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Radiocarbon Date Certificate

Laboratory Identification: UBA-37818
Date of Measurement: 2018-05-30
Site: Nahal Ze 'elim
Sample ID: RCNZ18108
Material Dated: wood
Pretreatment: AAA
Submitted by: Jeff Williams

Conventional ¹⁴C
Age: 2224±27 BP
using AMS
Fraction corrected δ¹³C

UBANo	Sample ID	Material Type	¹⁴ C Age	±	F14C	±
UBA-37817	RCNZ18101		693	24	0.9173	0.0027
UBA-37818	RCNZ18108	charcoal ?	2224	27	0.7581	0.0026
UBA-37819	RCNZ18100	some burning ?	1391	24	0.8410	0.0025
UBA-37820	RCNZ18109		1419	24	0.8380	0.0025
UBA-37821	RCNZ1840		1361	23	0.8442	0.0024
UBA-37822	RCNZ18107	some burning ?	1637	25	0.8156	0.0026
UBA-37823	RCNZ18200		1664	30	0.8129	0.0031
UBA-37824	RCNZ18106		1666	28	0.8126	0.0028
UBA-37825	RCNZ18119		1301	26	0.8504	0.0028
UBA-37826	RCNZ1835		1373	26	0.8429	0.0027
UBA-37827	RCNZ1829B		1831	25	0.7962	0.0025
UBA-37828	RCNZ1834		1845	32	0.7948	0.0031
UBA-37829	RCNZ1813		1781	33	0.8012	0.0033
UBA-37830	RCNZ1816B		1996	25	0.7800	0.0024
UBA-37831	RCNZ18125		1998	36	0.7798	0.0035
UBA-37832	RCNZ18123		2020	36	0.7777	0.0035
UBA-37833	RCNZ1821		2118	32	0.7682	0.0030
UBA-37834	RCNZ18201		2152	34	0.7650	0.0033

