physical archive for the site.

Archive

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

Acknowledgements

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References

Jaques, D., Hall, A. and Carrott, J. (2004). Technical report: charred plant (other than where mostly of charcoal) and burnt vertebrate remains from excavations at Site 2C in the townland of Magheraboy, nr Sligo, County Sligo, Republic of Ireland (site code: 03E0538). PRS **2004/64**.

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Table 1. Charred plant remains from deposits at Site 2B Magheraboy, nr Sligo, County Sligo, Republic of Ireland.

Key to abbreviations:

*charcoal—+/++ = little/moderate amount (reflected in weight in notes column, but cannot be related to size of sample from which charcoal was originally extracted); number = size (in millimetres) of largest fragments; A = alder (*Alnus*); C = hazel (*Corylus*); F = ash (*Fraxinus*); I = holly (*Ilex*); P = apple/hawthorn/rowan (Pomoideae); Pr = blackthorn/cherry/plum (*Prunus*); Q = oak (*Quercus*); S/P = willow/poplar/aspen (*Salix/Populus*); U = unidentified charcoal, not one of these other taxa.*

other remains—grain: A = oats (Avena); H = barley (*Hordeum*); T = wheat (*Triticum*) (Tac = bread/club wheat, *T. 'aestivo-compactum'*; Td/s = emmer/spelt, *T. dicoccon* Schrank/*T. spelta* L.; Th = hexaploid wheat); nutshell: N = hazel (*Corylus avellana* L.)

Context	Sample	Charcoal	Other remains	Notes
3	5		about 15 fragments N	
	27	+ 10 Q		about 6.5 g of very silty charcoal, mainly elongated slivers (giving small cross-sections)
10	1		H	a few tens of charred grains, apparently all barley
	28	+ 25 ?P, S/P		about 20 g of charcoal; quite a lot of rounded pellets seem to be mineral sediment with charcoal forming outer coat
11	14		A H Tac	about 17 charred grains
12	3		H	about 30 charred grains: all barley
	30	++ 20 Q		about 68 g of charcoal, largest clasts consisting of smaller charcoal bound with silt/clay
14	23	+ 15 Q		about 11.5 g of charcoal, rather brittle, some clasts of aggregated fragments of charcoal
32	109			4 modern dock (*Rumex*) perianth segments (flower parts)
40	35	+ 5 U		about 145 g of charcoal-stained ashy silt in brittle indurated clasts, no charcoal large enough to break
48	31	++ 15 Q		about 24 g of charcoal - silty and with modern roots
57	32	++ 20 ?A, C, Q, S/P		about 93 g of charcoal from very fine to quite coarse, some silt; largest clasts in sample are aggregates of smaller charcoal bound with some ash or silt
62	33	++ 30 ?P, S/P		about 160 g of charcoal from very fine to quite coarse, some silt; largest clasts in sample consist of aggregates of smaller charcoal bound with some ash or silt
69	27		H	one charred barley grain
	32		5 fragments N	
	36	+ 15 C, Q		about 8 g of silty charcoal, rather vitreous
75	29	+ 20 F		about 20 g of charcoal, rather silty, some clasts of soil/charcoal admixture
121	34	++ 30 ?A, C, ?P, S/P		about 70 g of rather clean charcoal

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Table 2. Notes on the suitability of charred plant remains (other than where predominantly of charcoal) from deposits at Site 2B Magheraboy, nr Sligo, County Sligo, Republic of Ireland, for radiocarbon dating. Key: Radio = standard radiometric technique; AMS = accelerator mass spectrometry. Possibilities for dating are indicated thus + = possible, but not ideal given size of sample; ++ = easily enough datable material.

Context	**Sample**	**Sample notes**	**Approximate weight of dateable material**	**Dateable by?**	
				Radio	AMS
3	5	about 15 fragments charred hazel nutshell	423 mg	-	++
10	1	a few tens of charred grain, apparently all barley	<1074 mg	-	++
11	14	charred grain: about 17 barley, bread wheat and oats	132 mg	-	++
12	3	about 30 charred grains: all barley	258 mg	-	++
32	109	4 modern dock perianth segments!	-	-	-
48	31	charcoal: silty and with modern roots; all seems to be oak	24 g	-	-
69	27	one charred barley grain	12 mg	-	+
	32	5 fragments charred hazel nutshell	172 mg	-	++

Table 3. Material selected and returned to the excavator for submission for radiocarbon dating.

Context	**Sample**	**Approximate dry weight**	**Material selected for submission**	**Dating method**
3	5	1 g	Hazel nutshell	AMS
10	1	1 g	Barley grains	AMS
12	3	1 g	Barley grains	AMS
57	32	11 g	Hazel charcoal	Standard radiometric
69	36	3 g	Hazel charcoal	AMS (possibly standard radiometric with extended counting)
75	29	3 g	Ash charcoal	AMS (possibly standard radiometric with extended counting)
121	34	11 g	Hazel/Alder charcoal	Standard radiometric

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