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**Technical report: charred plant remains from
excavations at Site 1A Tonafortes, nr Sligo,
County Sligo, Republic of Ireland
(site code: 03E0535)**

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**Technical report: charred plant remains from excavations at Site 1A
Tonafortes, nr Sligo, County Sligo, Republic of Ireland
(site code: 03E0535)**

by

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Summary

Small quantities of charred plant remains recovered from deposits encountered during excavations at Site 1A Tonafortes, along the route of the Sligo Inner Relief Road, Sligo, County Sligo, Republic of Ireland, were submitted for analysis. Ditch and other cut feature fills associated with a henge and a burnt mound deposit were sampled. No direct dating evidence was available from the deposits but the henge is believed to be of late Neolithic/Bronze Age date.

The charred plant remains were restricted to generally small quantities of wood charcoal. Thirteen 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 AMS dating was sorted from five samples and returned for submission.

KEYWORDS: SLIGO INNER RELIEF ROAD; TONAFORTES; SLIGO; COUNTY SLIGO; REPUBLIC OF IRELAND; TECHNICAL REPORT; LATE NEOLITHIC/BRONZE AGE; PLANT REMAINS; CHARRED PLANT REMAINS

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Technical report: charred plant remains from excavations at Site 1A Tonafortes, nr Sligo, County Sligo, Republic of Ireland (site code: 03E0535)

Introduction

An archaeological excavation was undertaken by Archaeological Consultancy Services Ltd (ACS) at a site located at Tonafortes (Site 1A), nr Sligo, County Sligo, Republic of Ireland (grid reference: 168781, 332918). The works were undertaken as part of a series of interventions along the route of the Sligo Inner Relief Road.

Most of the samples were from fills of a henge ditch and a few other associated features (including pits and a trough). The henge was somewhat unusual being of a form typical of most areas of Britain but differing from that of most Irish henges. In addition, samples were also collected from a burnt mound (*fulacht fiadh*). No direct dating evidence was available from the deposits but the henge is believed to be of late Neolithic/Bronze Age date.

Small quantities of charred plant recovered from the processing of twenty 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 small quantities of recovered charred plant (other than where composed mostly of charcoal) and bone 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.

Twenty samples of charcoal 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

All of the material from the 20 samples examined was charcoal, mostly in very small amounts. Where the material could be identified, it included the following taxa: oak, hazel, alder/hazel, willow/poplar/aspens, holly, ash and blackthorn/cherry/plum. 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 patently insufficient or unsuitable have no entry).

Discussion

Ancient plant remains were restricted to generally small quantities of wood charcoal, presumably from fuel. The remains were too few to be of any interpretative value.

Thirteen 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 AMS dating was sorted from five samples (from Contexts 54, 59, 71, 148 and 536, see Table 3) and returned for submission.

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.

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Table 1. Charred plant remains (other than where predominantly of charcoal) from deposits at Site 1A Tonafortes, 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/aspens (*Salix/Populus*); U = unidentified charcoal, not one of these other taxa.

