

UBANo	Sample ID	Material Type	¹⁴ C Age	±	F14C	±	mg Graphite
UBA-46335	BE-C24		151	34	0.9814	0.0041	0.981
UBA-46336	BE-C26		354	29	0.9569	0.0034	0.955
UBA-46337	BE-C27		368	31	0.9552	0.0036	0.948
UBA-46338	BE-C28		220	25	0.9730	0.0030	0.957
UBA-46339	BSE-C13		331	27	0.9596	0.0032	0.936
UBA-46340	BSE-C08		355	26	0.9568	0.0030	0.957

Christoph Spoetl
Inst.Geologie, Univ
Innsbruck
Innrain 52
Innsbruck 6020
Austria



¹⁴CHRONO Centre
Queens University
Belfast
42 Fitzwilliam Street
Belfast BT9 6AX
Northern Ireland

Radiocarbon Date Certificate

Laboratory Identification: UBA-46335

Date of Measurement: 2021-11-10

Site:

Sample ID: BE-C24

Material Dated: wood

Pretreatment: AAA

mg Graphite: 0.981

Submitted by: Christoph Spoetl

Conventional ¹⁴C

Age: 151±34 BP

Fraction
corrected using AMS
 $\delta^{13}\text{C}$

Christoph Spoetl
Inst.Geologie, Univ
Innsbruck
Innrain 52
Innsbruck 6020
Austria



¹⁴CHRONO Centre
Queens University
Belfast
42 Fitzwilliam Street
Belfast BT9 6AX
Northern Ireland

Radiocarbon Date Certificate

Laboratory Identification: UBA-46336

Date of Measurement: 2021-11-10

Site:

Sample ID: BE-C26

Material Dated: wood

Pretreatment: AAA

mg Graphite: 0.955

Submitted by: Christoph Spoetl

Conventional ¹⁴C

Age: 354±29 BP

Fraction using AMS

corrected δ¹³C

Christoph Spoetl
Inst.Geologie, Univ
Innsbruck
Innrain 52
Innsbruck 6020
Austria



¹⁴CHRONO Centre
Queens University
Belfast
42 Fitzwilliam Street
Belfast BT9 6AX
Northern Ireland

Radiocarbon Date Certificate

Laboratory Identification: UBA-46337

Date of Measurement: 2021-11-10

Site:

Sample ID: BE-C27

Material Dated: wood

Pretreatment: AAA

mg Graphite: 0.948

Submitted by: Christoph Spoetl

Conventional ¹⁴C

Age: 368±31 BP

Fraction using AMS

corrected δ¹³C

Christoph Spoetl
Inst.Geologie, Univ
Innsbruck
Innrain 52
Innsbruck 6020
Austria



¹⁴CHRONO Centre
Queens University
Belfast
42 Fitzwilliam Street
Belfast BT9 6AX
Northern Ireland

Radiocarbon Date Certificate

Laboratory Identification: UBA-46338

Date of Measurement: 2021-11-10

Site:

Sample ID: BE-C28

Material Dated: wood

Pretreatment: AAA

mg Graphite: 0.957

Submitted by: Christoph Spoetl

Conventional ¹⁴C

Age: 220±25 BP

Fraction using AMS

corrected δ¹³C

Christoph Spoetl
Inst.Geologie, Univ
Innsbruck
Innrain 52
Innsbruck 6020
Austria



¹⁴CHRONO Centre
Queens University
Belfast
42 Fitzwilliam Street
Belfast BT9 6AX
Northern Ireland

Radiocarbon Date Certificate

Laboratory Identification: UBA-46339

Date of Measurement: 2021-11-10

Site:

Sample ID: BSE-C13

Material Dated: wood

Pretreatment: AAA

mg Graphite: 0.936

Submitted by: Christoph Spoetl

Conventional ¹⁴C

Age: 331±27 BP

Fraction
corrected using AMS
 $\delta^{13}\text{C}$

Christoph Spoetl
Inst.Geologie, Univ
Innsbruck
Innrain 52
Innsbruck 6020
Austria



¹⁴CHRONO Centre
Queens University
Belfast
42 Fitzwilliam Street
Belfast BT9 6AX
Northern Ireland

Radiocarbon Date Certificate

Laboratory Identification: UBA-46340

Date of Measurement: 2021-11-17

Site:

Sample ID: BSE-C08

Material Dated: wood

Pretreatment: AAA

mg Graphite: 0.957

Submitted by: Christoph Spoetl

Conventional ¹⁴C

Age: 355±26 BP

Fraction using AMS

corrected δ¹³C

Marine samples will require re-calibration with the marine calibration curve

6

RADIOCARBON CALIBRATION PROGRAM*

CALIB REV8.2

Copyright 1986-2020 M Stuiver and PJ Reimer

*To be used in conjunction with:

Stuiver, M., and Reimer, P.J., 1993, Radiocarbon, 35, 215-230.

