



RADIOCARBON DATING CERTIFICATE

17 December 2013

Laboratory Code SUERC-49725 (GU32420)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL13

Context Reference 2102

Sample Reference 2060

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -23.9 ‰

Radiocarbon Age BP 3035 \pm 32

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

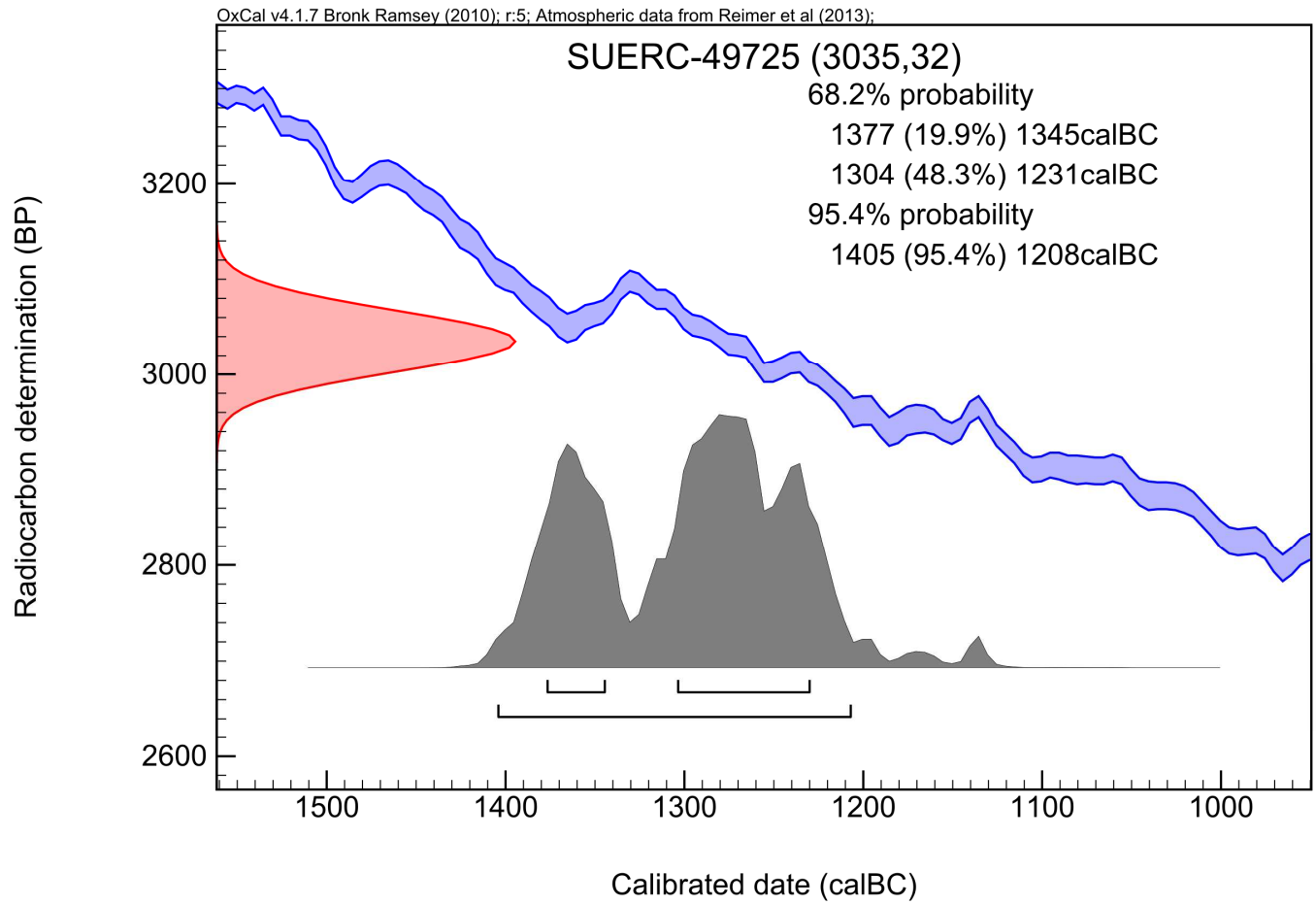
Conventional age and calibration age ranges calculated by :-

Date :-

Checked and signed off by :-

Date :-

Calibration Plot





RADIOCARBON DATING CERTIFICATE

17 December 2013

Laboratory Code SUERC-49726 (GU32421)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL13

Context Reference 104

Sample Reference 44

Material Nutshell : *Corylus avellana*

$\delta^{13}\text{C}$ relative to VPDB -23.8 ‰

Radiocarbon Age BP 8026 \pm 38

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-

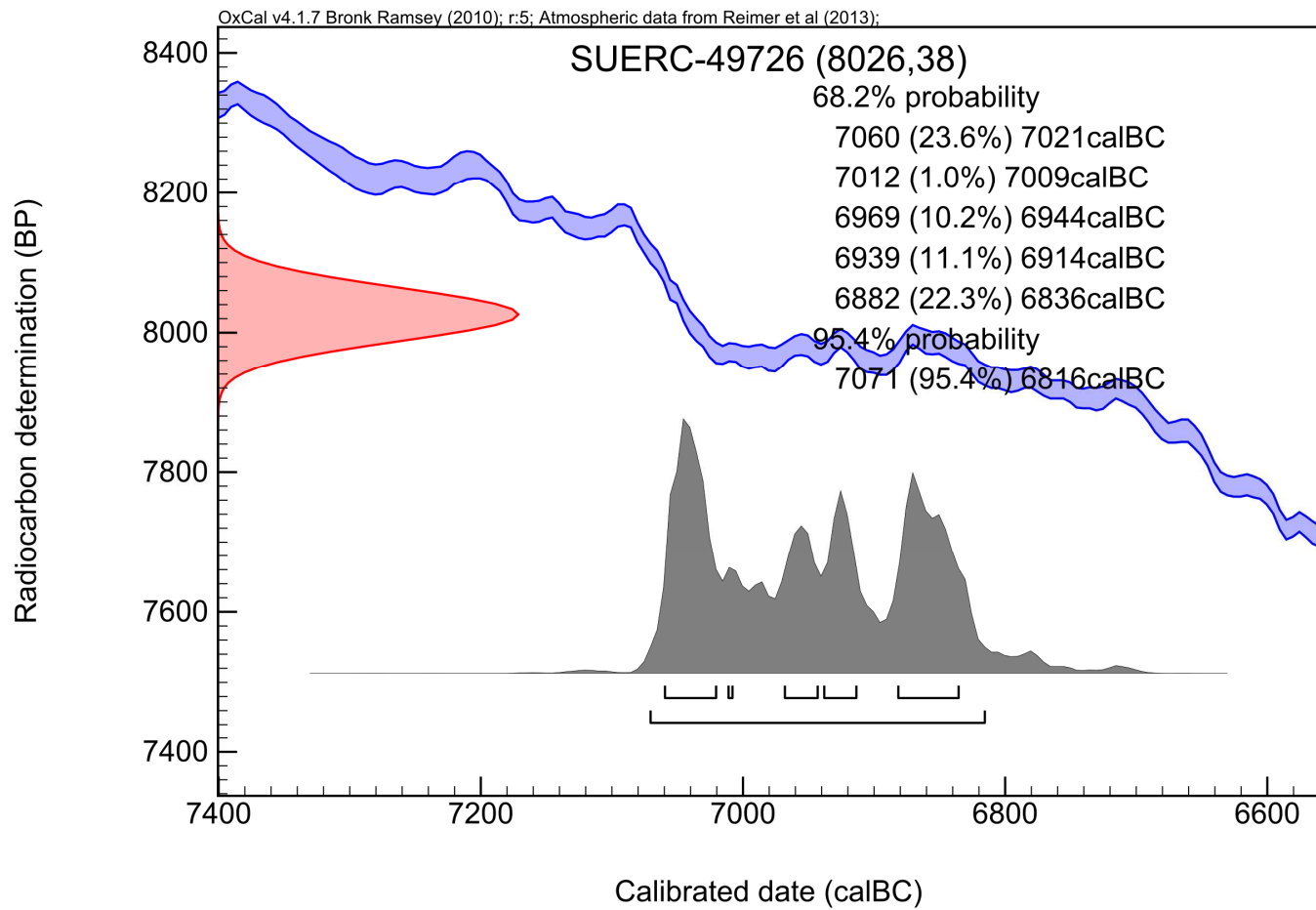
Date :-

Checked and signed off by :-

Date :-



Calibration Plot





RADIOCARBON DATING CERTIFICATE

17 December 2013

Laboratory Code SUERC-49727 (GU32422)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL13

Context Reference 106

Sample Reference 45

Material Charcoal : *Alnus glutinosa*

$\delta^{13}\text{C}$ relative to VPDB -27.7 ‰

Radiocarbon Age BP 3718 \pm 31

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

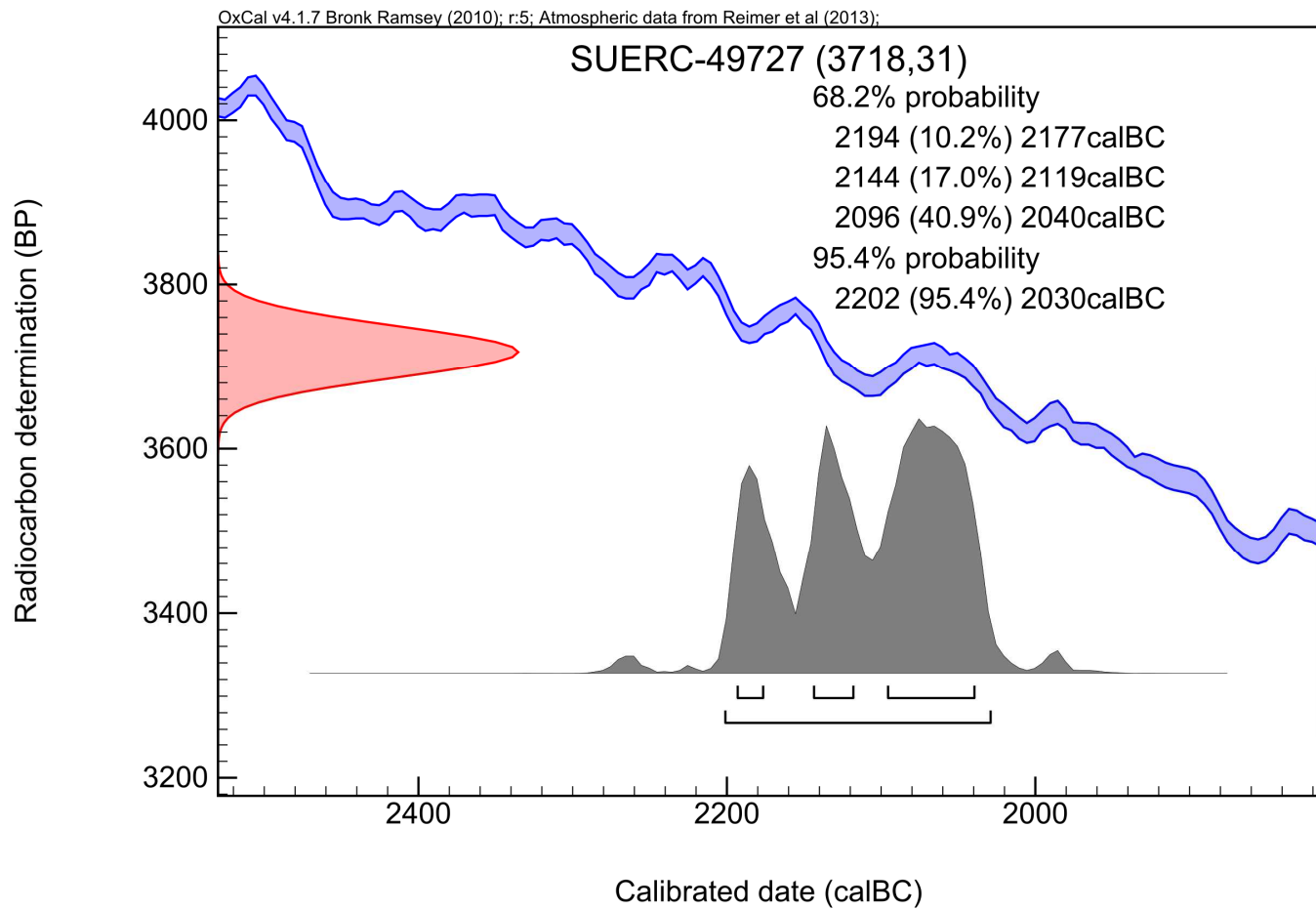
Conventional age and calibration age ranges calculated by :-