Information about radiocarbon calibration

RADIOCARBON CALIBRATION PROGRAM*

CALIB REV7.0.0

Copyright 1986-2013 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

37817

UBA-37817

Radiocarbon Age BP 693 +/- 24

Calibration data set: intcal13.14c

% area enclosed cal AD age ranges

68.3 (1 sigma) cal AD 1275- 1297

95.4 (2 sigma) cal AD 1268- 1304

1364- 1384

Reimer et al. 2013

relative area under
probability distribution

1.000

0.826

0.174

37818

UBA-37818

Radiocarbon Age BP 2224 +/- 27

Calibration data set: intcal13.14c

% area enclosed cal AD age ranges

68.3 (1 sigma) cal BC 362- 351

300- 227

224- 210

95.4 (2 sigma) cal BC 378- 337

329- 204

Reimer et al. 2013

relative area under
probability distribution

0.103

0.770

0.127

0.188

0.812

37819

UBA-37819

Radiocarbon Age BP 1391 +/- 24

Calibration data set: intcal13.14c

% area enclosed cal AD age ranges

68.3 (1 sigma) cal AD 638- 661

95.4 (2 sigma) cal AD 611- 667

Reimer et al. 2013

relative area under
probability distribution

1.000

1.000

37820

UBA-37820

Radiocarbon Age BP 1419 +/- 24

Calibration data set: intcal13.14c

% area enclosed cal AD age ranges

68.3 (1 sigma) cal AD 617- 650

95.4 (2 sigma) cal AD 597- 658

Reimer et al. 2013

relative area under
probability distribution

1.000

1.000

37821

UBA-37821

Radiocarbon Age BP 1361 +/- 23

Calibration data set: intcal13.14c

% area enclosed cal AD age ranges

68.3 (1 sigma) cal AD 651- 667

95.4 (2 sigma) cal AD 640- 684

Reimer et al. 2013

relative area under
probability distribution

1.000

1.000

37822

UBA-37822

Radiocarbon Age BP 1637 +/- 25

Calibration data set: intcal13.14c

% area enclosed cal AD age ranges

68.3 (1 sigma) cal AD 384- 428

95.4 (2 sigma) cal AD 342- 433

459- 467

488- 532

Reimer et al. 2013

relative area under
probability distribution

1.000

0.839

0.011

0.149

37823

UBA-37823

Radiocarbon Age BP 1664 +/- 30

Calibration data set: intcal13.14c

% area enclosed cal AD age ranges

68.3 (1 sigma) cal AD 347- 370

377- 414

95.4 (2 sigma) cal AD 259- 281

324- 429

495- 507

522- 526

Reimer et al. 2013

relative area under
probability distribution

0.319

0.681

0.042

0.944

0.012

0.002

37824

UBA-37824

Radiocarbon Age BP 1666 +/- 28

Calibration data set: intcal13.14c

% area enclosed cal AD age ranges

68.3 (1 sigma) cal AD 347- 370

377- 411

95.4 (2 sigma) cal AD 261- 278

326- 426

Reimer et al. 2013

relative area under
probability distribution

0.339

0.661

0.036

0.964

37825

UBA-37825

Radiocarbon Age BP 1301 +/- 26

Calibration data set: intcal13.14c

% area enclosed cal AD age ranges

68.3 (1 sigma) cal AD 668- 695

700- 710

745- 764

95.4 (2 sigma) cal AD 661- 726

738- 768

Reimer et al. 2013

relative area under
probability distribution

0.525

0.135

0.340

0.683

0.317

37826

UBA-37826

Radiocarbon Age BP 1373 +/- 26

Calibration data set: intcal13.14c

% area enclosed cal AD age ranges

68.3 (1 sigma) cal AD 646- 665

95.4 (2 sigma) cal AD 618- 679

Reimer et al. 2013

relative area under
probability distribution

1.000

1.000

37827

UBA-37827

Radiocarbon Age BP 1831 +/- 25

Calibration data set: intcal13.14c

% area enclosed cal AD age ranges

Reimer et al. 2013

relative area under

		probability distribution
68.3 (1 sigma)	cal AD 138– 199	0.802
	202– 216	0.198
95.4 (2 sigma)	cal AD 91– 98	0.009
	124– 245	0.991
37828		
UBA-37828		
Radiocarbon Age BP 1845 +/- 32		
Calibration data set: intcal13.14c		# Reimer et al. 2013
% area enclosed	cal AD age ranges	relative area under probability distribution
68.3 (1 sigma)	cal AD 130– 216	1.000
95.4 (2 sigma)	cal AD 84– 239	1.000
37829		
UBA-37829		
Radiocarbon Age BP 1781 +/- 33		
Calibration data set: intcal13.14c		# Reimer et al. 2013
% area enclosed	cal AD age ranges	relative area under probability distribution
68.3 (1 sigma)	cal AD 214– 262	0.502
	276– 328	0.498
95.4 (2 sigma)	cal AD 136– 334	1.000
37830		
UBA-37830		
Radiocarbon Age BP 1996 +/- 25		
Calibration data set: intcal13.14c		# Reimer et al. 2013
% area enclosed	cal AD age ranges	relative area under probability distribution
68.3 (1 sigma)	cal BC 38– 9	0.412
	3– cal AD 26	0.518
	cal AD 42– 47	0.070
95.4 (2 sigma)	cal BC 46– cal AD 60	1.000
37831		
UBA-37831		
Radiocarbon Age BP 1998 +/- 36		
Calibration data set: intcal13.14c		# Reimer et al. 2013
% area enclosed	cal AD age ranges	relative area under probability distribution
68.3 (1 sigma)	cal BC 40– cal AD 28	0.896
	cal AD 39– 49	0.104
95.4 (2 sigma)	cal BC 92– 67	0.035
	63– cal AD 78	0.965
37832		
UBA-37832		
Radiocarbon Age BP 2020 +/- 36		
Calibration data set: intcal13.14c		# Reimer et al. 2013
% area enclosed	cal AD age ranges	relative area under probability distribution
68.3 (1 sigma)	cal BC 54– cal AD 27	0.952
	cal AD 41– 47	0.048
95.4 (2 sigma)	cal BC 154– 138	0.021
	113– cal AD 64	0.979
37833		
UBA-37833		

Radiocarbon Age BP	2118 +/- 32	
Calibration data set:	intcal13.14c	# Reimer et al. 2013
% area enclosed	cal AD age ranges	relative area under probability distribution
68.3 (1 sigma)	cal BC 195- 100	1.000
95.4 (2 sigma)	cal BC 345- 322	0.044
	205- 49	0.956

37834

UBA-37834

Radiocarbon Age BP	2152 +/- 34	
Calibration data set:	intcal13.14c	# Reimer et al. 2013
% area enclosed	cal AD age ranges	relative area under probability distribution
68.3 (1 sigma)	cal BC 351- 302	0.385
	210- 158	0.514
	133- 116	0.101
95.4 (2 sigma)	cal BC 357- 281	0.333
	258- 243	0.017
	236- 90	0.635
	73- 60	0.015

References for calibration datasets:

Reimer PJ, Bard E, Bayliss A, Beck JW, Blackwell PG, Bronk Ramsey C, Buck CE, Cheng H, Edwards RL, Friedrich M, Grootes PM, Guilderson TP, Haflidason H, Hajdas I, Hattä C, Heaton TJ, Hogg AG, Hughen KA, Kaiser KF, Kromer B, Manning SW, Niu M, Reimer RW, Richards DA, Scott EM, Southon JR, Turney CSM, van der Plicht J.

IntCal13 and MARINE13 radiocarbon age calibration curves 0-50000 years calBP
Radiocarbon 55(4). DOI: 10.2458/azu_js_rc.55.16947

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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