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September 26, 13

Dr. Antonio Marco Suarez Capello
Corporacion Centro Civico Ciudad Alfaro
Av. 10 de Agosto
Edificio ex. sede de la Asamblea Constituyente del Ecuador. Of. Proyecto
Ciudad de los Cerros
Montecristi, Manabi 30902
Ecuador

RE: Radiocarbon Dating Results For Samples CCA-003-JEA-F00373, CCA-003-JEA-F00514, CCA-003-JEA-F00882, CCA-003-JEB-F00756, CCA-003-JEB-F00757

Dear Dr. Capello:

Enclosed are the radiocarbon dating results for five samples recently sent to us. They each provided plenty of carbon for accurate measurements and all the analyses proceeded normally. The report sheet contains the dating result, method used, material type, applied pretreatment and two-sigma calendar calibration result (where applicable) for each sample.

This report has been both mailed and sent electronically, along with a separate publication quality calendar calibration page. This is useful for incorporating directly into your reports. It is also digitally available in Windows metafile (.wmf) format upon request. Calibrations are calculated using the newest (2009) calibration database. References are quoted on the bottom of each calibration page. Multiple probability ranges may appear in some cases, due to short-term variations in the atmospheric 14C contents at certain time periods. Examining the calibration graphs will help you understand this phenomenon. Calibrations may not be included with all analyses. The upper limit is about 42,000 years, the lower limit is about 250 years and some material types are not suitable for calibration (e.g. water).

We analyzed these samples on a sole priority basis. No students or intern researchers who would necessarily be distracted with other obligations and priorities were used in the analyses. We analyzed them with the combined attention of our entire professional staff.

The cost of the analysis was charged to the VISA card provided. Thank you. As always, if you have any questions or would like to discuss the results, don't hesitate to contact me.

Sincerely,

Digital signature on file

BETA ANALYTIC INC.
DR. M.A. TAMERS and MR. D.G. HOOD
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MIAMI, FLORIDA, USA 33155
PH: 305-667-5167 FAX:305-663-0964
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REPORT OF RADIOCARBON DATING ANALYSES

Dr. Antonio Marco Suarez Capello

Report Date: 9/26/2013

Corporacion Centro Civico Ciudad Alfaro

Material Received: 9/12/2013

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 359018	250 +/- 30 BP	-25.6 o/oo	240 +/- 30 BP
SAMPLE : CCA-003-JEA-F00373			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal AD 1640 to 1670 (Cal BP 310 to 280) AND Cal AD 1780 to 1800 (Cal BP 170 to 150) Cal AD 1940 to post 1950 (Cal BP 10 to post 1950)			
Beta - 359019	0 +/- 30 BP	-23.4 o/oo	30 +/- 30 BP
SAMPLE : CCA-003-JEA-F00514			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
Beta - 359021	720 +/- 30 BP	-26.4 o/oo	700 +/- 30 BP
SAMPLE : CCA-003-JEA-F00882			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal AD 1270 to 1300 (Cal BP 680 to 650) AND Cal AD 1370 to 1380 (Cal BP 580 to 570)			
Beta - 359024	2900 +/- 30 BP	-25.4 o/oo	2890 +/- 30 BP
SAMPLE : CCA-003-JEB-F00756			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 1190 to 1180 (Cal BP 3140 to 3130) AND Cal BC 1160 to 1140 (Cal BP 3110 to 3090) Cal BC 1130 to 1000 (Cal BP 3080 to 2950)			

Dates are reported as RCYBP (radiocarbon years before present, "present" = AD 1950). By international convention, the modern reference standard was 95% the 14C activity of the National Institute of Standards and Technology (NIST) Oxalic Acid (SRM 4990C) and calculated using the Libby 14C half-life (5568 years). Quoted errors represent 1 relative standard deviation statistics (68% probability) counting errors based on the combined measurements of the sample, background, and modern reference standards. Measured 13C/12C ratios (delta 13C) were calculated relative to the PDB-1 standard.