Date :-

Checked and signed off by :-

Date :-

Calibration Plot





RADIOCARBON DATING CERTIFICATE

17 December 2013

Laboratory Code SUERC-49728 (GU32423)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL13

Context Reference 2134

Sample Reference 2065

Material Charcoal : Quercus sp

$\delta^{13}\text{C}$ relative to VPDB -25.9 ‰

Radiocarbon Age BP 1591 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-

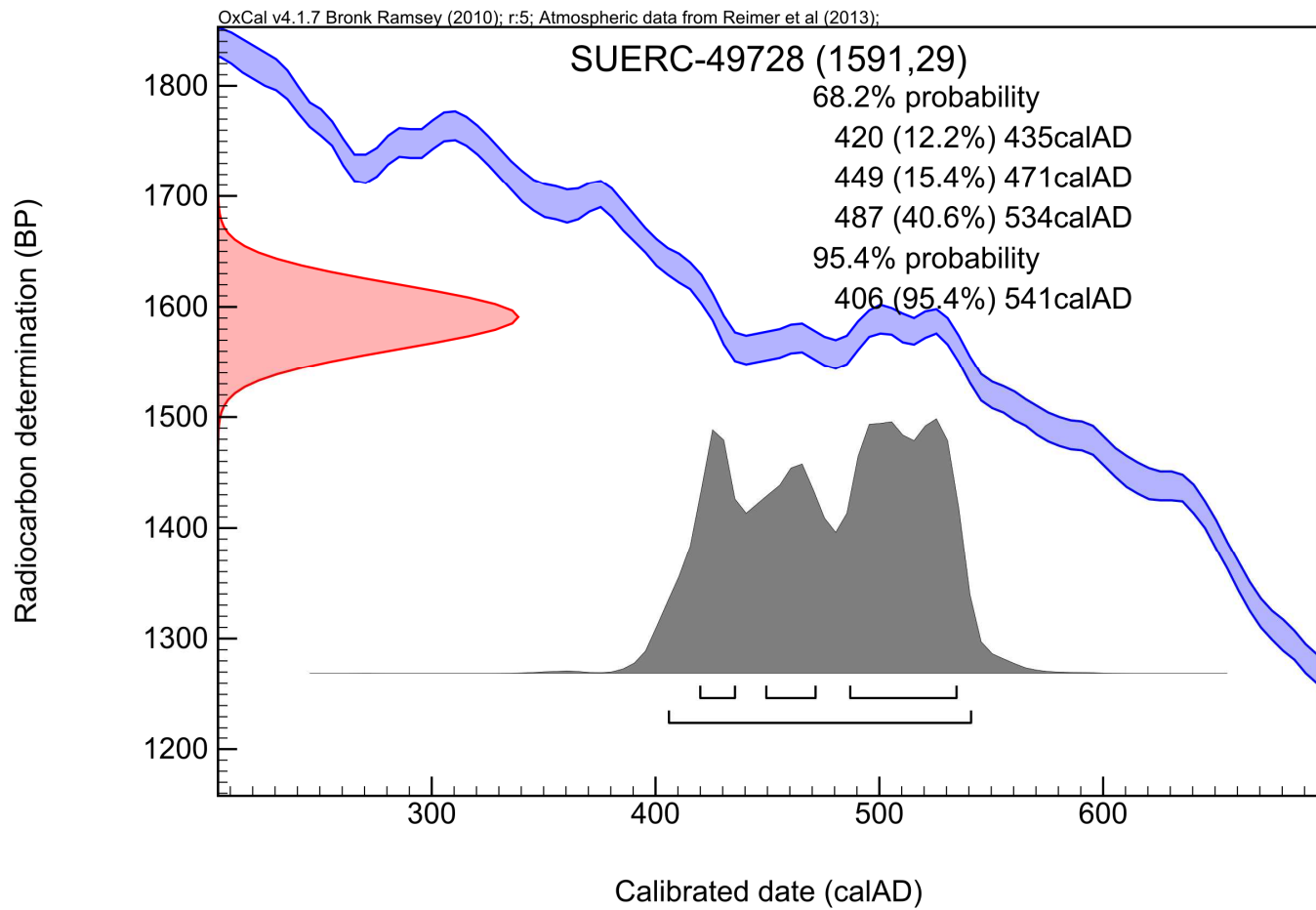
Date :-

Checked and signed off by :-

Date :-



Calibration Plot





RADIOCARBON DATING CERTIFICATE

23 July 2014

Laboratory Code SUERC-54050 (GU34861)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL13- 002c

Context Reference 147

Sample Reference 1088

Material Charcoal : Salix sp

$\delta^{13}\text{C}$ relative to VPDB -26.5 ‰

Radiocarbon Age BP 8657 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

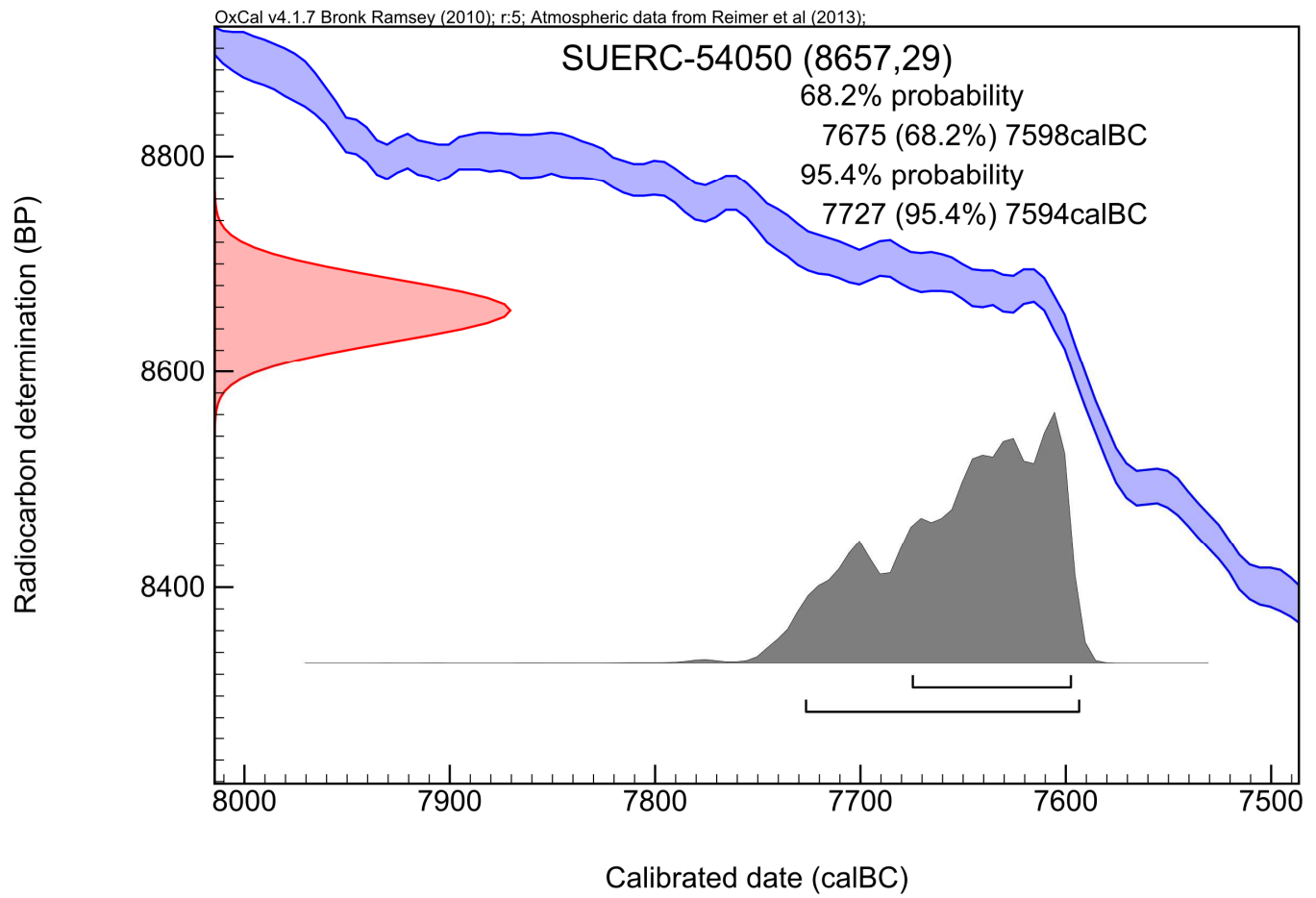
Conventional age and calibration age ranges calculated by :-

Date :- 23/07/2014

Checked and signed off by :-

Date :- 23/07/2014

Calibration Plot





RADIOCARBON DATING CERTIFICATE

23 July 2014

Laboratory Code SUERC-54051 (GU34862)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL13- 002d

