Appendix E:

RADIOMETRIC DATING RESULTS

Beta Analytic, Inc.

Table E-1. Blackbird Creek Site (7NC-J-195D), Radiocarbon Dates (Beta Analytic, Inc.)

Laboratory Sample Number	*Feature*	*Excavation Sample No.*	*Sample Material*	*Analysis*	*Sample Provenience*	*Conventional Radiocarbon Age*	*Calibrated Results (2 sigma)*
Beta-149981	Feature 136	306	charcoal (white oak)	AMS	N211/E422.3, Feature 136 N1/2 base, Str. I-4	2970+/-40 BP	BC 1310 - 1040
Beta-149982	Feature 112	297	charcoal (white oak)	AMS	N210.14/E410.58, Feature 112, Str. II-1	2980+/-40 BP	BC 1360 - 1360 and BC 1320 - 1060
Beta-149983	Feature 140	5080	charcoal (deciduous taxa)	AMS	N211.10/E421.20, Feature 140, Str. I-2	3090+/-40 BP	BC 1430 - 1270
Beta-149984	Feature 145	5216	charcoal (oak)	AMS	N203.56/E458.90, Feature 145 NE1/2, Str. I-1	970+/-40 BP	AD 1000 - 1170
Beta-149985	Feature 39	5000	charcoal (oak)	AMS	N198.80/E442.68, Feature 39, Str. I-2	1770+/-40 BP	AD 140 - 380
Beta-149986	Feature 52	320	charcoal (oak)	AMS	N211.1/E414.84, Feature 52 S1/2, Str. I-1	3020+/-40 BP	BC 1390 - 1130
Beta-149987	Feature 95	5259	charcoal (hickory)	AMS	N212.55/E418.60, Feature 95, Str. II-2	2980+/-40 BP	BC 1360 – 1360 and BC 1320 - 1060
Beta-149988	Feature 96	5007	charcoal (hickory)	AMS	N210.06/E413, Feature 96, Str. I-2	3020+/-60 BP	BC 1410 - 1060
Beta-149989	Feature 159	5236	charcoal (maple)	AMS	N210/E406.31, Feature 159 W1/2, Str. II-2	3020+/-40 BP	BC 1390 - 1130
Beta-149990	Feature 170	5288	charcoal (white oak)	AMS	N214.47/E431.31, Feature 170 W1/2, Str. I-6	2930+/-40 BP	BC 1270 - 1000
Beta 149991	Feature 167	5240	charcoal (white oak)	AMS	N210.47/E403.55, Feature 167 N1/2, Str II-3	3010+/-40 BP	BC 1390 - 1120
Beta-149992	Feature 191	5283	charcoal (hickory)	AMS	N214.3/E428.5, Feature 191 center point, Str. I-3	3010+/-40 BP	BC 1390 - 1120

Table E-2. Blackbird Creek Site (7NC-J-195D), Re-Calibrated Radiocarbon Dates.
Program: CALIB Radiocarbon Calibration Program (Stuiver and Reimer 1993)
Calibration data set: intcal09.14c (Reimer et al. 2009)

Laboratory Sample Number	***Provenience***	***Radiocarbon Age***	***Calibrated Results (1 sigma)***	***Calibrated Results (2 sigma)***
Beta-149981	Feature 136	2970±40	[cal BC 1263: cal BC 1128] 1.	[cal BC 1370: cal BC 1356] 0.014308 [cal BC 1316: cal BC 1052] 0.985692
Beta-149982	Feature 112	2980±40	[cal BC 1289: cal BC 1282] 0.033824 [cal BC 1269: cal BC 1187] 0.643274 [cal BC 1184: cal BC 1153] 0.198247 [cal BC 1147: cal BC 1129] 0.124655	[cal BC 1374: cal BC 1340] 0.049431 [cal BC 1319: cal BC 1110] 0.904878 [cal BC 1103: cal BC 1072] 0.033901 [cal BC 1067: cal BC 1056] 0.011791
Beta-149983	Feature 140	3090±40	[cal BC 1415: cal BC 1368] 0.532961 [cal BC 1359: cal BC 1314] 0.467039	[cal BC 1439: cal BC 1263] 1.
Beta-149984	Feature 145	970±40	[cal AD 1020: cal AD 1050] 0.379898 [cal AD 1083: cal AD 1125] 0.463197 [cal AD 1136: cal AD 1151] 0.15690	[cal AD 995: cal AD 1009] 0.031337 [cal AD 1010: cal AD 1159] 0.968663
Beta-149985	Feature 39	1770±40	[cal AD 217: cal AD 337] 1.	[cal AD 134: cal AD 354] 0.972862 [cal AD 367: cal AD 380] 0.027138
Beta-149986	Feature 52	3020±40	[cal BC 1376: cal BC 1338] 0.25547 [cal BC 1320: cal BC 1252] 0.562585 [cal BC 1240: cal BC 1213] 0.181945	[cal BC 1395: cal BC 1187] 0.918272 [cal BC 1182: cal BC 1154] 0.047913 [cal BC 1145: cal BC 1130] 0.033815
Beta-149987	Feature 95	2980±40	[cal BC 1289: cal BC 1282] 0.033824 [cal BC 1269: cal BC 1187] 0.643274 [cal BC 1184: cal BC 1153] 0.198247 [cal BC 1147: cal BC 1129] 0.124655	[cal BC 1374: cal BC 1340] 0.049431 [cal BC 1319: cal BC 1110] 0.904878 [cal BC 1103: cal BC 1072] 0.033901 [cal BC 1067: cal BC 1056] 0.011791

Laboratory Sample Number	***Provenience***	***Radiocarbon Age***	***Calibrated Results (1 sigma)***	***Calibrated Results (2 sigma)***
Beta-149988	Feature 96	3020±60	[cal BC 1385: cal BC 1331] 0.284605 [cal BC 1326: cal BC 1208] 0.673468 [cal BC 1201: cal BC 1196] 0.020731 [cal BC 1139: cal BC 1135] 0.021197	[cal BC 1419: cal BC 1111] 0.980317 [cal BC 1101: cal BC 1083] 0.014491 [cal BC 1064: cal BC 1057] 0.005193
Beta-149989	Feature 159	3020±40	[cal BC 1376: cal BC 1338] 0.25547 [cal BC 1320: cal BC 1252] 0.562585 [cal BC 1240: cal BC 1213] 0.181945	[cal BC 1395: cal BC 1187] 0.918272 [cal BC 1182: cal BC 1154] 0.047913 [cal BC 1145: cal BC 1130] 0.033815
Beta-149990	Feature 170	2930±40	[cal BC 1208: cal BC 1198] 0.068279 [cal BC 1196: cal BC 1138] 0.410149 [cal BC 1135: cal BC 1055] 0.521572	[cal BC 1264: cal BC 1010] 1.
Beta-149991	Feature 167	3010±40	[cal BC 1372: cal BC 1343] 0.163909 [cal BC 1317: cal BC 1209] 0.826161 [cal BC 1138: cal BC 1135] 0.009929	[cal BC 1386: cal BC 1151] 0.945812 [cal BC 1150: cal BC 1129] 0.054188
Beta-149992	Feature 191	3010±40	[cal BC 1372: cal BC 1343] 0.163909 [cal BC 1317: cal BC 1209] 0.826161 [cal BC 1138: cal BC 1135] 0.009929	[cal BC 1386: cal BC 1151] 0.945812 [cal BC 1150: cal BC 1129] 0.054188

References:

Reimer PJ, Baillie MGL, Bard E, Bayliss A, Beck JW, Blackwell PG, Bronk Ramsey C, Buck CE, Burr GS, Edwards RL, Friedrich M, Grootes PM, Guilderson TP, Hajdas I, Heaton TJ, Hogg AG, Hughen KA, Kaiser KF, Kromer B, McCormac FG, Manning SW, Reimer RW, Richards DA, Southon JR, Talamo S, Turney CSM, van der Plicht J, Weyhenmeyer CE.
2009 IntCal09 and Marine09 radiocarbon age calibration curves, 0–50,000 years cal BP. *Radiocarbon*, Volume 51(4):1111–50.

