

APPENDIX I

REPORTS OF BETA-ANALYTICAL INC. AND UNIVERSITY OF WATERLOO

BETA ANALYTIC INC.

RADIOCARBON DATING, STABLE ISOTOPE RATIOS, THERMOLUMINESCENCE, X-RAY DIFFRACTION
P. O. BOX 248113 - CORAL GABLES, FLORIDA 33124 - (305) 667-5167

November 16, 1982

Dr. D. P. Johnson
Department of Geology
James Cook University
Townsville, QLD 4811
AUSTRALIA

Dear Dr. Johnson:

Please find enclosed the results on the fourteen coral samples recently submitted for radiocarbon dating and carbon 13 analyses. We hope these dates will be useful in your research.

The samples were pretreated by lightly etching away the outer layers with dilute acid. Your sample 9 was pretreated by first gently crushing and then attacking with acid to eliminate one half of the material; the carbon dioxide coming from the remaining half was used for the measurements. The following benzene syntheses and countings proceeded normally.

We are sending our statement directly to your Bursar's Office. If there are any questions or if you would like to confer on the dates, my telephone number and address are listed above. Both my partner and I have over twenty years experience in radiocarbon dating. Please don't hesitate to call us if we can be of any help.

Sincerely yours,

Murry Tamers

Murry Tamers, Ph.D.
Co-director

MT/hs
encs.



BETA ANALYTIC INC.

**UNIVERSITY BRANCH
P.O. BOX 248113
CORAL GABLES, FLA. 33124**

REPORT OF RADIOCARBON DATING ANALYSES

FOR: D. P. Johnson
James Cook University

DATE RECEIVED: October 25, 1982
DATE REPORTED: November 16, 1982
BILLED TO SUBMITTER'S
INVOICE NUMBER _____

OUR LAB NUMBER	YOUR SAMPLE NUMBER	C-14 AGE YEARS B.P. $\pm 1\sigma$	C13/C12	C-13 adjusted Radiocarbon age
Beta-5702	1	1000 \pm 70 B.P.	+0.93 0/00	1420 \pm 70 B.P.
Beta-5703	2	1820 \pm 90 B.P.	+0.61 0/00	2250 \pm 90 B.P.
Beta-5704	3	2150 \pm 70 B.P.	-0.92 0/00	2550 \pm 80 B.P.
Beta-5705	4	2520 \pm 80 B.P.	-0.73 0/00	2920 \pm 90 B.P.
Beta-5706	5	1950 \pm 100 B.P.	-1.10 0/00	2340 \pm 100 B.P.
Beta-5707	6	2180 \pm 100 B.P.	-0.75 0/00	2580 \pm 110 B.P.
Beta-5708	7	2490 \pm 90 B.P.	-0.91 0/00	2880 \pm 100 B.P.
Beta-5709	8	5520 \pm 100 B.P.	-1.43 0/00	5910 \pm 110 B.P.
Beta-5710	9	4750 \pm 90 B.P.	+2.38 0/00	5200 \pm 100 B.P.
Beta-5711	10	4070 \pm 110 B.P.	-0.24 0/00	4470 \pm 120 B.P.
Beta-5712	11	3480 \pm 80 B.P.	+1.19 0/00	3910 \pm 80 B.P.
Beta-5713	12	4190 \pm 70 B.P.	+0.14 0/00	4600 \pm 70 B.P.
Beta-5714	13	4920 \pm 100 B.P.	+0.44 0/00	5340 \pm 100 B.P.
Beta-5715	14	3880 \pm 110 B.P.	+0.18 0/00	4290 \pm 120 B.P.

In agreement with international conventions, radiocarbon dates are calculated using the Libby half-life of 5568 years and 95% of the activity of the NBS Oxalic Acid as the modern standard. The quoted errors are one standard deviation based on the random nature of the radioactive disintegration process. B.P. stands for years before 1950 A.D. Stable carbon ratios are measured relative to the PDB-1 international standard; the adjusted ages are normalized to -25 per mil carbon 13. No corrections were made for reservoir effect.

University of Waterloo
Earth Science Department
Waterloo, Ontario
N2L 3G1
March 8, 1984

Mike Risk
McMaster University
Geology Department
Hamilton, Ontario

Dear Mr. Risk:

I have finished the ^{14}C Australian coral samples. The results did not change significantly from the preliminary results that I gave you by phone on March 7. The results are:

	Wat#	$\text{d}^{13}\text{C}_{\text{PDB}}$	%modern	uncorrected age
F3/1.15m	1107	0.0	59.6	4160 +/- 100 years
F3/2.40m	1109	+0.1	61.1	3960 +/- 80 years
F3/6.3m	1108	+0.7	54.3	4900 +/- 120 years

You will be billed under separate cover if Diana has not already done so. If you have any questions or more samples, I look forward to hearing from you.

Sincerely,

(signed by)

Mike Jones
Isotope Lab.

[Additional Information provided by telephone]	corrected	1.15	4575 +/- 100
	to -25pdB	2.4	4380 +/- 80
		6.3	5330 +/- 120

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