The Conventional Radiocarbon Age represents the Measured Radiocarbon Age corrected for isotopic fractionation, calculated using the delta 13C. On rare occasion where the Conventional Radiocarbon Age was calculated using an assumed delta 13C, the ratio and the Conventional Radiocarbon Age will be followed by "*". The Conventional Radiocarbon Age is not calendar calibrated. When available, the Calendar Calibrated result is calculated from the Conventional Radiocarbon Age and is listed as the "Two Sigma Calibrated Result" for each sample.

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REPORT OF RADIOCARBON DATING ANALYSES

Dr. Antonio Marco Suarez Capello

Report Date: 9/26/2013

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 359025	2910 +/- 30 BP	-26.1 o/oo	2890 +/- 30 BP

SAMPLE : CCA-003-JEB-F00757
ANALYSIS : AMS-Standard delivery
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid
2 SIGMA CALIBRATION : Cal BC 1190 to 1180 (Cal BP 3140 to 3130) AND Cal BC 1160 to 1140 (Cal BP 3110 to 3090)
Cal BC 1130 to 1000 (Cal BP 3080 to 2950)

Dates are reported as RCYBP (radiocarbon years before present, "present" = AD 1950). By international convention, the modern reference standard was 95% the 14C activity of the National Institute of Standards and Technology (NIST) Oxalic Acid (SRM 4990C) and calculated using the Libby 14C half-life (5568 years). Quoted errors represent 1 relative standard deviation statistics (68% probability) counting errors based on the combined measurements of the sample, background, and modern reference standards. Measured 13C/12C ratios (delta 13C) were calculated relative to the PDB-1 standard.

The Conventional Radiocarbon Age represents the Measured Radiocarbon Age corrected for isotopic fractionation, calculated using the delta 13C. On rare occasion where the Conventional Radiocarbon Age was calculated using an assumed delta 13C, the ratio and the Conventional Radiocarbon Age will be followed by "*". The Conventional Radiocarbon Age is not calendar calibrated. When available, the Calendar Calibrated result is calculated from the Conventional Radiocarbon Age and is listed as the "Two Sigma Calibrated Result" for each sample.