Context Reference 8

Sample Reference 4

Material Charcoal : Ilex aquifolium

$\delta^{13}\text{C}$ relative to VPDB -26.3 ‰

Radiocarbon Age BP 7963 \pm 27

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

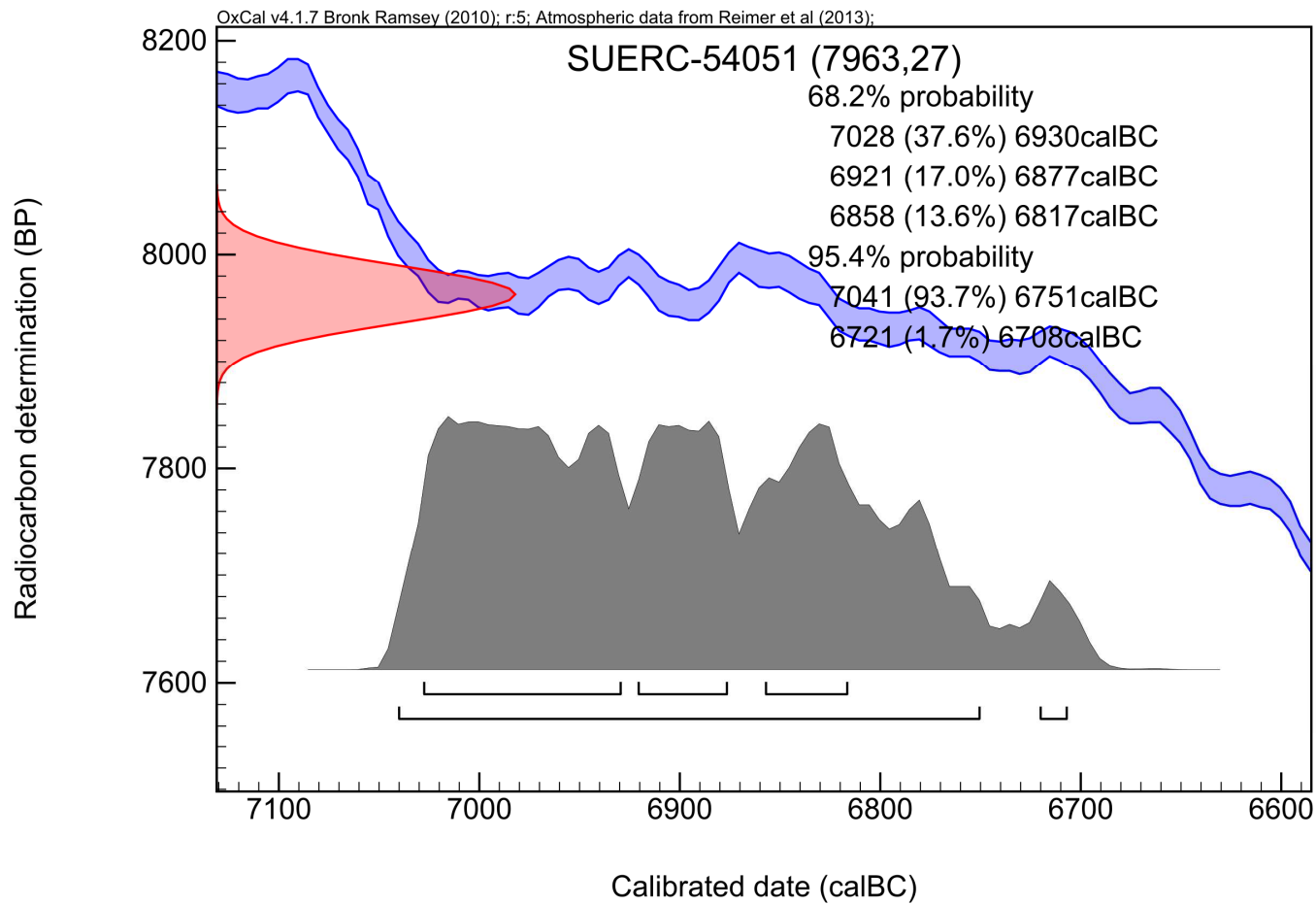
Conventional age and calibration age ranges calculated by :-

Date :- 23/07/2014

Checked and signed off by :-

Date :- 23/07/2014

Calibration Plot





RADIOCARBON DATING CERTIFICATE

23 July 2014

Laboratory Code SUERC-54055 (GU34863)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL13-002c

Context Reference 19

Sample Reference 1009

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -26.1 ‰

Radiocarbon Age BP 3851 \pm 26

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-

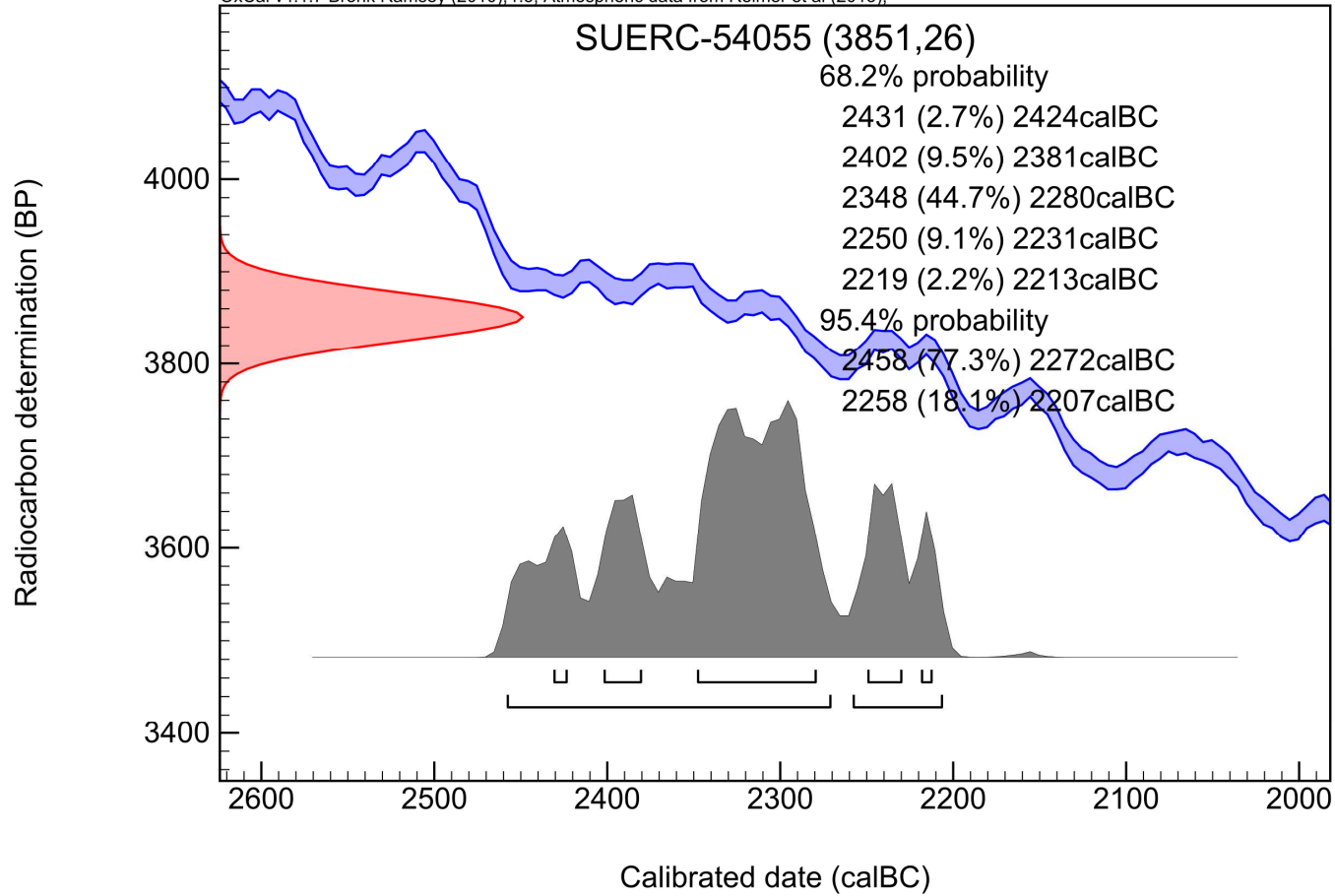
Date :- 23/07/2014

Checked and signed off by :-

Date :- 23/07/2014

Calibration Plot

OxCal v4.1.7 Bronk Ramsey (2010); r:5; Atmospheric data from Reimer et al (2013);





RADIOCARBON DATING CERTIFICATE

23 July 2014

Laboratory Code SUERC-54056 (GU34864)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL13-002c

Context Reference 128

Sample Reference 1070

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -28.2 ‰

Radiocarbon Age BP 3041 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-

Date :- 23/07/2014

Checked and signed off by :-

Date :- 23/07/2014

Calibration Plot

OxCal v4.1.7 Bronk Ramsey (2010); r:5; Atmospheric data from Reimer et al (2013);

SUERC-54056 (3041,29)

68.2% probability

1381 (26.1%) 1342calBC

1307 (36.6%) 1259calBC

1244 (5.4%) 1234calBC

95.4% probability

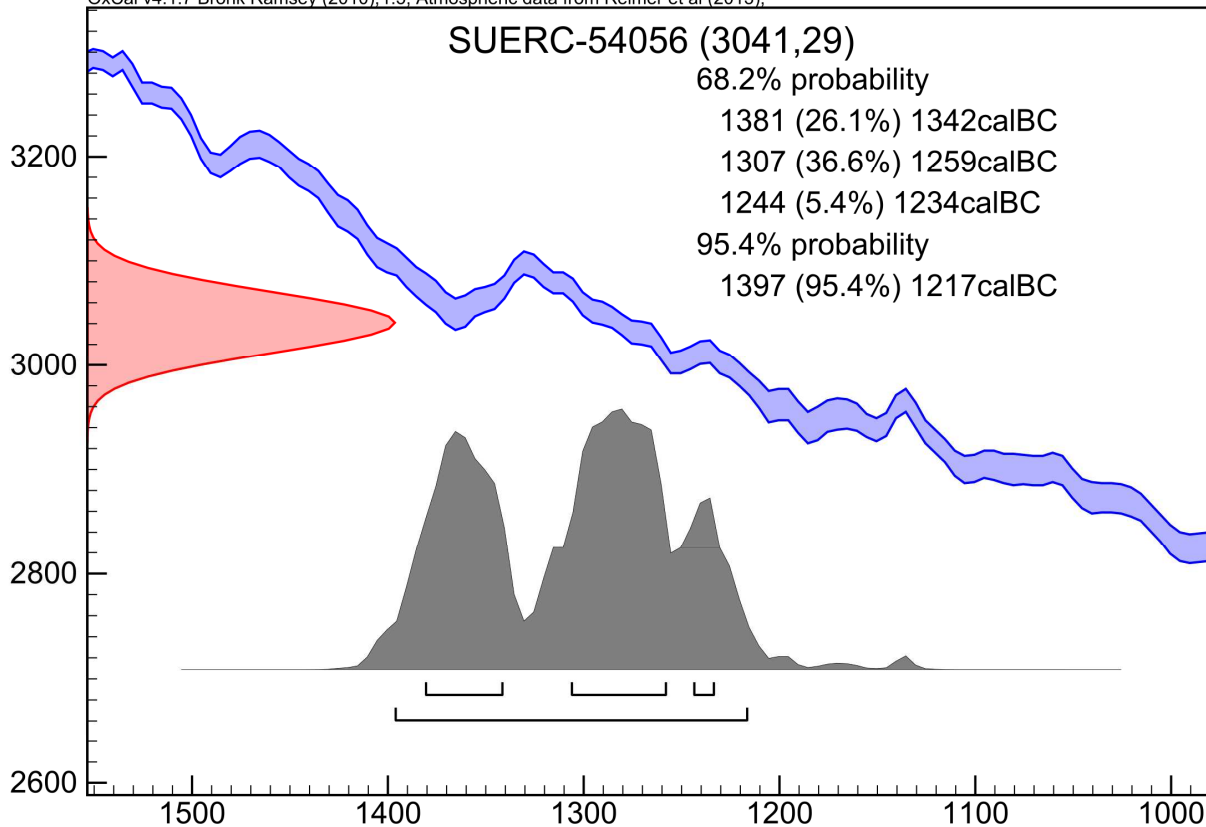
1397 (95.4%) 1217calBC

Radiocarbon determination (BP)