Stuiver, M., and Reimer, P. J.
1993 Extended 14C Database and Revised CALIB Radiocarbon Program. *Radiocarbon*, Volume 35:215-230.

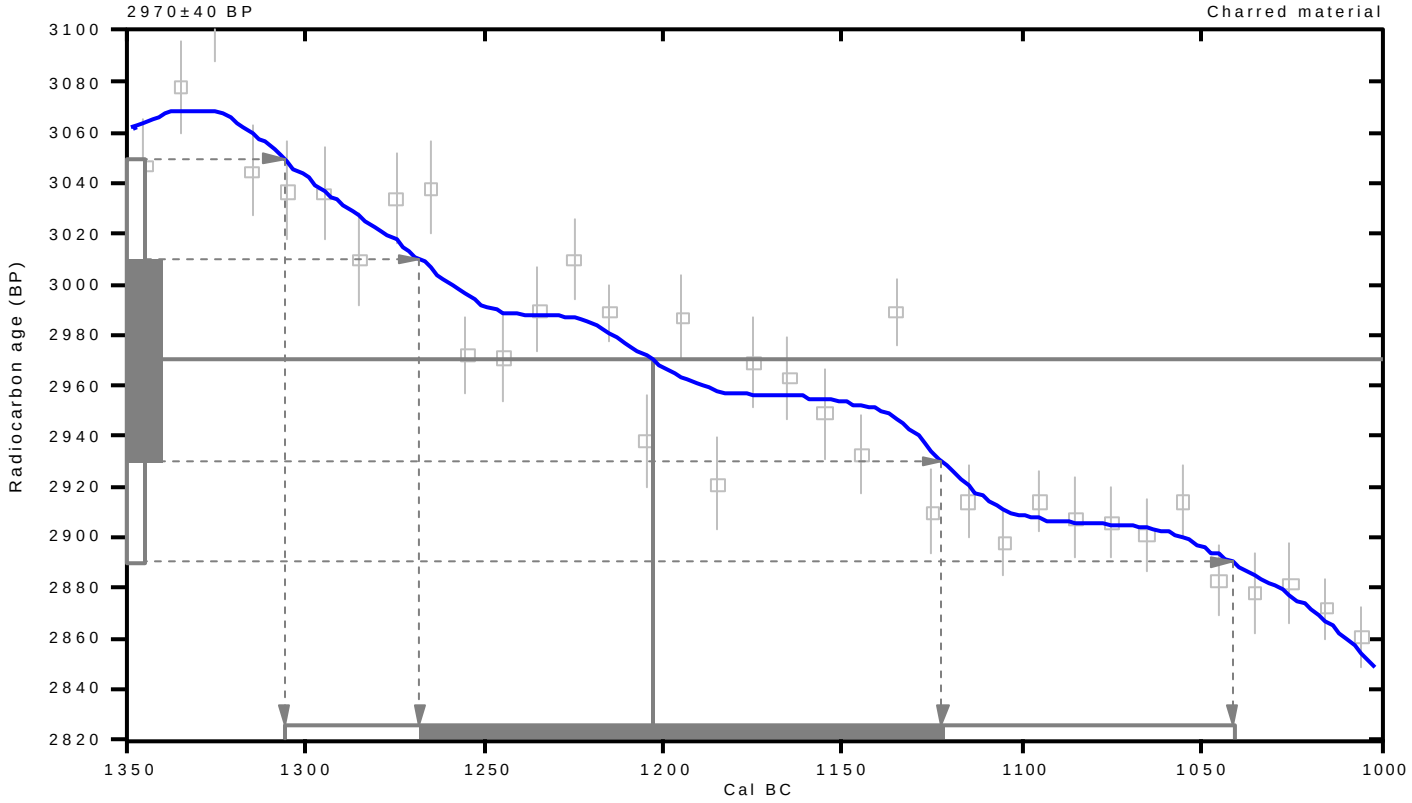
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.2:lab. mult=1)

Laboratory number:	**Beta-149981**
Conventional radiocarbon age:	**2970±40 BP**
2 Sigma calibrated result: (95% probability)	**Cal BC 1310 to 1040 (Cal BP 3260 to 2990)**

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal BC 1200 (Cal BP 3150)
1 Sigma calibrated result: (68% probability)	Cal BC 1270 to 1120 (Cal BP 3220 to 3070)



References:

Database used

Calibration Database

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Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2), p317-322

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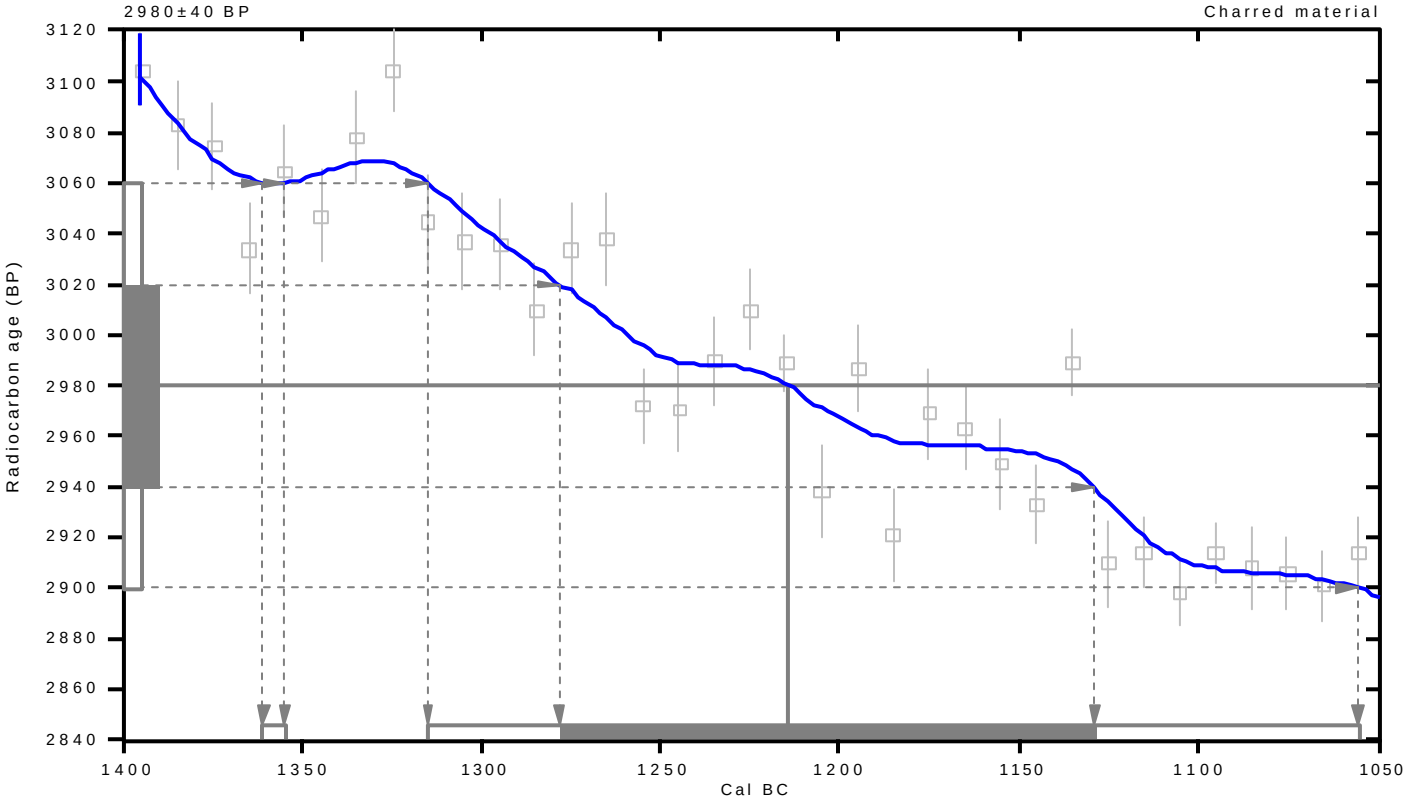
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.1:lab. mult=1)