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

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

Laboratory number: **Beta-359018**

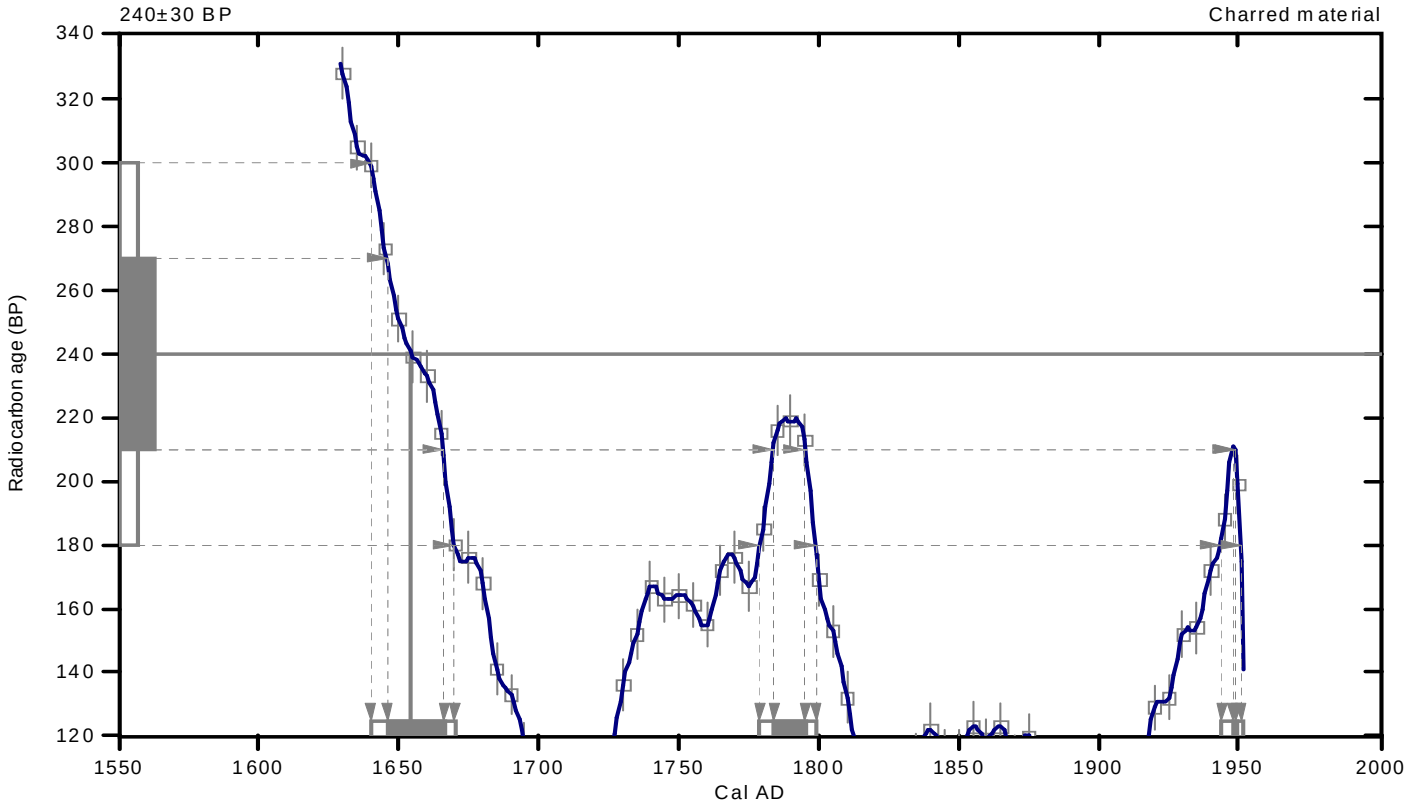
Conventional radiocarbon age: **240±30 BP**

2 Sigma calibrated results: **Cal AD 1640 to 1670 (Cal BP 310 to 280) and**
(95% probability) **Cal AD 1780 to 1800 (Cal BP 170 to 150) and**
Cal AD 1940 to post 1950 (Cal BP 10 to post 1950)

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 1650 (Cal BP 300)

1 Sigma calibrated results: Cal AD 1650 to 1670 (Cal BP 300 to 280) and
(68% probability) Cal AD 1780 to 1800 (Cal BP 170 to 160) and
Cal AD 1950 to 1950 (Cal BP 0 to 0)



References:

Database used

INTCAL09

References to INTCAL09 database

Heaton,et.al.,2009, Radiocarbon 51(4):1151-1164, Reimer,et.al, 2009, Radiocarbon 51(4):1111-1150, Stuiver,et.al,1993, Radiocarbon 35(1):137-189, Oeschger,et.al.,1975,Tellus 27:168-192

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates
Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-23.4:lab. mult=1)