Context	Sample	Charcoal	Notes
19 (fill of burnt pit)	16	+ 10 incl. ?I	about 3.8 g of charcoal; very brittle; modern rootlets
	17	+ 10 incl. ?C	about 8 g of charcoal, rather vitreous; modern rootlets
44 (?)	21	+ 5 U	<1.5 g of silty charcoal and modern roots - charcoal fragments small and largest are curl/knot wood
54 (ditch fill)	48	+ 10 ?Pr	about 4 g of charcoal, very crumbly, somewhat silty, perhaps mainly <i>Prunus</i> ; certainly not the same as sample 18
59 (ditch fill)	18	+ 15 C	about 18 g of charcoal, somewhat silty, but probably mainly hazel roundwood to ~19 years in age; charred bark to 10 mm
71 (pit fill)	22	+ 10 A/C, Q, U	about 9 g silty charcoal including an even-pored diffuse-porous type (indeterminate)
	23	+ 10 ?C	about 5 g very silty charcoal (diffuse-porous, probably hazel); some modern roots
76 (ditch fill)	25	+ 10 ?C	about 2.3 g of charcoal with some mineral sediment
79 (ditch fill)	28	+ 5 ?S/P	about 0.17 g fine charcoal
81 (ditch fill)	33	+ 10 U	about 53 g rather small charcoal fragments in an ashy clay matrix, indurated through drying
102 (secondary deposit)	49	+ 15 ?C	about 2.5 g mostly very fragmentary charcoal, some perhaps hazel, but very brittle and fragments mostly too small to determine easily
121 (ditch fill)	32	+ 10 ?Cs, F, Q, S/P	about 4 g of silty and iron-stained charcoal
122 (ditch fill)	45	+ 10 ?C, ?I	about 7 g of slightly silty charcoal; some fragments not completely charred (difficult to achieve clean flat breaks)
142 (ditch fill)	35	+ 15 Q	about 11 g of very silty charcoal
148 (iron panning)	54	+ 10 C, ?S/P	about 3.5 g of silty charcoal and some lumps of undisaggregated mineral sediment; charcoal rather brittle
162 (layer)	53	+ 25 A/C, Q	about 9 g of charcoal; material with holes and distortions
536 (primary trough fill)	7	+ C 15	about 16 g of rather strongly iron-stained, brittle charcoal
	10	+ 15 C Q	about 22 g of somewhat iron-stained, silty charcoal, the oak very vitreous and brittle
559 (burnt mound deposit)	4	+ 30 A/C	about 4 g of silty iron-stained charcoal
	5	+ 10 C	about 6 g charcoal

Table 2. Notes on the suitability of charred plant remains (other than where predominantly of charcoal) from deposits at Site 1A Tonaforbes, 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; () indicates cases where dating would be on material which might return a misleadingly old date and [] cases where dating is not recommended but could be pursued if vitally important.

Context	Sample	Sample notes	Approximate weight of dateable material	Dateable by?	
				Radio	AMS
19	17	charcoal: rather 'vitreous', seems to be diffuse-porous, perhaps hazel	<8 g	+	++
44	21	silty charcoal (not identifiable: fragments are small and largest are curl/knot wood) and modern roots	<1.5 g	-	[+]
54	48	charcoal, very crumbly, somewhat silty, perhaps mainly <i>Prunus</i>	4 g	-	++
59	18	charcoal, somewhat silty, but probably mainly hazel roundwood to ~19 yrs	18 g	+	++
71	22	silty charcoal inc alder/hazel, oak and 1-2 ray, even-pored diffuse-porous type (indeterminate)	9 g	+	++
	23	very silty charcoal and some modern roots; seems to be diffuse-porous, probably hazel	5 g	+	++
121	32	silty and iron-stained charcoal: oak, ash and willow/poplar/aspens (probably nothing worth dating)	4 g	-	[+]
142	35	very silty charcoal, all oak	11 g	[+]	[+]
148	54	silty charcoal and some lumps of undisaggregated mineral sediment; charcoal rather brittle	2 g	-	+
162	53	charcoal: alder/hazel and oak, but material with holes and distortions - looks as if old and decayed before being charred; suspect from largish stems	9 g	-	-
536 536	7	rather iron-stained, brittle charcoal, seems mainly to be hazel	16 g	+	++
	10	somewhat iron-stained, silty charcoal includes hazel and some vitreous oak (very brittle when handled)	22 g	+	++
559	4	silty iron-stained charcoal: alder/hazel	4 g	+	++
559	5	charcoal, seemingly hazel	6 g	+	++

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

Context	Sample	Dry weight	Material selected for submission
54	48	525 mg	<i>Prunus</i> charcoal, 525 mg
59	18	850 mg	<i>Corylus</i> roundwood charcoal, 850 mg
71	22	680 mg	<i>Corylus</i> charcoal, 680 mg
148	54	780 mg	<i>Corylus</i> and ? <i>Salix/Populus</i> charcoal, 780 mg
536	7	500 mg	<i>Corylus/Prunus</i> charcoal, 500 mg