Laboratory number:	**Beta-149982**
Conventional radiocarbon age:	**2980±40 BP**
2 Sigma calibrated results: (95% probability)	**Cal BC 1360 to 1360 (Cal BP 3310 to 3300) and Cal BC 1320 to 1060 (Cal BP 3260 to 3000)**

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal BC 1210 (Cal BP 3160)
1 Sigma calibrated result: (68% probability)	Cal BC 1280 to 1130 (Cal BP 3230 to 3080)



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Database used

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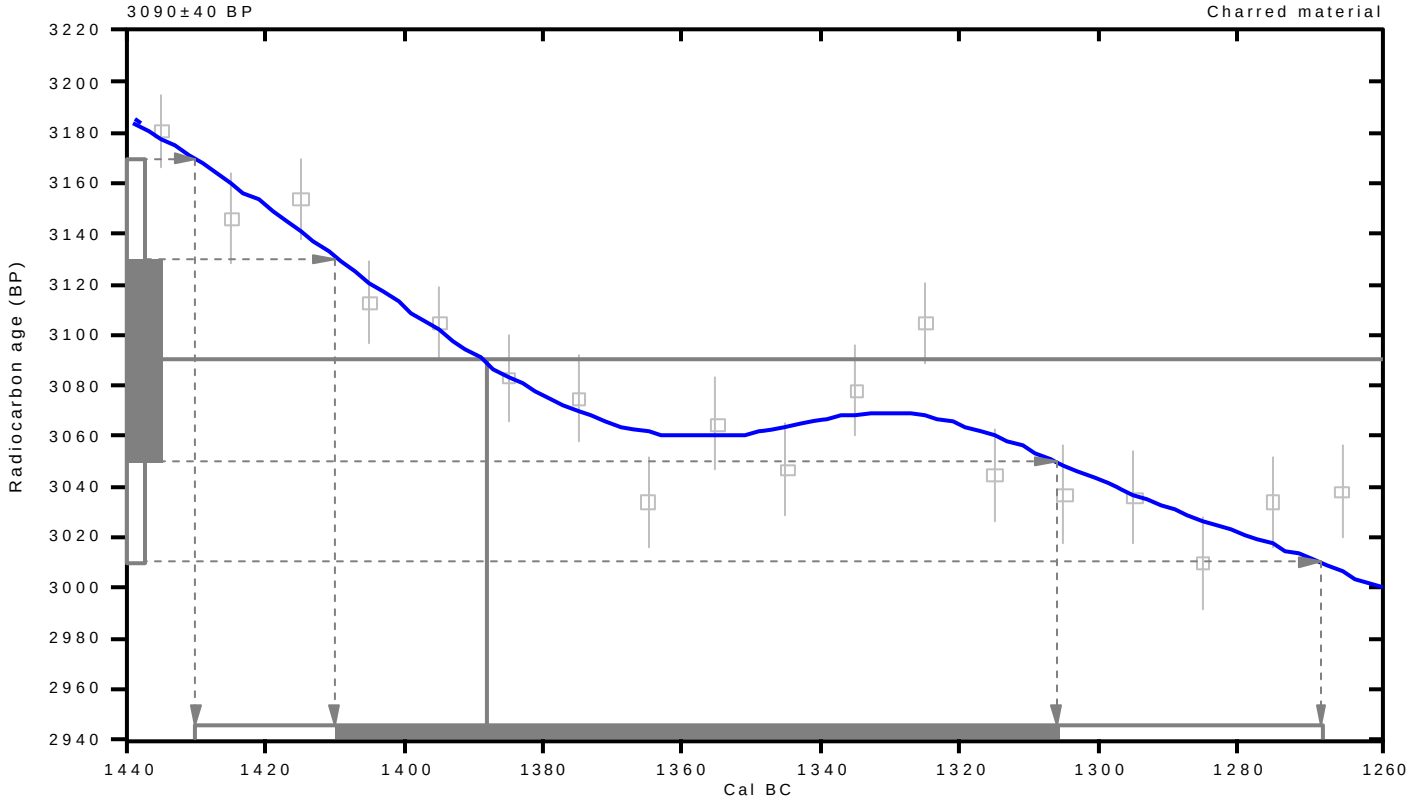
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-28.9:lab. mult=1)

Laboratory number:	**Beta-149983**
Conventional radiocarbon age:	**3090±40 BP**
2 Sigma calibrated result: (95% probability)	**Cal BC 1430 to 1270 (Cal BP 3380 to 3220)**

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal BC 1390 (Cal BP 3340)
1 Sigma calibrated result: (68% probability)	Cal BC 1410 to 1310 (Cal BP 3360 to 3260)