3200
3000
2800
2600

1500 1400 1300 1200 1100 1000

Calibrated date (calBC)





RADIOCARBON DATING CERTIFICATE

05 August 2014

Laboratory Code SUERC-54187 (GU34969)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-SL002A

Context Reference 116

Sample Reference 1088

Material Charcoal : Ulmus sp


$\delta^{13}\text{C}$ relative to VPDB -23.9 ‰


Radiocarbon Age BP 1960 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

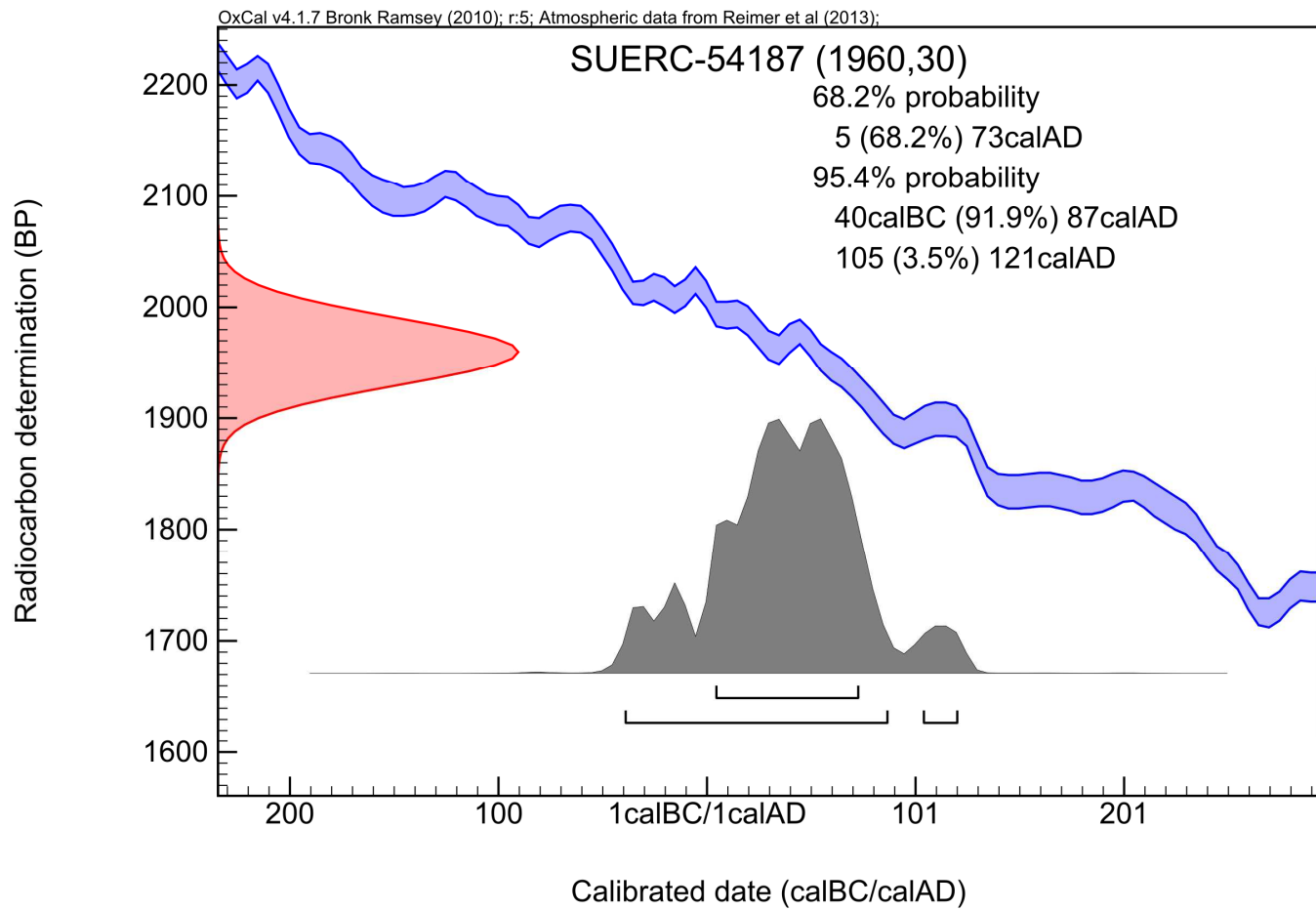
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 05/08/2014

Checked and signed off by :-  Date :- 05/08/2014

Calibration Plot





RADIOCARBON DATING CERTIFICATE

05 August 2014

Laboratory Code SUERC-54188 (GU34970)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-SL002A

Context Reference 62

Sample Reference 1046

Material Charcoal : Alnus glutinosa

$\delta^{13}\text{C}$ relative to VPDB -25.1 ‰

Radiocarbon Age BP 1995 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

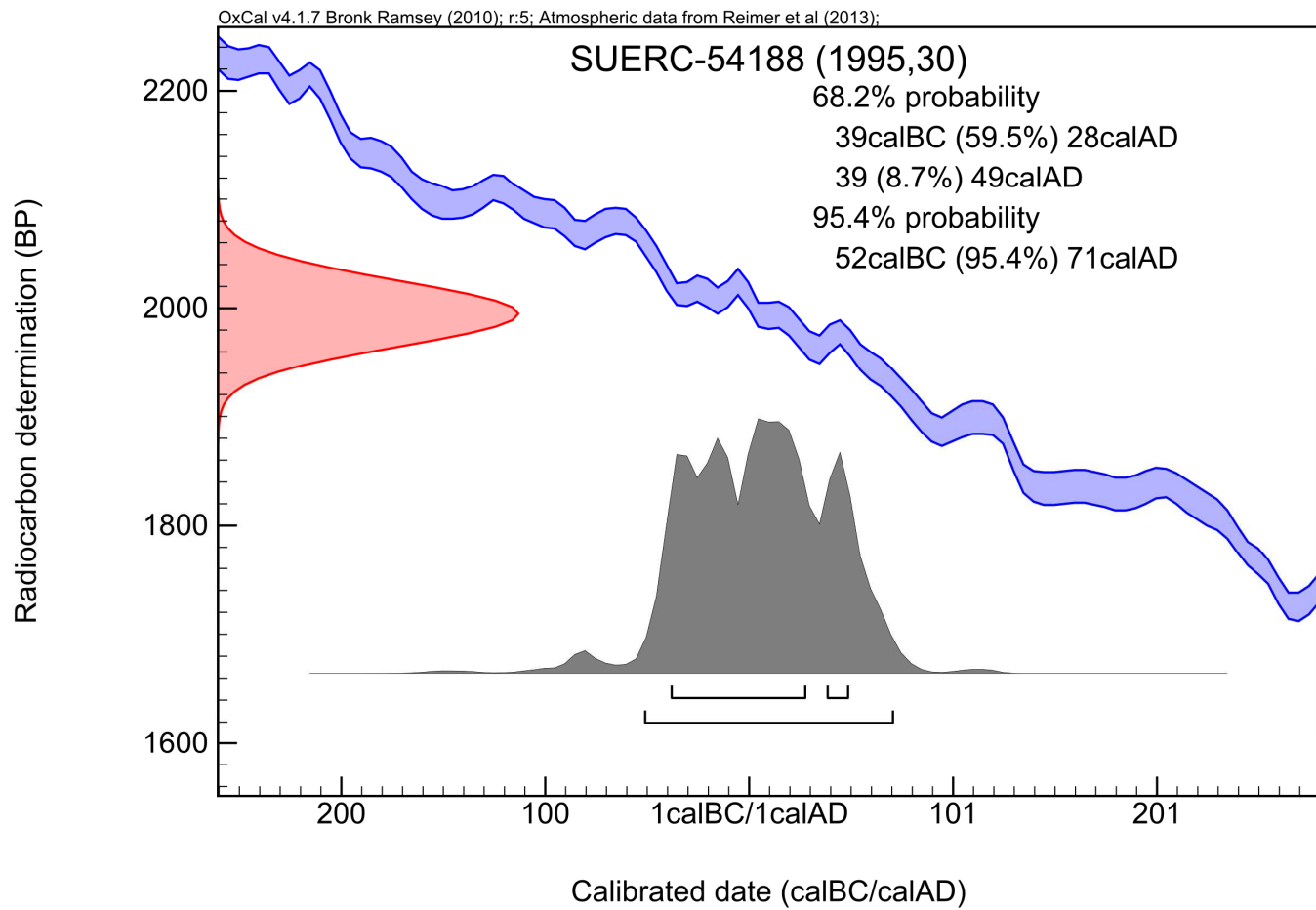
Conventional age and calibration age ranges calculated by :-

Date :- 05/08/2014

Checked and signed off by :-

Date :- 05/08/2014

Calibration Plot





RADIOCARBON DATING CERTIFICATE

05 August 2014

Laboratory Code SUERC-54189 (GU34971)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-SL002A

