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THE RE-DATING OF SOME SCOTTISH SPECIMENS BY THE OXFORD RADIOCARBON ACCELERATOR UNIT (ORAU): RESULTS RECEIVED DURING 2007

Alison Sheridan and Tom Higham

This follows on from the note published in *Discovery and Excavation in Scotland* 7, 202–4, regarding the re-dating of some samples following a problem with the ultrafiltration system used to pretreat bone samples at ORAU between 2000 and 2002. The results of the re-dating of material in 2007, where fresh sampling had been required, are presented here, along with a ‘bonus’ date obtained for cremated bone from the Stones of Stenness. Sample selection was done by Alison Sheridan. Note that: i) some samples are still being dated; ii) a couple of specimens are yet to be re-sampled; and iii) where it was not possible to re-sample, different material has been substituted. It is anticipated that the results for these specimens will be published in the next volume of *Discovery and Excavation in Scotland*.

The dates cited here are all AMS determinations, and all but one are from unburnt bone; they have been calibrated using OxCal v.3.10. Where a marine signature is evident from the $\delta^{13}\text{C}$ value, this is indicated by *. (This applies to all dates with $\delta^{13}\text{C}$ values less negative than -18‰. A 100% terrestrial diet will produce a $\delta^{13}\text{C}$ value of $-20\pm 1\%$; a 100% marine diet will produce a $\delta^{13}\text{C}$ value of $-12\pm 1\%$. An appreciable marine element in the diet will increase the apparent age of the specimen.) The relevant adjustment for the marine effect has not yet been made, as the dates have only recently been produced; readers can contact JAS for details of the marine-corrected calibrated date in due course. The results at 2σ probability level are given in **bold**. Further details about individual findspots can be found using Canmore; further details of the samples can be found in previous volumes of *Discovery & Excavation in Scotland* (mostly Volumes 1 and 2).

The following, faulty dates have now been withdrawn and should not henceforth be cited:

Knap of Howar:

OxA-9760	Trench III, layer 4, pig humerus	4750±50 BP
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Holm of Papa Westray North:

OxA-9833	Trench I, 5, layer 3, sheep vertebra	4585±40 BP
OxA-9871	Trench I, 5, layer 2, otter tibia	4680±50 BP
OxA-9872	Trench IV, layer 1, red deer bone	3855±45 BP

Stones of Stenness:

OxA-9904	Basal ditch – fill 3, domestic ox hoof	4360±40 BP
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Barnhill, Broughty Ferry:

OxA-11025	Human bone	3607±39 BP
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The new dates for freshly-sampled specimens from the same species and contexts (but not always necessarily from the same individuals) are as follows (together with the ‘bonus’ date):

<i>Findspot</i>	<i>Context</i>	<i>Species</i>	<i>New date lab no. OxA-</i>	<i>New date BP</i>	<i>$\delta^{13}C$ value</i>	<i>Calibrated date at 1σ (in bold) and 2σ. All cal BC unless specified otherwise</i>
Knap of Howar, Orkney	Trench III, layer 4	Pig (humerus)	17778	4673±31	-19.70	3520–3370 3630–3360
Holm of Papa Westray North, Orkney	Trench I, 5, layer 3	Sheep (vertebra)	17779	4167±31	-19.78	2880–2670 2880–2630
	Trench 1, 5, layer 2	Otter (tibia)	17780	4331±32*	-10.48*	3010–2890 3030–2890
	Trench IV, layer 1	Red deer (astragalus)	17781	4075±30	-21.55	2840–2500 2860–2490
	Trench IV, layer 1	Red deer (from same sample as 17781)	17782	4111±32	-21.76	2860–2580 2870–2570
Stones of Stenness, Orkney	Basal ditch, fill 3	Domestic ox (hoof)	17783	4294±37	-21.13	2925–2880 3020–2870
	Central hearth-like feature	Sheep (long bone), burnt: structural carbonate dated	18037	4305±35	N/A	3010–2880 3020–2880
Barnhill, Broughty Ferry, Angus	Cist under cairn	Human	17918	3565±30	-20.80	1955–1880 2020–1770