Laboratory number: **Beta-359019**

Conventional radiocarbon age: **30±30 BP**

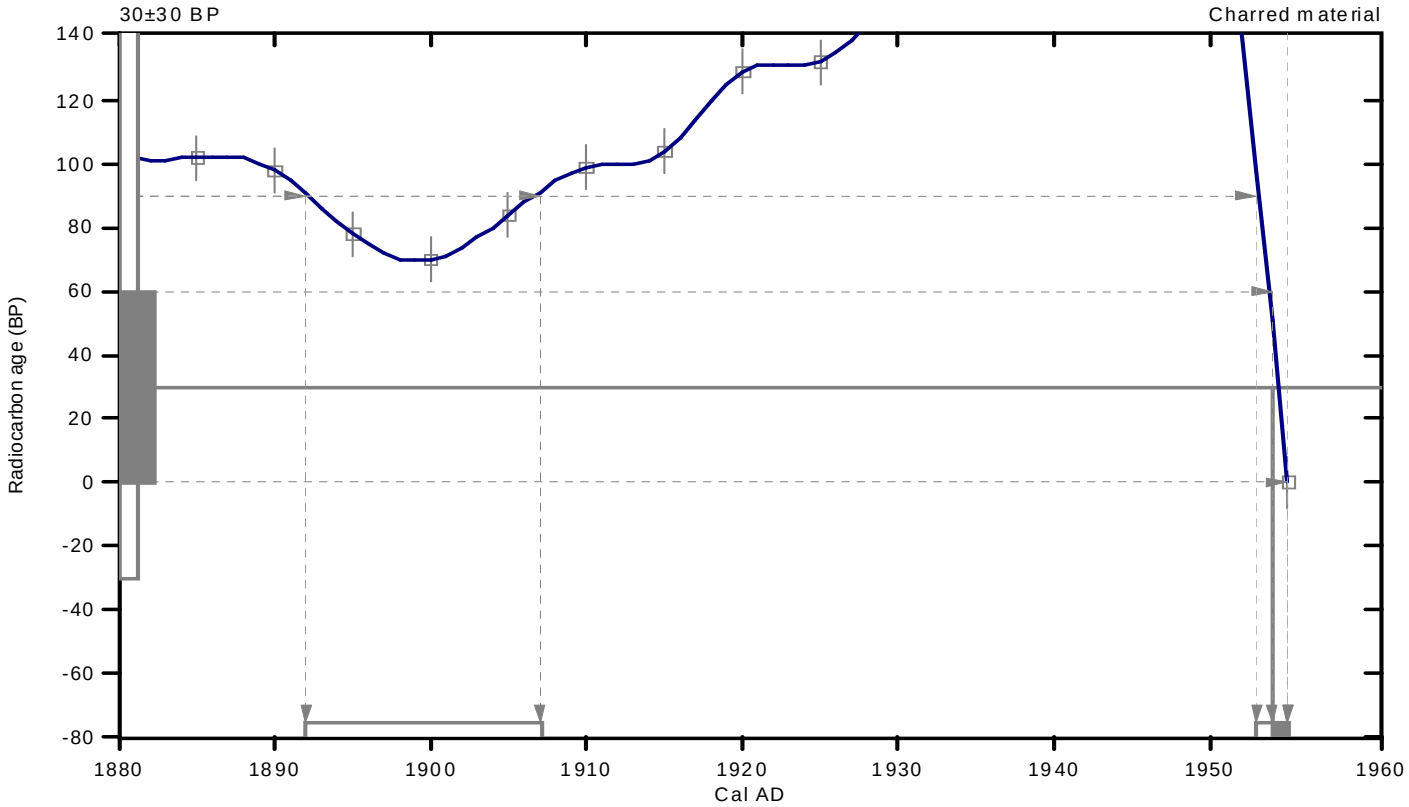
2 Sigma calibrated results[2]: (95% probability) **Cal AD 1890 to 1910 (Cal BP 60 to 40) and Cal AD Post 1950**

[2] 2 Sigma range being quoted is the maximum antiquity based on the minus 2 Sigma range

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD Post 1950

1 Sigma calibrated result: (68% probability) Cal AD Post 1950



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.4:lab. mult=1)