Context Reference 18

Sample Reference 1008

Material Charcoal : Alnus glutinosa

$\delta^{13}\text{C}$ relative to VPDB -25.7 ‰

Radiocarbon Age BP 1957 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

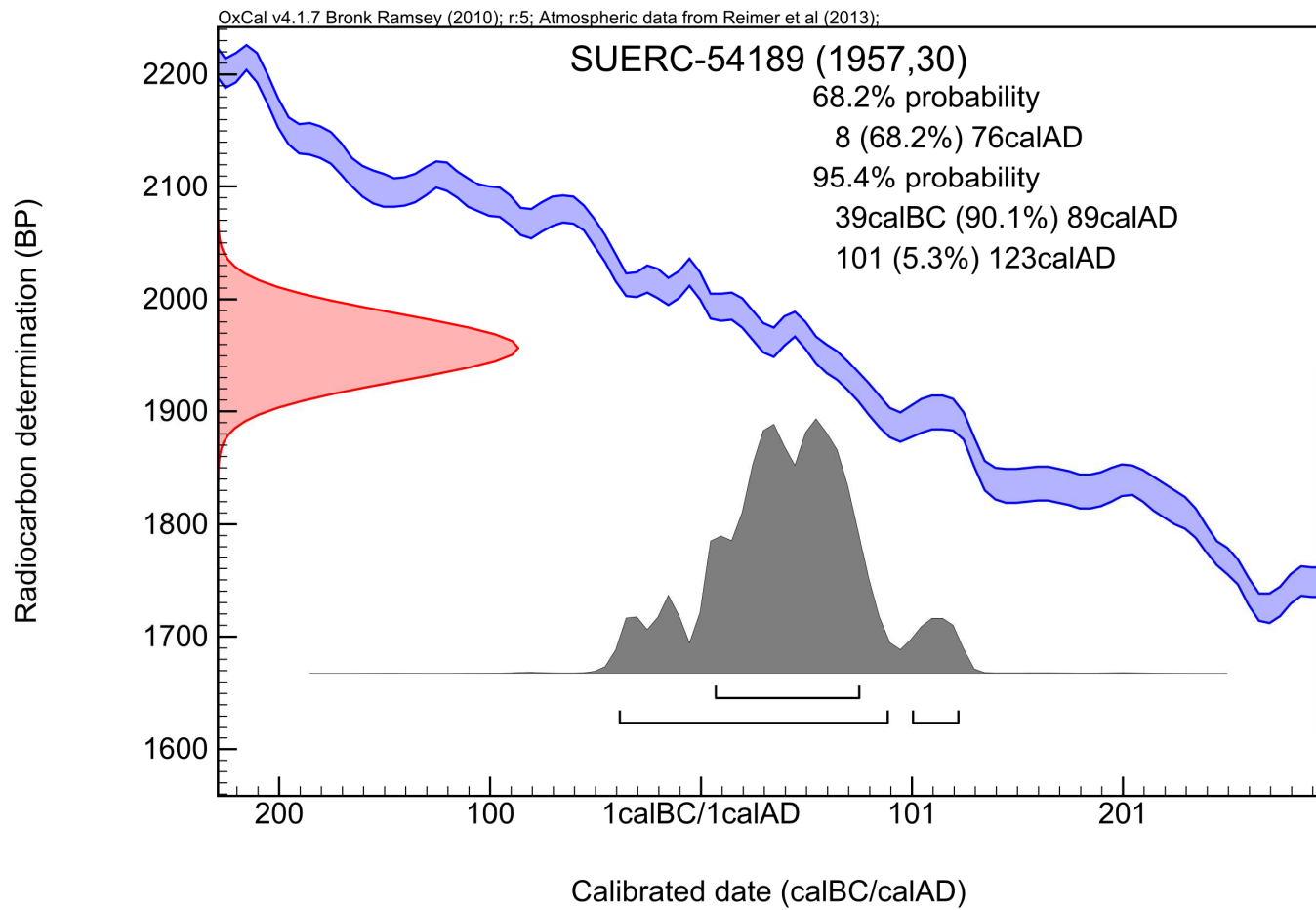
Conventional age and calibration age ranges calculated by :-

Date :- 05/08/2014

Checked and signed off by :-

Date :- 05/08/2014

Calibration Plot





RADIOCARBON DATING CERTIFICATE

25 November 2014

Laboratory Code SUERC-56395 (GU35889)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL- SL002C

Context Reference 1058

Sample Reference 108

Material Charcoal : Calluna vulgaris

$\delta^{13}\text{C}$ relative to VPDB -26.2 ‰

Radiocarbon Age BP 1975 \pm 38

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

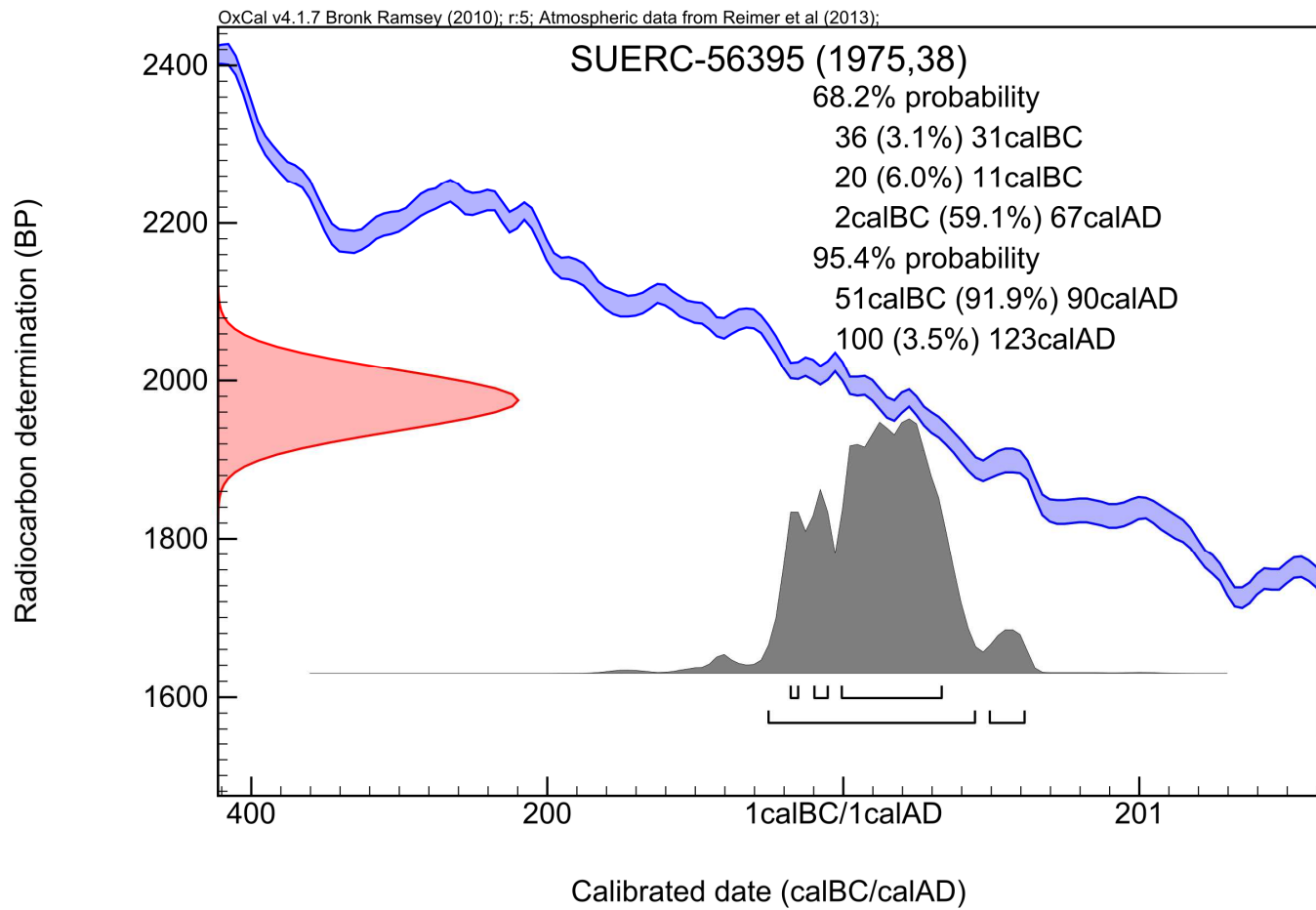
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 25/11/2014

Checked and signed off by :- *P. Naynab*

Date :- 25/11/2014

Calibration Plot



RADIOCARBON DATING CERTIFICATE

17 February 2015

Laboratory Code SUERC-57928 (GU36354)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL006A

Context Reference 50

Sample Reference 99

Material Charcoal : Prunus avium

$\delta^{13}\text{C}$ relative to VPDB -25.2 ‰

Radiocarbon Age BP 1908 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

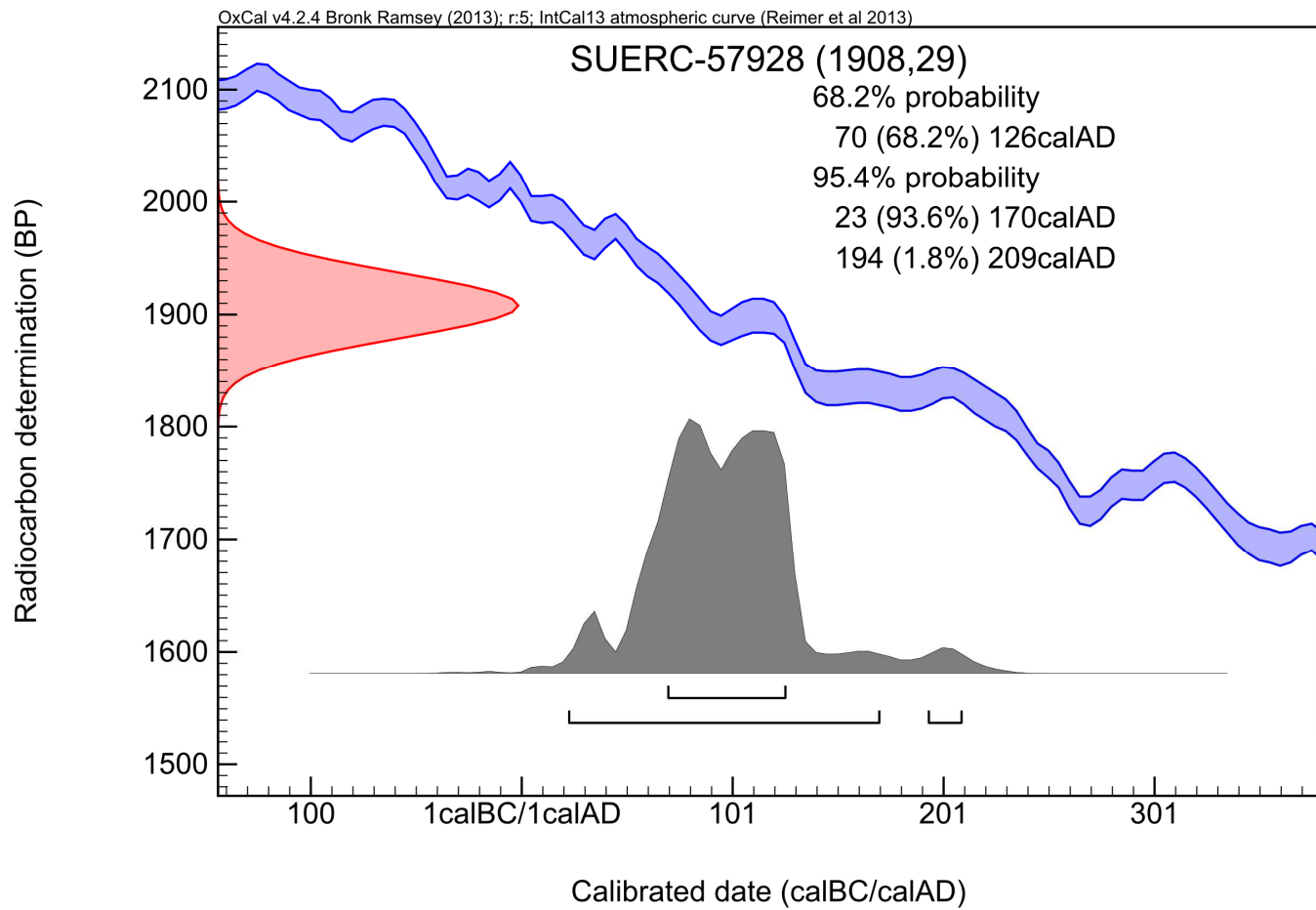
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 17/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 17/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