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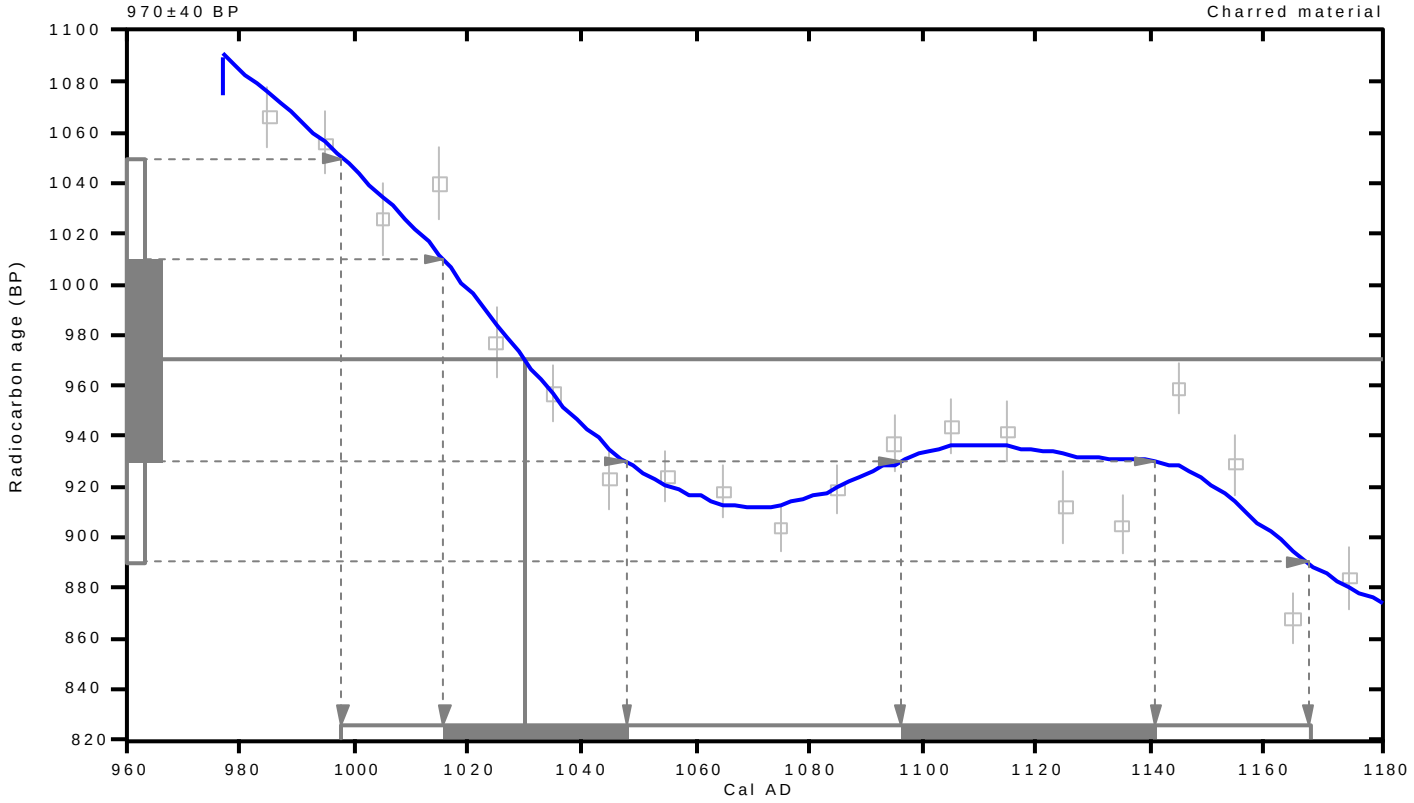
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.1:lab. mult=1)

Laboratory number:	**Beta-149984**
Conventional radiocarbon age:	**970±40 BP**
2 Sigma calibrated result: (95% probability)	**Cal AD 1000 to 1170 (Cal BP 950 to 780)**

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal AD 1030 (Cal BP 920)
1 Sigma calibrated results: (68% probability)	Cal AD 1020 to 1050 (Cal BP 930 to 900) and Cal AD 1100 to 1140 (Cal BP 850 to 810)



References:

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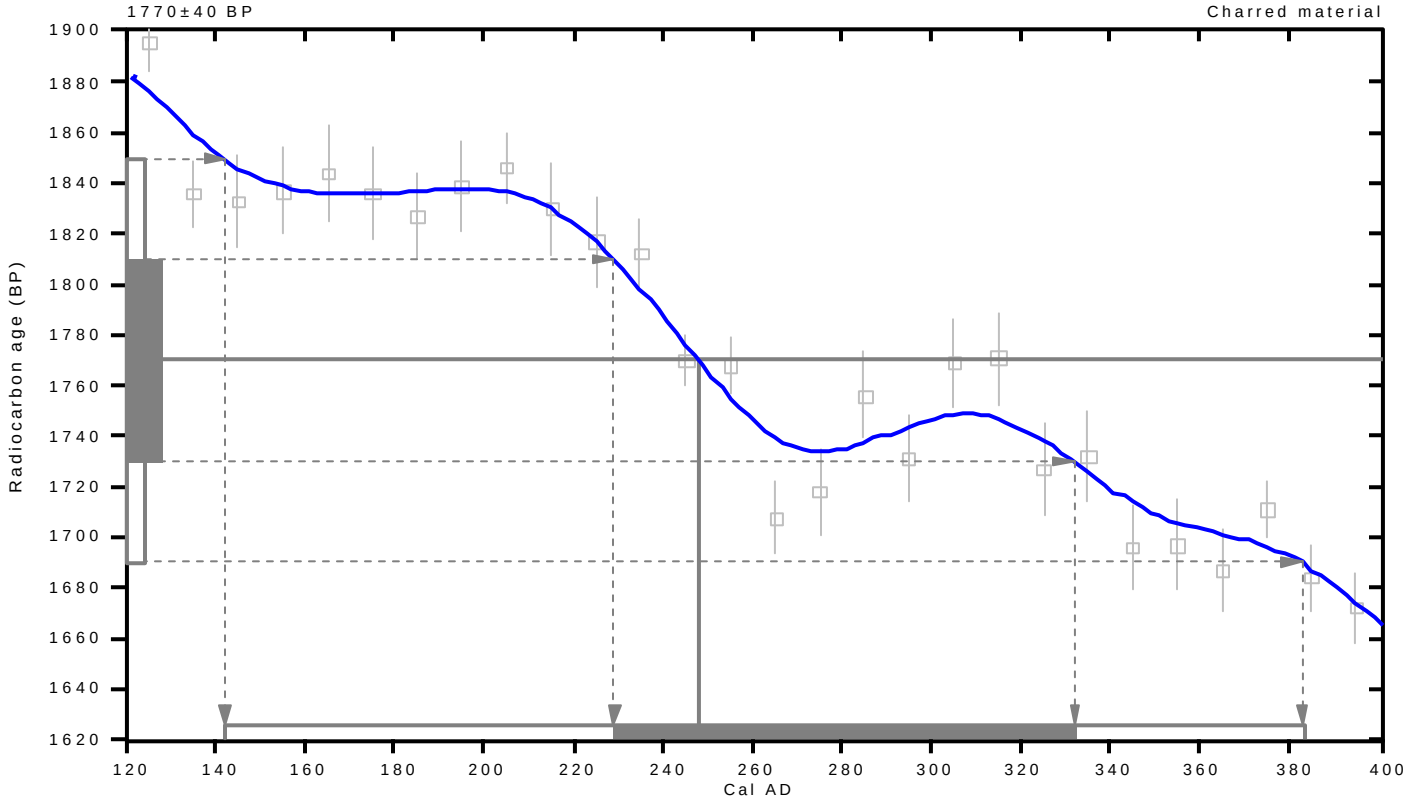
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.8:lab. mult=1)

Laboratory number:	**Beta-149985**
Conventional radiocarbon age:	**1770±40 BP**
2 Sigma calibrated result: (95% probability)	**Cal AD 140 to 380 (Cal BP 1810 to 1570)**

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal AD 250 (Cal BP 1700)
1 Sigma calibrated result: (68% probability)	Cal AD 230 to 330 (Cal BP 1720 to 1620)



References:

Database used

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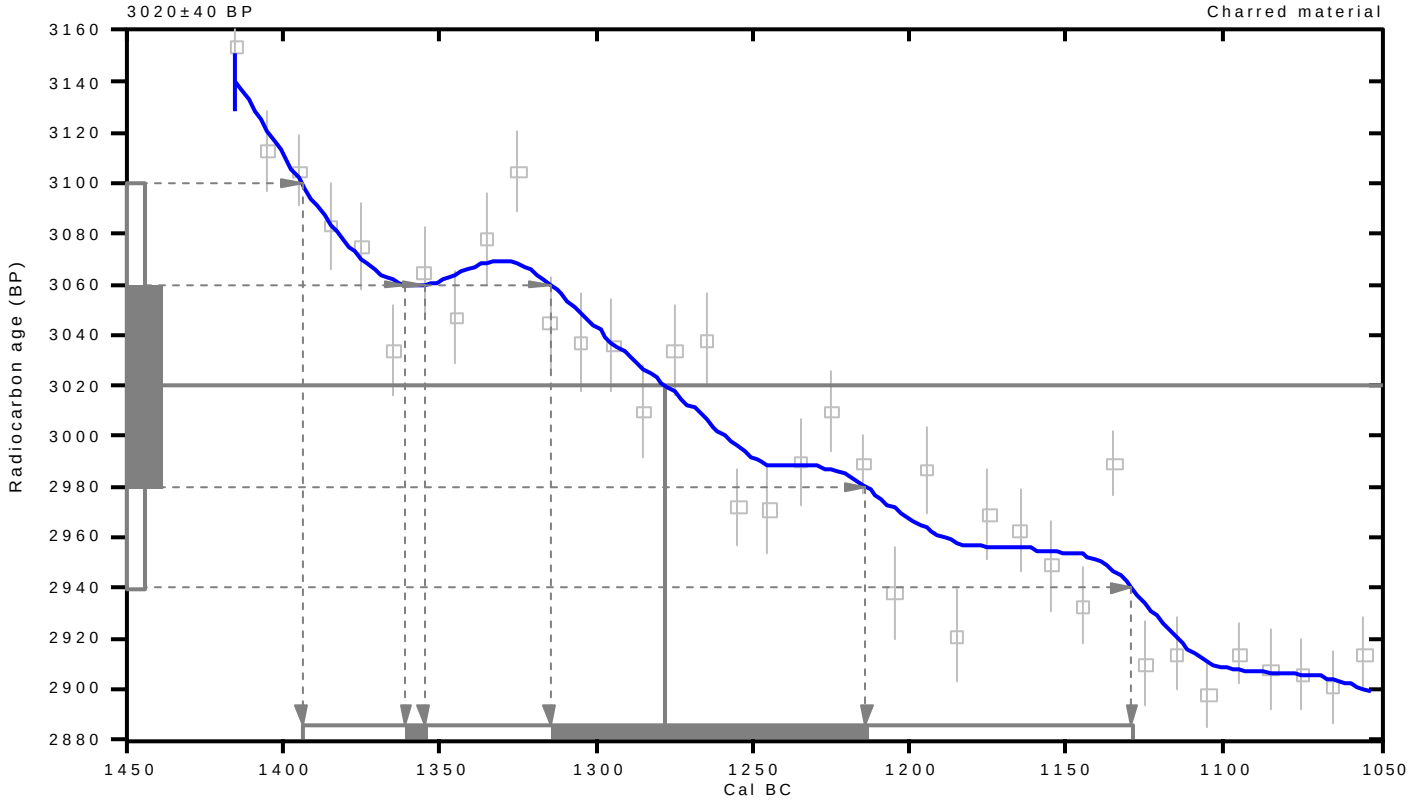
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.2:lab. mult=1)

Laboratory number:	**Beta-149986**
Conventional radiocarbon age:	**3020±40 BP**
2 Sigma calibrated result: (95% probability)	**Cal BC 1390 to 1130 (Cal BP 3340 to 3080)**

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal BC 1280 (Cal BP 3230)
1 Sigma calibrated results: (68% probability)	Cal BC 1360 to 1360 (Cal BP 3310 to 3300) and Cal BC 1320 to 1210 (Cal BP 3260 to 3160)



References:

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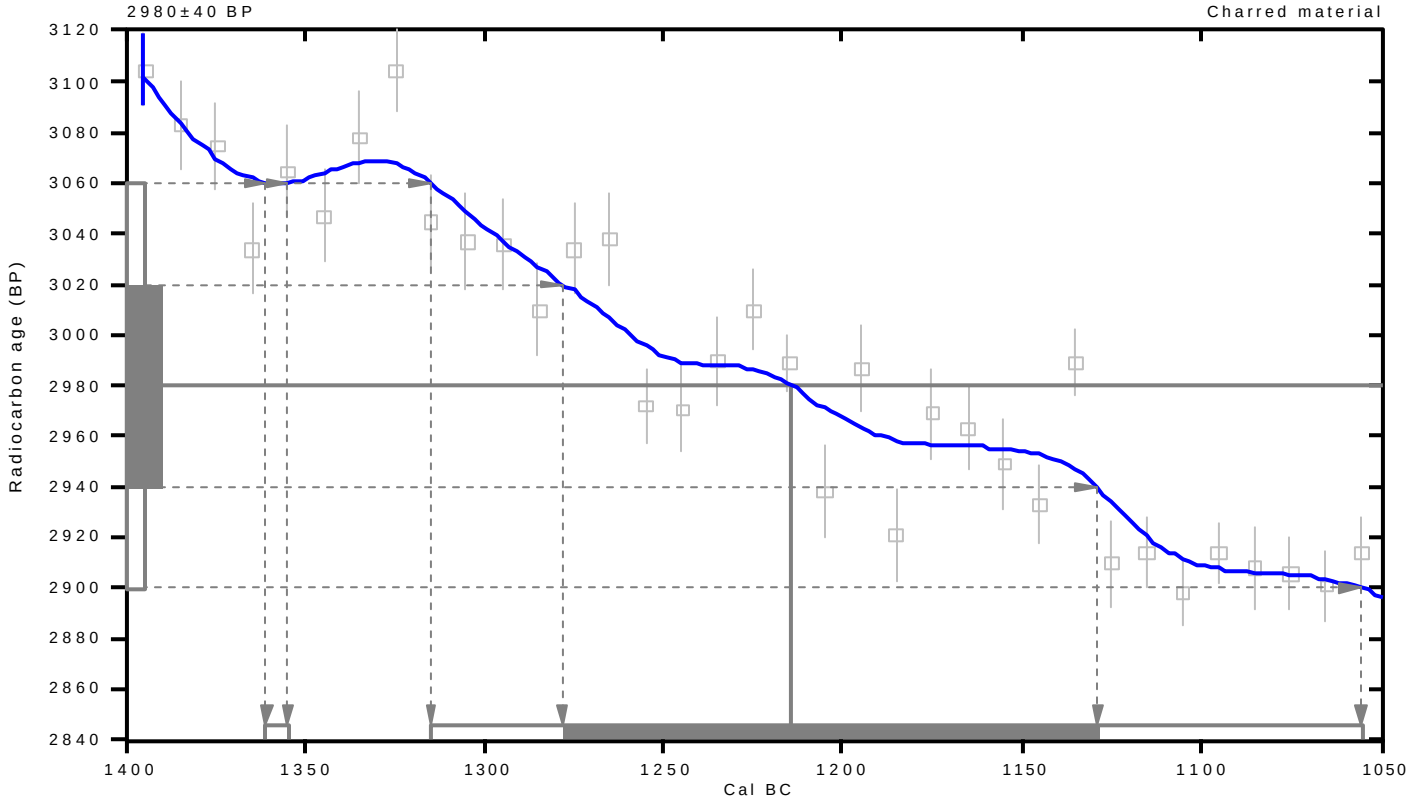
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.6:lab. mult=1)