UBA-46335

46335

Radiocarbon Age BP 151 +/- 34

Calibration data set: intcal20.14c

% area enclosed cal AD age ranges

Reimer et al. 2020

relative area under
probability distribution

68.3 (1 sigma)	cal AD 1672- 1696	0.165
	1724- 1744	0.137
	1747- 1766	0.125
	1772- 1778	0.035
	1798- 1812	0.092
	1836- 1879	0.250
95.4 (2 sigma)	1915- 1943	0.195
	cal AD 1666- 1713	0.173
	1717- 1783	0.276
	1795- 1826	0.110
	1830- 1898	0.245
	1904- 1950*	0.195

Median Probability: 1805

UBA-46336

46336

Radiocarbon Age BP 354 +/- 29

Calibration data set: intcal20.14c

% area enclosed cal AD age ranges

Reimer et al. 2020

relative area under
probability distribution

68.3 (1 sigma)	cal AD 1477- 1522	0.492
	1575- 1624	0.508
95.4 (2 sigma)	cal AD 1458- 1529	0.444
	1540- 1547	0.019
	1549- 1635	0.536

Median Probability: 1555

UBA-46337

46337

Radiocarbon Age BP 368 +/- 31

Calibration data set: intcal20.14c

% area enclosed cal AD age ranges

Reimer et al. 2020

relative area under
probability distribution

68.3 (1 sigma)	cal AD 1459- 1518	0.648
	1590- 1620	0.352
95.4 (2 sigma)	cal AD 1452- 1527	0.532
	1551- 1634	0.468

Median Probability: 1522

UBA-46338

46338

Radiocarbon Age BP 220 +/- 25

Calibration data set: intcal20.14c

% area enclosed cal AD age ranges

Reimer et al. 2020

relative area under
probability distribution

68.3 (1 sigma)	cal AD 1648- 1671	0.440
	1767- 1771	0.033
	1779- 1798	0.426
	1943- 1950*	0.101
95.4 (2 sigma)	cal AD 1642- 1683	0.397
	1735- 1756	0.085
	1760- 1802	0.416
	1929- 1934	0.010

1937- 1950*

0.093

Median Probability: 1765

UBA-46339

46339

Radiocarbon Age BP 331 +/- 27

Calibration data set: intcal20.14c

% area enclosed cal AD age ranges

Reimer et al. 2020

relative area under
probability distribution

68.3 (1 sigma) cal AD 1503- 1528

0.263

1541- 1545

0.027

1550- 1598

0.514

1617- 1634

0.196

95.4 (2 sigma) cal AD 1483- 1638

1.000

Median Probability: 1562

UBA-46340

46340

Radiocarbon Age BP 355 +/- 26

Calibration data set: intcal20.14c

% area enclosed cal AD age ranges

Reimer et al. 2020

relative area under
probability distribution

68.3 (1 sigma) cal AD 1477- 1521

0.504

1577- 1622

0.496

95.4 (2 sigma) cal AD 1458- 1528

0.456

1541- 1545

0.007

1550- 1634

0.537

Median Probability: 1556

References for calibration datasets:

Reimer P, Austin WEN, Bard E, Bayliss A, Blackwell PG, Bronk Ramsey C, Butzin M, Edwards RL, Friedrich M, Grootes PM, Guilderson TP, Hajdas I, Heaton TJ, Hogg A, Kromer B, Manning SW, Muscheler R, Palmer JG, Pearson C, van der Plicht J, Reim Richards DA, Scott EM, Southon JR, Turney CSM, Wacker L, Adolphi F, BÃ¼ntgen U, Fahrni S, Fogtmann-Schulz A, Friedrich R, KÃ¼hler P, Kudsk S, Miyake F, Olsen J, Sakamoto M, Sookdeo A, Talamo S. 2020.

The IntCal20 Northern Hemisphere radiocarbon age calibration curve (0-55 cal kB Radiocarbon 62. doi: 10.1017/RDC.2020.41.

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.

Posterior Probability Distributions