17 February 2015

Laboratory Code SUERC-57929 (GU36355)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL006A

Context Reference 69

Sample Reference 38

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -27.7 ‰

Radiocarbon Age BP 3035 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 17/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 17/02/2015

Calibration Plot

OxCal v4.2.4 Bronk Ramsey (2013); r:5; IntCal13 atmospheric curve (Reimer et al 2013)

SUERC-57929 (3035,29)

68.2% probability

1377 (19.9%) 1346calBC

1304 (36.4%) 1257calBC

1251 (11.9%) 1231calBC

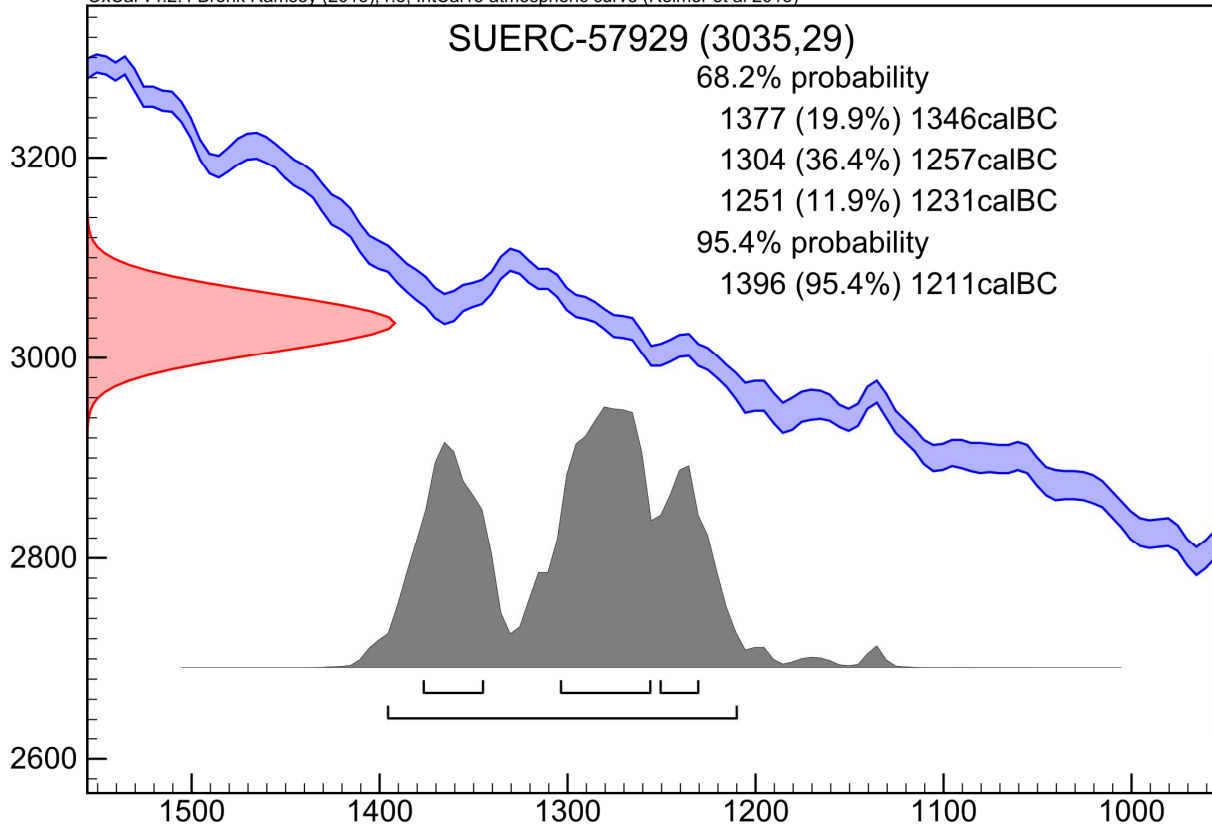
95.4% probability

1396 (95.4%) 1211calBC

Radiocarbon determination (BP)

3200
3000
2800
2600

Calibrated date (calBC)



RADIOCARBON DATING CERTIFICATE

17 February 2015

Laboratory Code SUERC-57930 (GU36356)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL006A

Context Reference 124

Sample Reference 70

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -24.9 ‰

Radiocarbon Age BP 1930 \pm 26

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

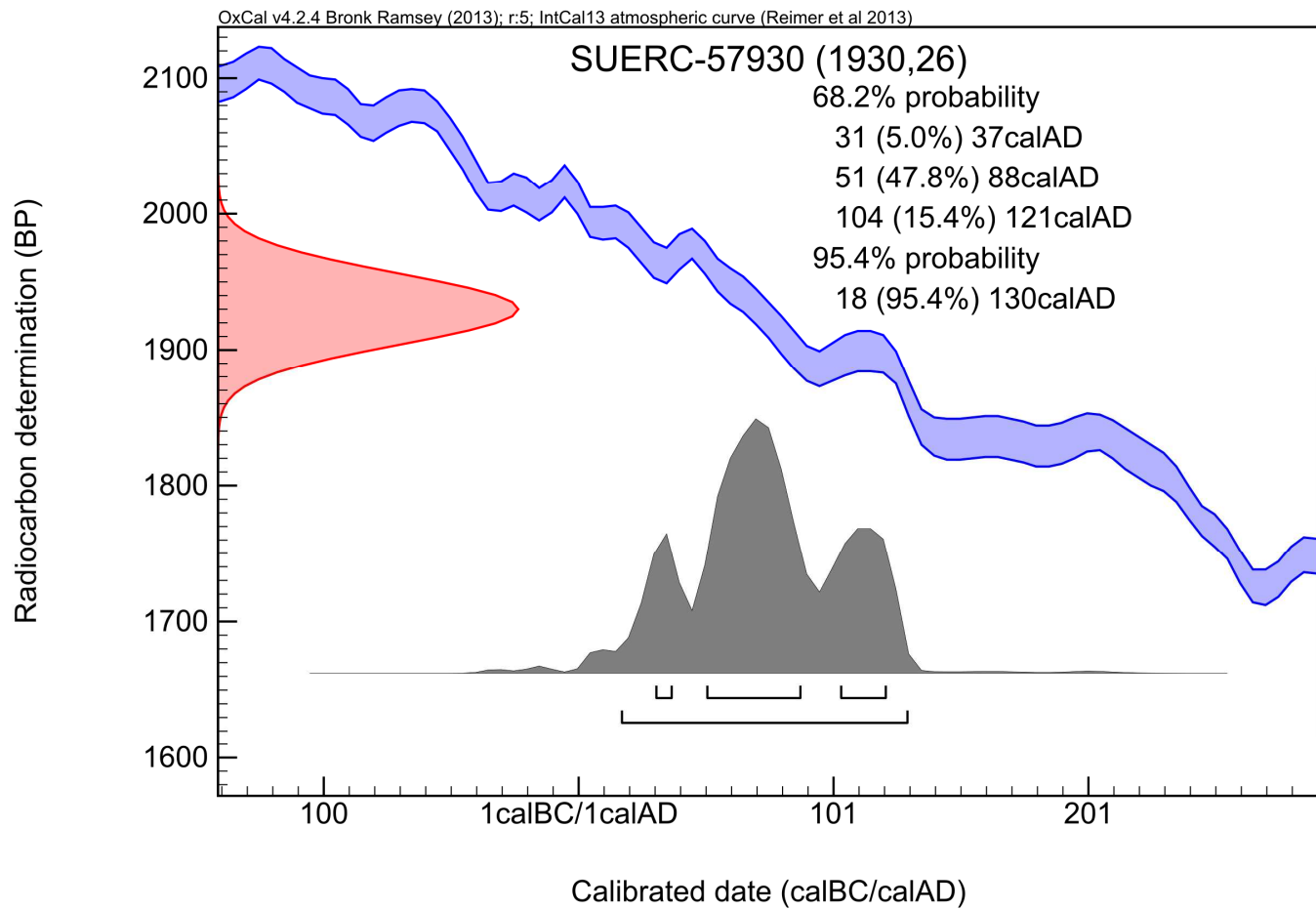
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 17/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 17/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

17 February 2015

Laboratory Code SUERC-57931 (GU36357)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL006B

Context Reference 4

Sample Reference 1

Material Charcoal : Alnus glutinosa

$\delta^{13}\text{C}$ relative to VPDB -29.3 ‰

Radiocarbon Age BP 1336 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

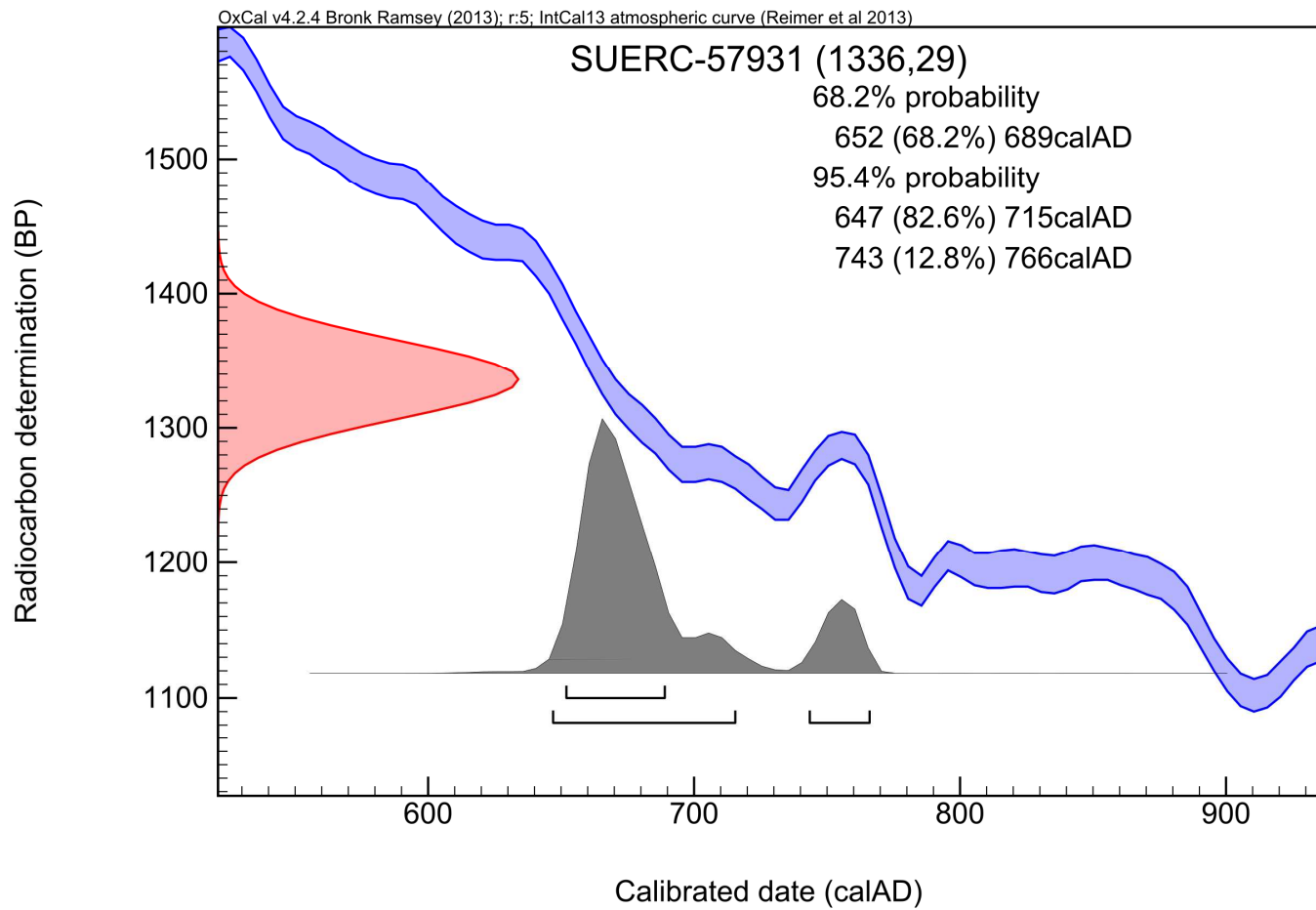
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 17/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 17/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