Laboratory number:	**Beta-149987**
Conventional radiocarbon age:	**2980±40 BP**
2 Sigma calibrated results: (95% probability)	**Cal BC 1360 to 1360 (Cal BP 3310 to 3300) and Cal BC 1320 to 1060 (Cal BP 3260 to 3000)**

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal BC 1210 (Cal BP 3160)
1 Sigma calibrated result: (68% probability)	Cal BC 1280 to 1130 (Cal BP 3230 to 3080)



References:

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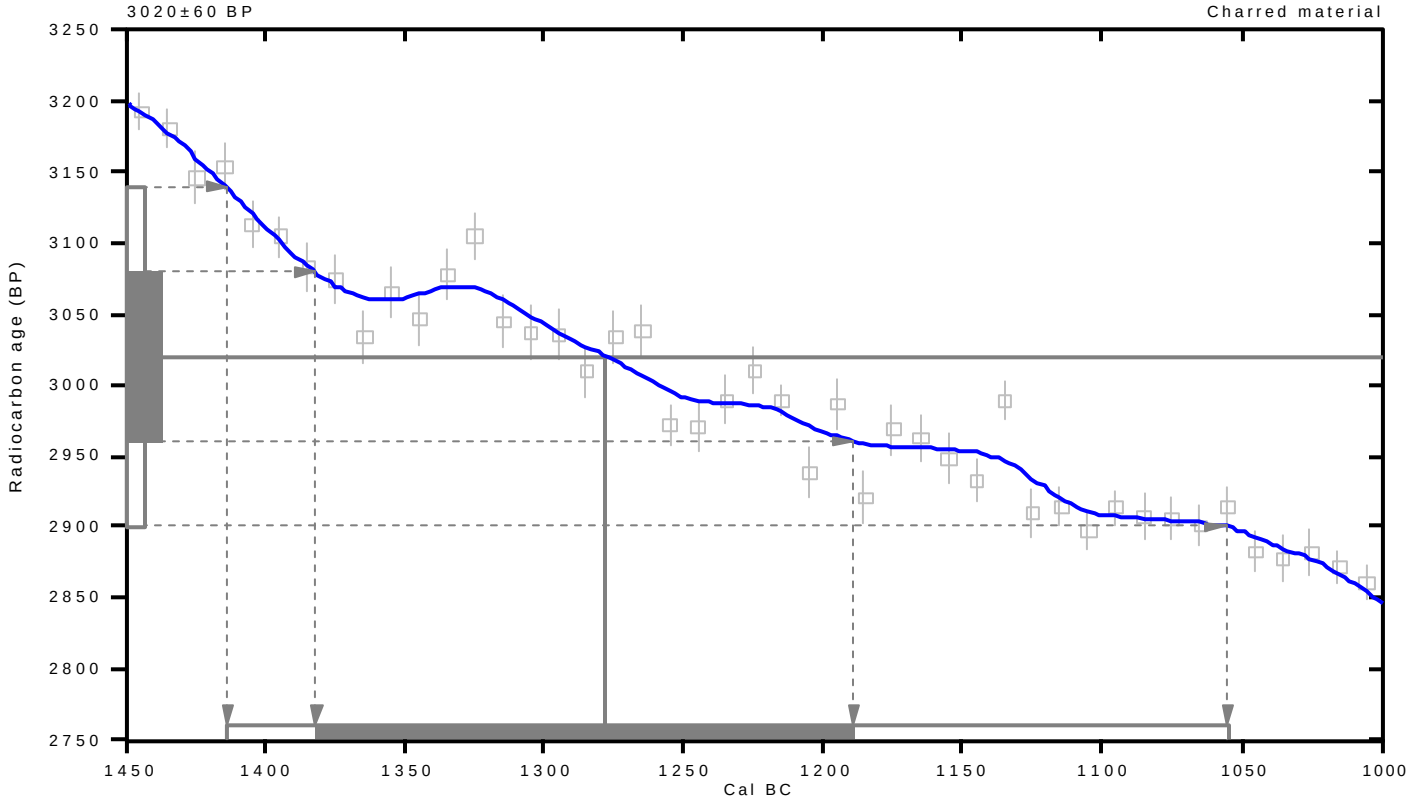
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-23.9:lab. mult=1)

Laboratory number:	**Beta-149988**
Conventional radiocarbon age:	**3020±60 BP**
2 Sigma calibrated result: (95% probability)	**Cal BC 1410 to 1060 (Cal BP 3360 to 3000)**

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal BC 1280 (Cal BP 3230)
1 Sigma calibrated result: (68% probability)	Cal BC 1380 to 1190 (Cal BP 3330 to 3140)



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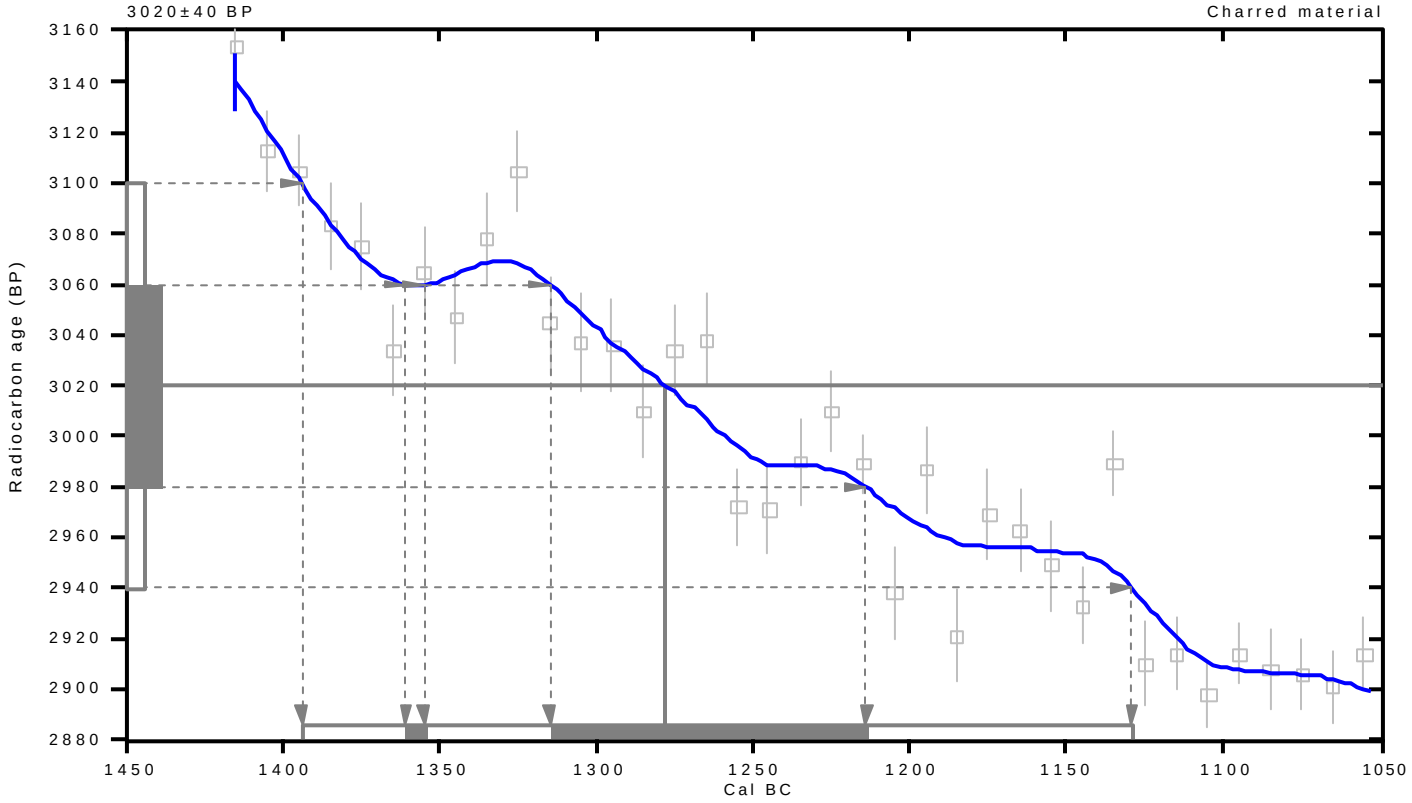
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.3:lab. mult=1)