Laboratory number: **Beta-359021**

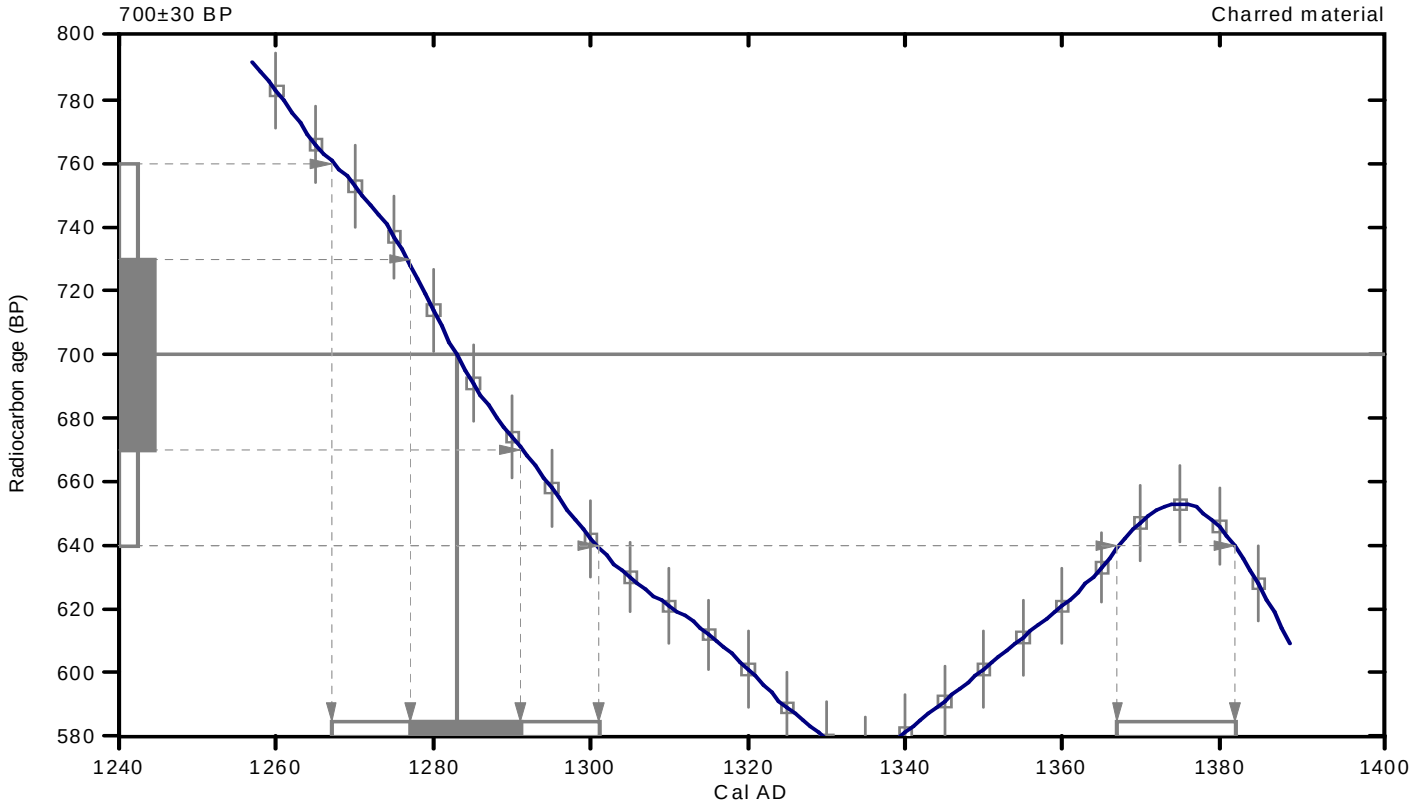
Conventional radiocarbon age: **700±30 BP**

2 Sigma calibrated results: (95% probability) **Cal AD 1270 to 1300 (Cal BP 680 to 650) and Cal AD 1370 to 1380 (Cal BP 580 to 570)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 1280 (Cal BP 670)

1 Sigma calibrated result: (68% probability) Cal AD 1280 to 1290 (Cal BP 670 to 660)



References:

Database used

INTCAL09

References to INTCAL09 database

Heaton,et.al.,2009, Radiocarbon 51(4):1151-1164, Reimer,et.al, 2009, Radiocarbon 51(4):1111-1150, Stuiver,et.al,1993, Radiocarbon 35(1):137-189, Oeschger,et.al.,1975,Tellus 27:168-192

Mathematics used for calibration scenario

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.4:lab. mult=1)