17 February 2015

Laboratory Code SUERC-57932 (GU36358)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL001C

Context Reference 3

Sample Reference 60

Material Charcoal : Hazel

$\delta^{13}\text{C}$ relative to VPDB -25.6 ‰

Radiocarbon Age BP 1878 \pm 26

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

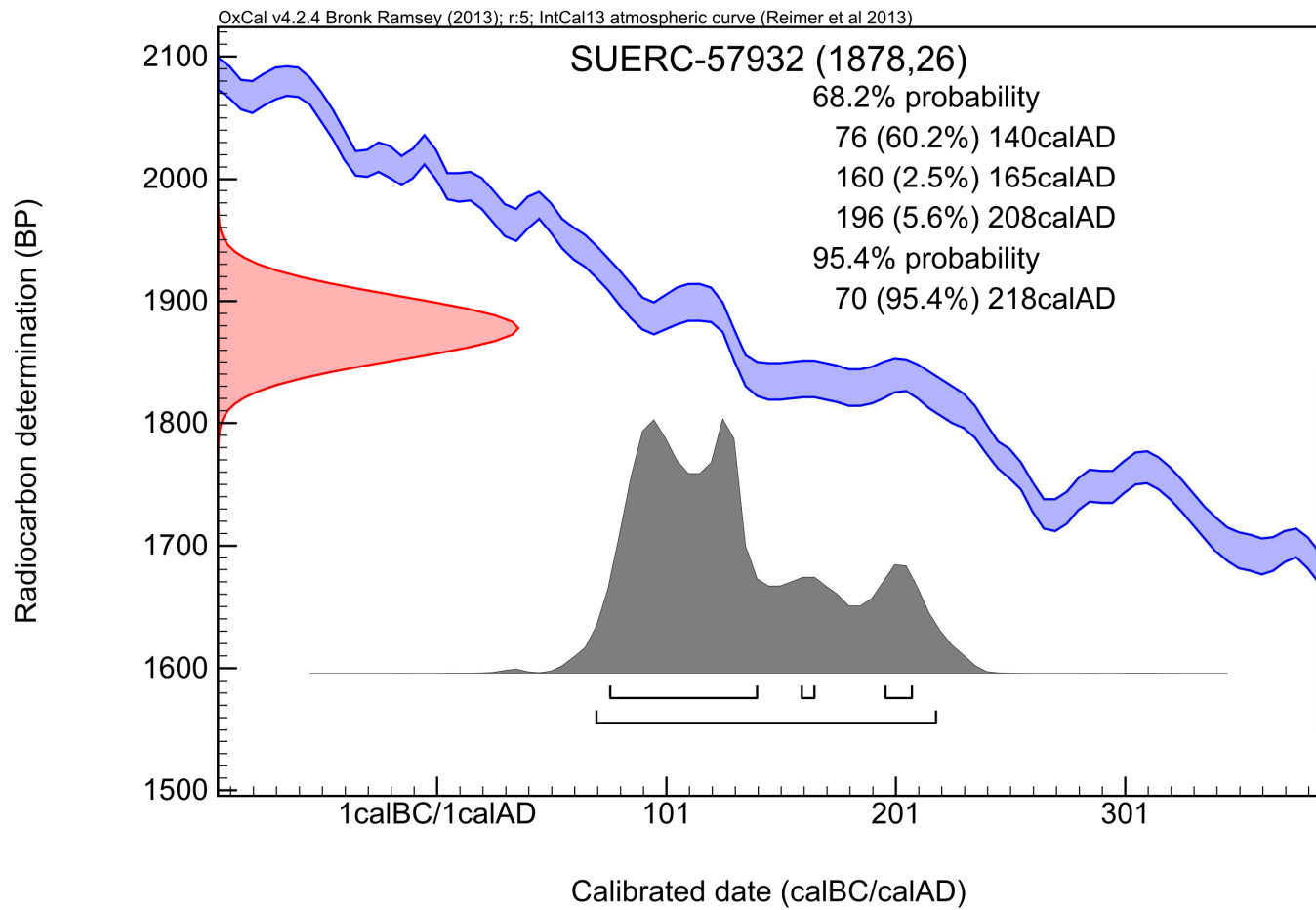
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 17/02/2015

Checked and signed off by :- *P. Naynt*

Date :- 17/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

17 February 2015

Laboratory Code SUERC-57933 (GU36359)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL001C

Context Reference 95

Sample Reference 56

Material Charcoal : Birch

$\delta^{13}\text{C}$ relative to VPDB -25.0 ‰

Radiocarbon Age BP 3074 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

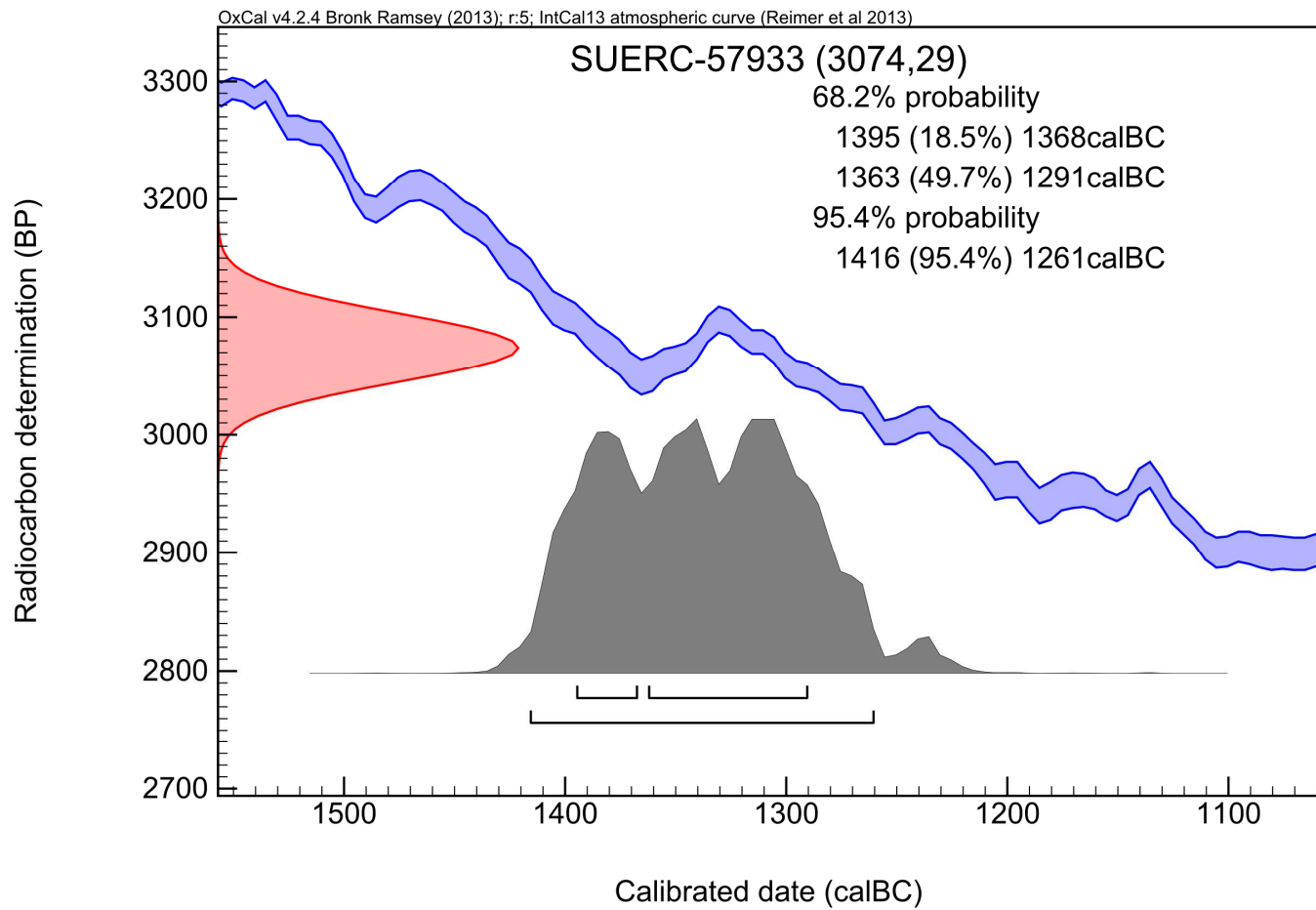
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 17/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 17/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

17 February 2015

Laboratory Code SUERC-57937 (GU36360)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL003B

