Dataset 1: no smoothing, K=1

UNIVERSITY OF WASHINGTON
QUATERNARY ISOTOPE LAB
RADIOCARBON CALIBRATION PROGRAM REV 3.0.3A
Stuiver, M. and Reimer, P.J., 1993, Radiocarbon, 35, p. 215-230.

Calibration file(s): INTCAL93.14C
Listing file: frmngtn.TXT

80450 FST2-RC1

Radiocarbon Age BP 7310 ± 60 Reference(s)
Calibrated age(s) cal BP 8105, 8093, 8074 (Pearson et al., 1993 and
8033, 8019 Linick et al., 1986)

Delta 14C per mil 73.1, 71.6, 69.2, 63.9, 62.1

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 8131 - 7992
two Sigma** cal BP 8171 - 7944

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 8131 (8105, 8093, 8074, 8033, 8019) 7992
2σ cal BP 8171 (8105, 8093, 8074, 8033, 8019) 7944

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 8128 - 8057	.61
	8047 - 7999	.39
95.4 (2σ)	cal BP 8171 - 7944	1.00

80451 FST2-RC2
std
Radiocarbon Age BP 3650 ± 70 Reference(s)
Calibrated age(s) cal BP 3968, 3952, 3930 (Pearson and Stuiver, 1993)

Delta 14C per mil 26.1, 24.1, 21.4

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 4082 - 4025 3999 - 3859
two Sigma** cal BP 4147 - 3822 3791 - 3760
3760 - 3730

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 4082 (3968, 3952, 3930) 3859
2σ cal BP 4147 (3968, 3952, 3930) 3730

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 4082 - 4026	.27

		3998 - 3863	.73
95.4 (2σ)	cal BP	4149 - 3820	.95
		3793 - 3727	.05

80493 FST2-RC2
AMS
Radiocarbon Age BP 1750 ± 50 Reference(s)
Calibrated age(s) cal BP 1690, 1661, 1626 (Stuiver and Pearson, 1993)

Delta 14C per mil -13.3, -16.7, -20.9

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 1711 - 1568
two Sigma** cal BP 1806 - 1533

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 1711 (1690, 1661, 1626) 1568
2σ cal BP 1806 (1690, 1661, 1626) 1533

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 1707 - 1602	.88
	1593 - 1575	.12
95.4 (2σ)	cal BP 1803 - 1776	.03
	1754 - 1535	.97

80452 FST3-RC1

Radiocarbon Age BP 1200 ± 40 Reference(s)
Calibrated age(s) cal BP 1078 (Stuiver and Pearson, 1993)

Delta 14C per mil -18.8

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 1168 - 1062
two Sigma** cal BP 1232 - 1210 1187 - 1051
1046 - 987

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 1168 (1078) 1062
2σ cal BP 1232 (1078) 987

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 1162 - 1066	1.00
95.4 (2σ)	cal BP 1234 - 1208	.04
	1188 - 1051	.84
	1047 - 986	.13

80453 FST3-RC2

Radiocarbon Age BP 8350 ± 80
Calibrated age(s) cal BP 9375

Reference(s)
(Pearson et al., 1993 and Linick et al., 1986)

Delta 14C per mil 99.5

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 9438 - 9245
two Sigma** cal BP 9486 - 9183 9178 - 9147
9133 - 9088 9072 - 9043

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 9438 (9375) 9245
2σ cal BP 9486 (9375) 9043

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 9437 - 9248	1.00
95.4 (2σ)	cal BP 9485 - 9185	.89
	9177 - 9148	.03
	9133 - 9089	.05
	9071 - 9044	.03

80454 FST3-RC3

Radiocarbon Age BP 7480 ± 70
Calibrated age(s) cal BP 8304, 8268, 8251, 8229, 8203

Reference(s)
(Pearson et al., 1993 and Linick et al., 1986)

Delta 14C per mil 76.4, 71.7, 69.5, 66.6, 63.3

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 8335 - 8139
two Sigma** cal BP 8400 - 8398 8377 - 8121

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 8335 (8304, 8268, 8251, 8229, 8203) 8139
2σ cal BP 8400 (8304, 8268, 8251, 8229, 8203) 8121

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 8322 - 8173	1.00
95.4 (2σ)	cal BP 8401 - 8393	.01
	8378 - 8120	.99
	8030 - 8029	.00

80455 FST4-RC1

Radiocarbon Age BP 2440 ± 70 Reference(s)
Calibrated age(s) cal BP 2460, 2384, 2377 (Stuiver and Pearson, 1993)
(Pearson and Stuiver, 1993)

Delta 14C per mil -6.0, -15.1, -16.0

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 2713 - 2569 2552 - 2351
two Sigma** cal BP 2743 - 2334

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 2713 (2460, 2384, 2377) 2351
2σ cal BP 2743 (2460, 2384, 2377) 2334

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 2709 - 2627	.33
	2605 - 2594	.04
	2499 - 2354	.63
95.4 (2σ)	cal BP 2717 - 2348	1.00

81828 FST5a-RC1

Radiocarbon Age BP 840 ± 50 Reference(s)
Calibrated age(s) cal BP 728 (Stuiver and Pearson, 1993)