Laboratory number: **Beta-359024**

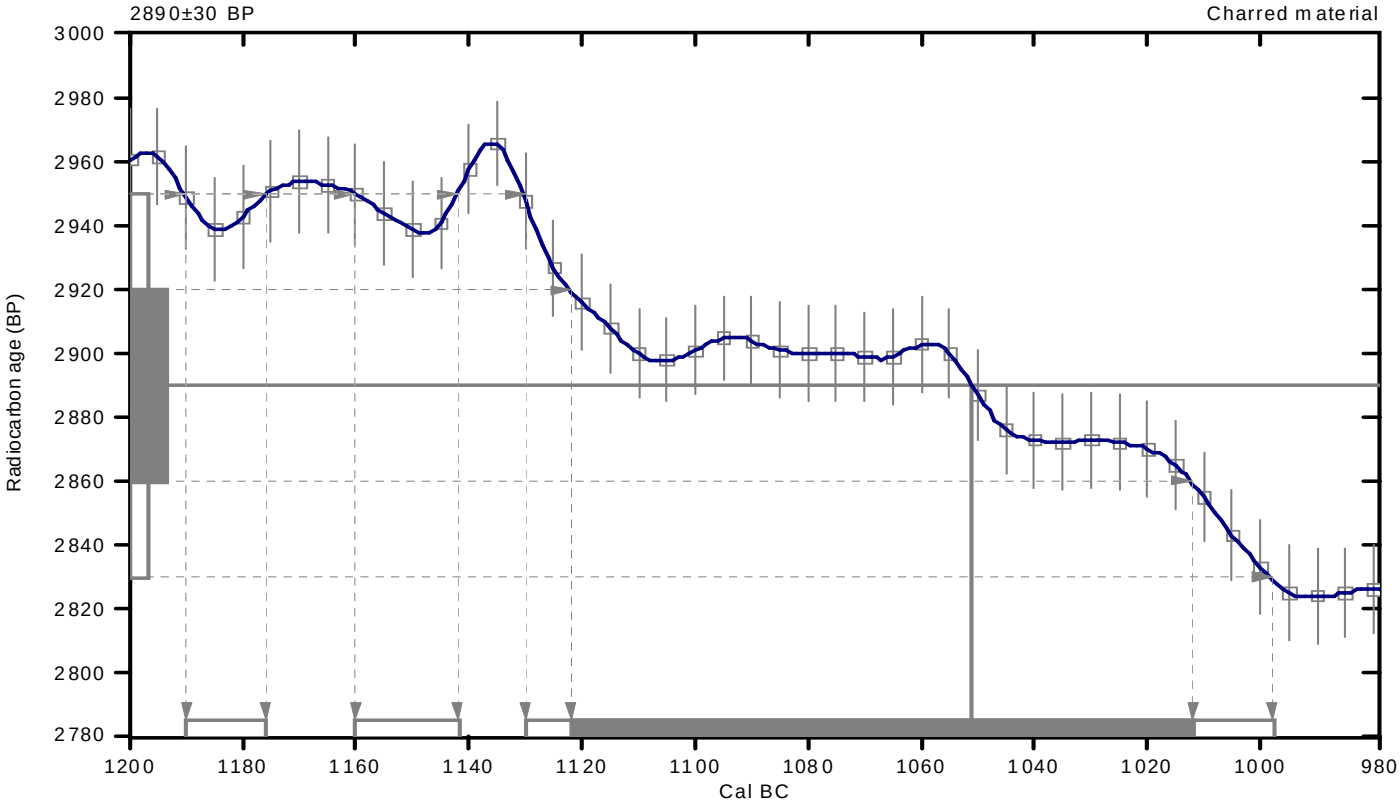
Conventional radiocarbon age: **2890±30 BP**

2 Sigma calibrated results: (95% probability) **Cal BC 1190 to 1180 (Cal BP 3140 to 3130) and Cal BC 1160 to 1140 (Cal BP 3110 to 3090) and Cal BC 1130 to 1000 (Cal BP 3080 to 2950)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 1050 (Cal BP 3000)

1 Sigma calibrated result: (68% probability) Cal BC 1120 to 1010 (Cal BP 3070 to 2960)



References:

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Mathematics used for calibration scenario