Laboratory number:	**Beta-149989**
Conventional radiocarbon age:	**3020±40 BP**
2 Sigma calibrated result: (95% probability)	**Cal BC 1390 to 1130 (Cal BP 3340 to 3080)**

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal BC 1280 (Cal BP 3230)
1 Sigma calibrated results: (68% probability)	Cal BC 1360 to 1360 (Cal BP 3310 to 3300) and Cal BC 1320 to 1210 (Cal BP 3260 to 3160)



References:

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Calibration Database

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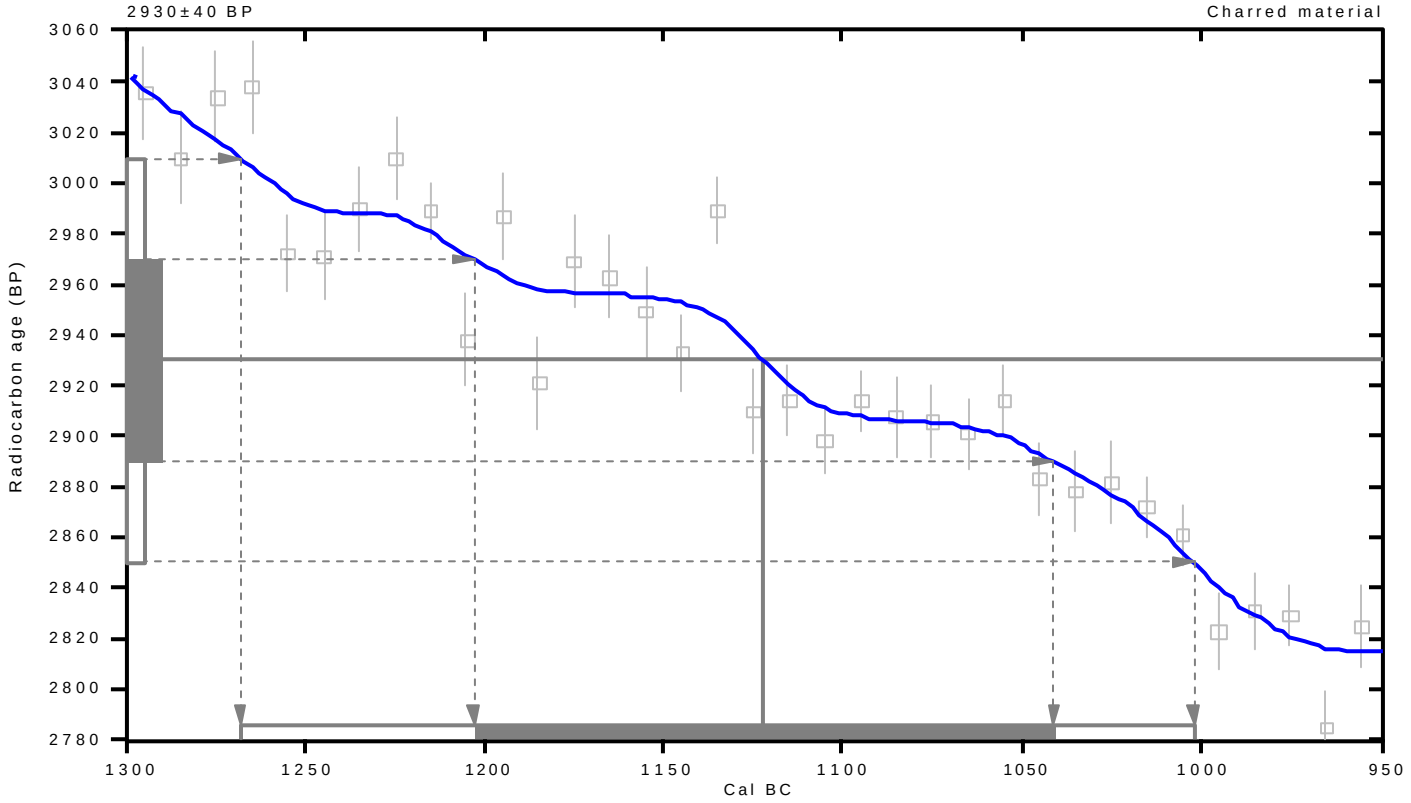
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.1:lab. mult=1)

Laboratory number:	**Beta-149990**
Conventional radiocarbon age:	**2930±40 BP**
2 Sigma calibrated result: (95% probability)	**Cal BC 1270 to 1000 (Cal BP 3220 to 2950)**

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal BC 1120 (Cal BP 3070)
1 Sigma calibrated result: (68% probability)	Cal BC 1200 to 1040 (Cal BP 3150 to 2990)



References:

Database used

Calibration Database

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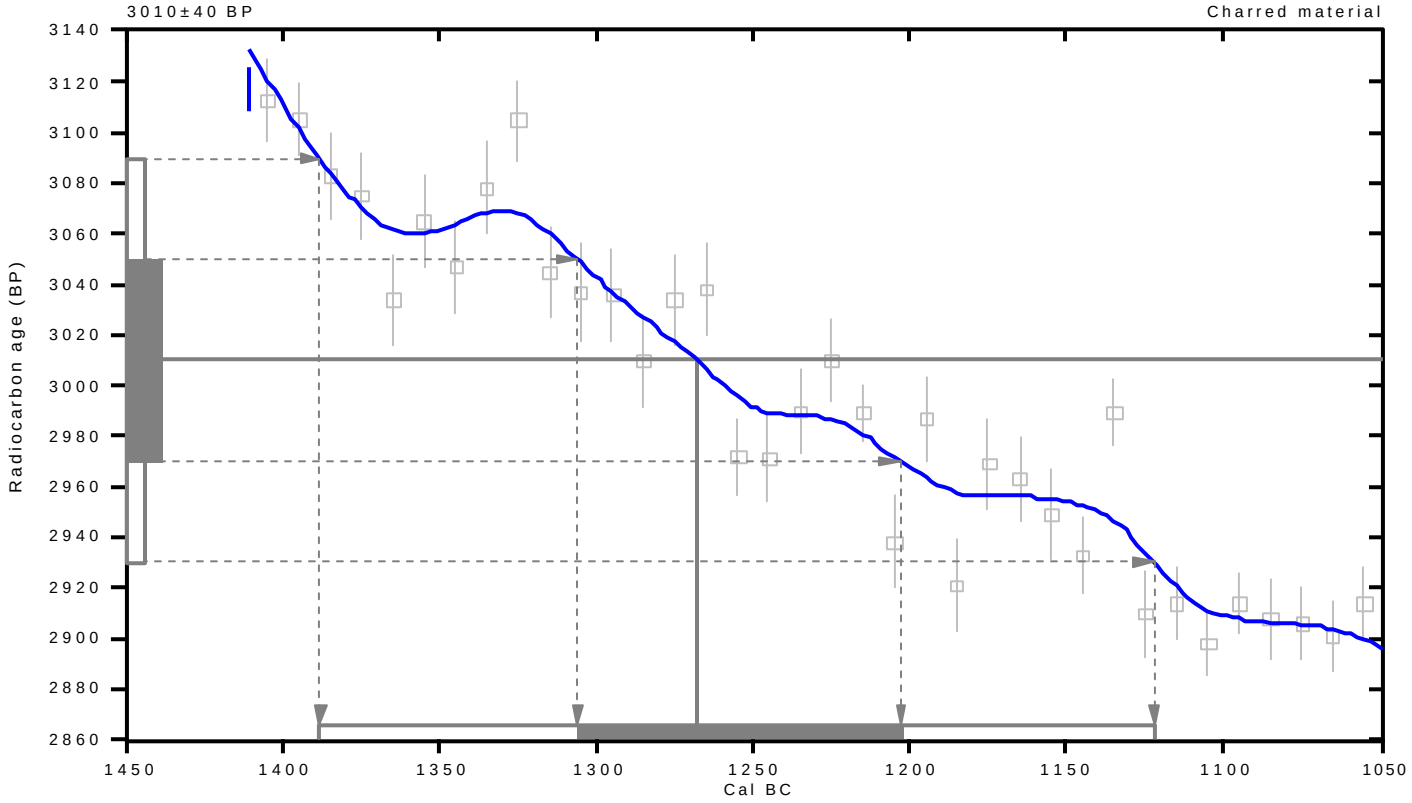
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.7:lab. mult=1)

Laboratory number:	**Beta-149991**
Conventional radiocarbon age:	**3010±40 BP**
2 Sigma calibrated result: (95% probability)	**Cal BC 1390 to 1120 (Cal BP 3340 to 3070)**

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal BC 1270 (Cal BP 3220)
1 Sigma calibrated result: (68% probability)	Cal BC 1310 to 1200 (Cal BP 3260 to 3150)



References:

Database used

Calibration Database

Editorial Comment

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INTCAL98 Radiocarbon Age Calibration

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A Simplified Approach to Calibrating C14 Dates

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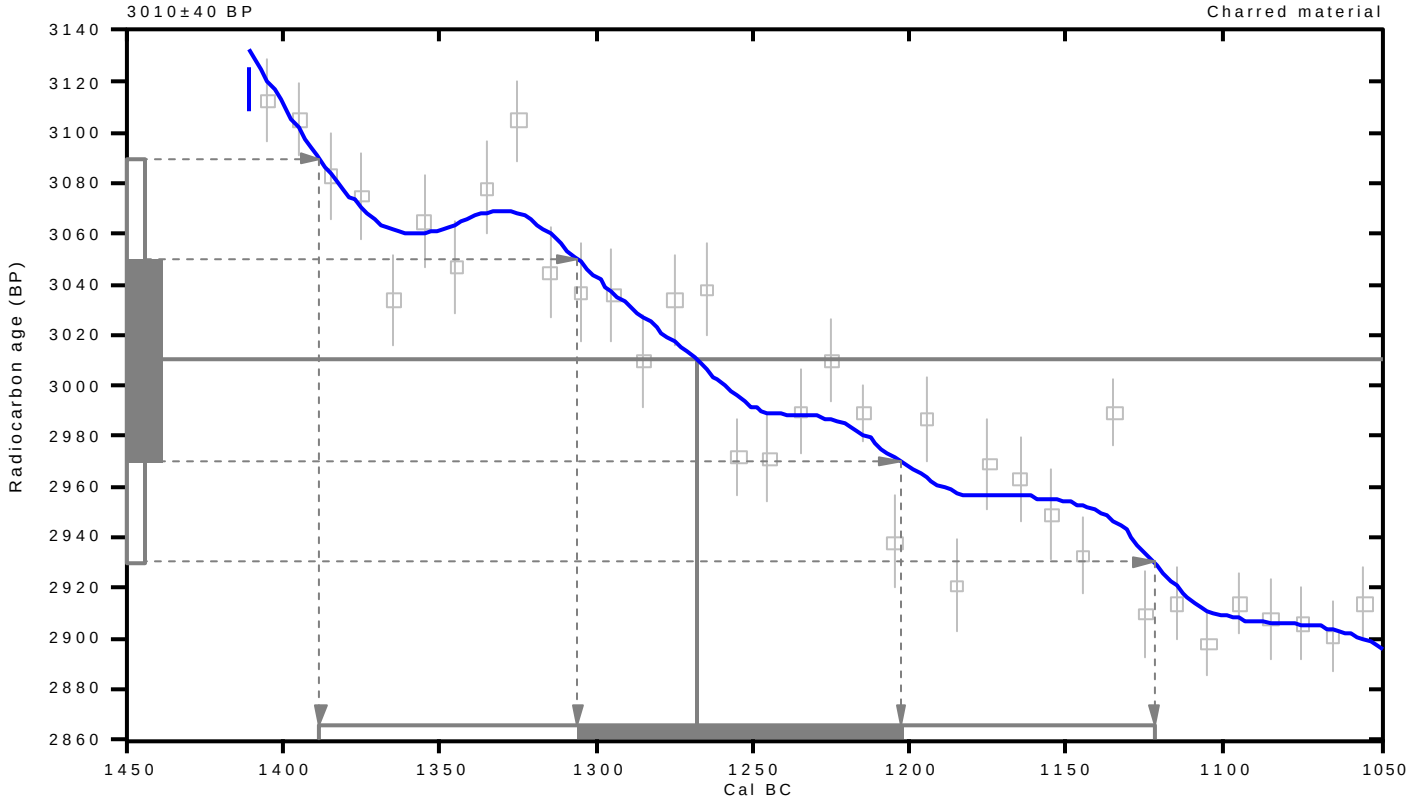
CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.2:lab. mult=1)

Laboratory number:	**Beta-149992**
Conventional radiocarbon age:	**3010±40 BP**
2 Sigma calibrated result: (95% probability)	**Cal BC 1390 to 1120 (Cal BP 3340 to 3070)**

Intercept data

Intercept of radiocarbon age with calibration curve:	Cal BC 1270 (Cal BP 3220)
1 Sigma calibrated result: (68% probability)	Cal BC 1310 to 1200 (Cal BP 3260 to 3150)



References:

Database used

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INTCAL98 Radiocarbon Age Calibration

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Mathematics

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2), p317-322

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