Delta 14C per mil -16.3

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 782 - 681
two Sigma** cal BP 905 - 851 836 - 805
797 - 665

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 782 (728) 681
2σ cal BP 905 (728) 665

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 783 - 684	1.00
95.4 (2σ)	cal BP 904 - 853	.11
	835 - 806	.06
	797 - 665	.83

81829 FST5b-RC1

Radiocarbon Age BP 370 ± 50 Reference(s)

Calibrated age(s) cal BP 462, 341, 339 (Stuiver and Pearson, 1993)

Delta 14C per mil 9.9, -4.8, -5.0

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 497 - 420 414 - 315
two Sigma** cal BP 512 - 299

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 497 (462, 341, 339) 315
2σ cal BP 512 (462, 341, 339) 299

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 481 - 427	.45
	388 - 320	.55
95.4 (2σ)	cal BP 502 - 311	1.00

81830 FST5b-RC2

Radiocarbon Age BP 1050 ± 50 Reference(s)
Calibrated age(s) cal BP 945 (Stuiver and Pearson, 1993)

Delta 14C per mil -16.2

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 978 - 927
two Sigma** cal BP 1060 - 908 841 - 840
801 - 800

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 978 (945) 927
2σ cal BP 1060 (945) 800

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 1053 - 1041	.09
	991 - 921	.91
95.4 (2σ)	cal BP 1064 - 900	.94
	862 - 830	.04
	810 - 795	.02

81831 FST5b-RC3
-
Radiocarbon Age BP 2340 ± 60 Reference(s)
Calibrated age(s) cal BP 2344 (Stuiver and Pearson, 1993)

Delta 14C per mil -7.5

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 2357 - 2326
two Sigma** cal BP 2701 - 2686 2662 - 2660
2477 - 2302 2259 - 2157

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 2357 (2344) 2326
2σ cal BP 2701 (2344) 2157

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 2464 - 2309	.87
	2235 - 2204	.13
95.4 (2σ)	cal BP 2707 - 2631	.08
	2493 - 2281	.69
	2280 - 2150	.23

81832 FST5c-RC1

Radiocarbon Age BP 3390 ± 50 Reference(s)
Calibrated age(s) cal BP 3629 (Pearson and Stuiver, 1993)

Delta 14C per mil 17.3

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 3690 - 3568
two Sigma** cal BP 3811 - 3796 3723 - 3474

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 3689 (3629) 3567
2σ cal BP 3810 (3629) 3473

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 3691 - 3566	1.00
95.4 (2σ)	cal BP 3808 - 3797	.02
	3721 - 3475	.98

81833 FST5c-RC2

Radiocarbon Age BP 5280 ± 60 Reference(s)
Calibrated age(s) cal BP 6161, 6157, 6080 (Stuiver and Pearson, 1993)
6079, 6027, 6008
5995

Delta 14C per mil 92.1, 91.6, 81.5, 81.3, 74.6
72.1, 70.4

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 6174 - 6136 6112 - 5943
two Sigma** cal BP 6262 - 6255 6201 - 5919

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 6174 (6161, 6157, 6080, 6079, 6027, 6008, 5995) 5943
2σ cal BP 6262 (6161, 6157, 6080, 6079, 6027, 6008, 5995) 5919

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 6170 - 6145	.16
	6100 - 5985	.72
	5971 - 5951	.11
95.4 (2σ)	cal BP 6193 - 5923	1.00

81834 FST5e-RC1

Radiocarbon Age BP 540 ± 60 Reference(s)
Calibrated age(s) cal BP 540 (Stuiver and Pearson, 1993)

Delta 14C per mil -1.9

cal BP age ranges obtained from intercepts (Method A):
one Sigma** cal BP 623 - 617 555 - 514
two Sigma** cal BP 648 - 495

Summary of above:

minimum of cal age ranges (cal ages) maximum of cal age ranges:
1σ cal BP 623 (540) 514
2σ cal BP 648 (540) 495

cal BP age ranges (cal ages as above)
from probability distribution (Method B):

% area enclosed	cal BP age ranges	relative contribution to 1σ or 2σ probabilities
68.3 (1σ)	cal BP 633 - 605	.28
	559 - 510	.72
95.4 (2σ)	cal BP 649 - 492	1.00

References for datasets used:
Stuiver, M and Pearson, GW, 1993, Radiocarbon, 35, 1-23.
Pearson, GW and Stuiver, M, 1993, Radiocarbon, 35, 25-33.
Stuiver, M and Pearson, GW, 1993, Radiocarbon, 35, 1-23.
Bidecadal weighted average of data from:
Pearson, GW, Becker, B, and Qua, F, 1993, Radiocarbon, 35, 93-104.
Linick, TW, Long, A, Damon, PE and Ferguson, CW,

1986, Radiocarbon, 28, 943-953.

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})
[ ] = calibrated with linear extension to calibration curve
0* represents a "negative" age BP
1955* denotes influence of bomb C-14
For cal yrs between 5500-5190 BC an offset of 25 years is possible.
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.