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

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

Laboratory number: **Beta-359025**

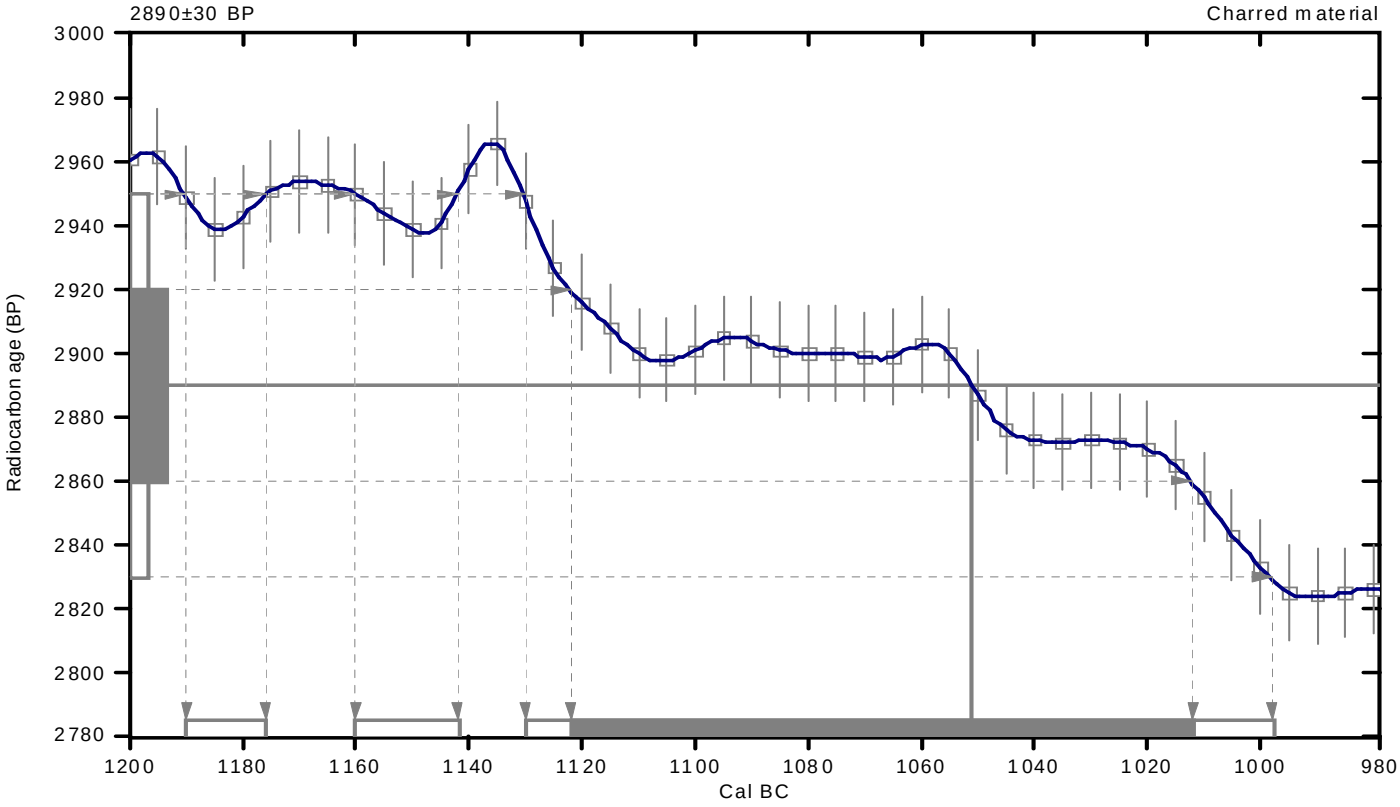
Conventional radiocarbon age: **2890±30 BP**

2 Sigma calibrated results: (95% probability) **Cal BC 1190 to 1180 (Cal BP 3140 to 3130) and Cal BC 1160 to 1140 (Cal BP 3110 to 3090) and Cal BC 1130 to 1000 (Cal BP 3080 to 2950)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 1050 (Cal BP 3000)

1 Sigma calibrated result: (68% probability) Cal BC 1120 to 1010 (Cal BP 3070 to 2960)



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