Context Reference 18

Sample Reference 9

Material Nutshell : Hazel

$\delta^{13}\text{C}$ relative to VPDB -25.2 ‰

Radiocarbon Age BP 7825 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

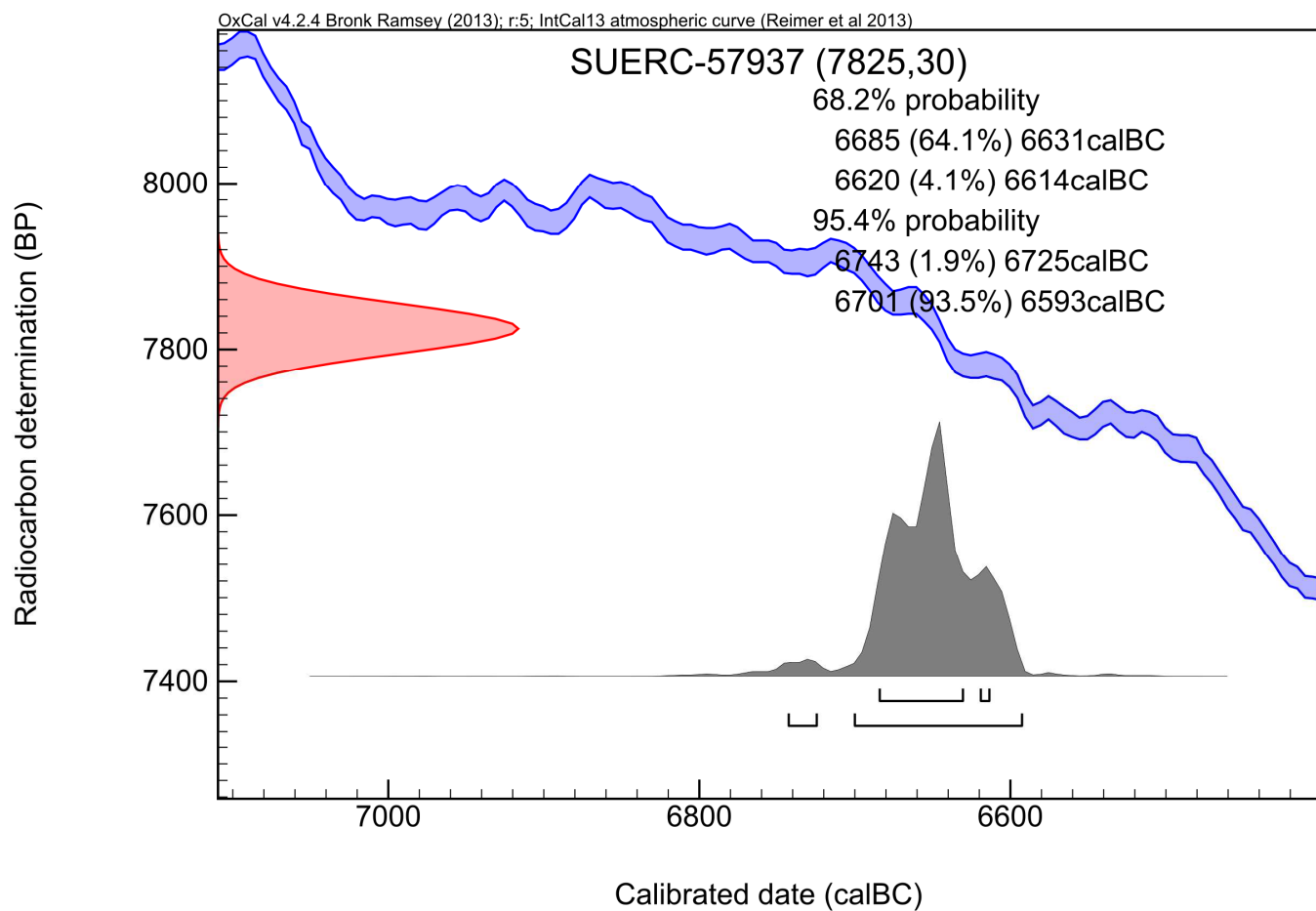
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 17/02/2015

Checked and signed off by :- *P. Naynt*

Date :- 17/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

17 February 2015

Laboratory Code SUERC-57938 (GU36361)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL003B

Context Reference 28

Sample Reference 25

Material Nutshell : Hazel

$\delta^{13}\text{C}$ relative to VPDB -23.3 ‰

Radiocarbon Age BP 7985 \pm 25

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

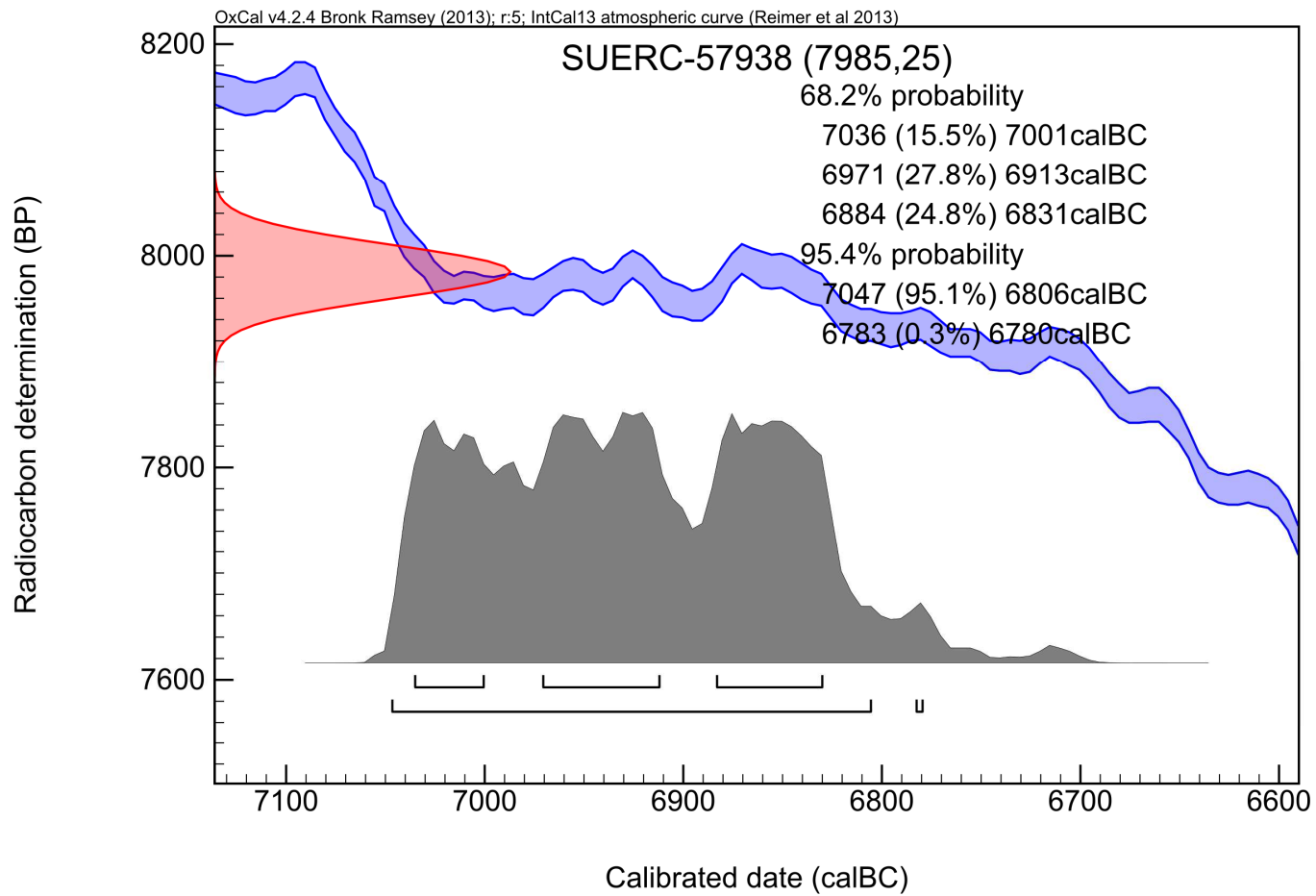
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 17/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 17/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

20 February 2015

Laboratory Code SUERC-58021 (GU36362)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002D

Context Reference 1035

Sample Reference 1023

Material Charcoal : Betula sp

$\delta^{13}\text{C}$ relative to VPDB -25.6 ‰

Radiocarbon Age BP 8054 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

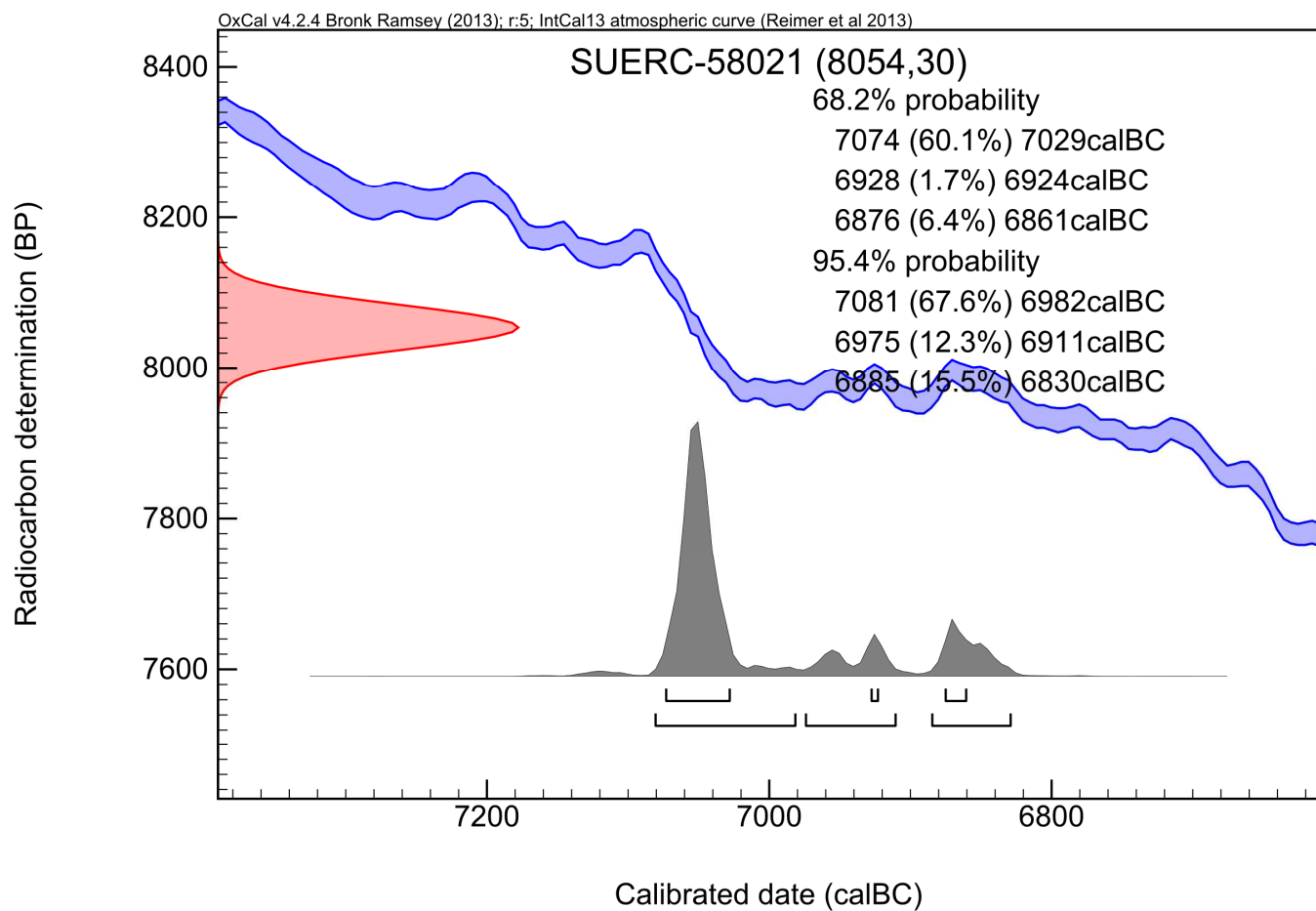
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 20/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

20 February 2015

Laboratory Code SUERC-58022 (GU36363)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002D

Context Reference 1149

Sample Reference 1089

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -23.3 ‰

Radiocarbon Age BP 4534 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

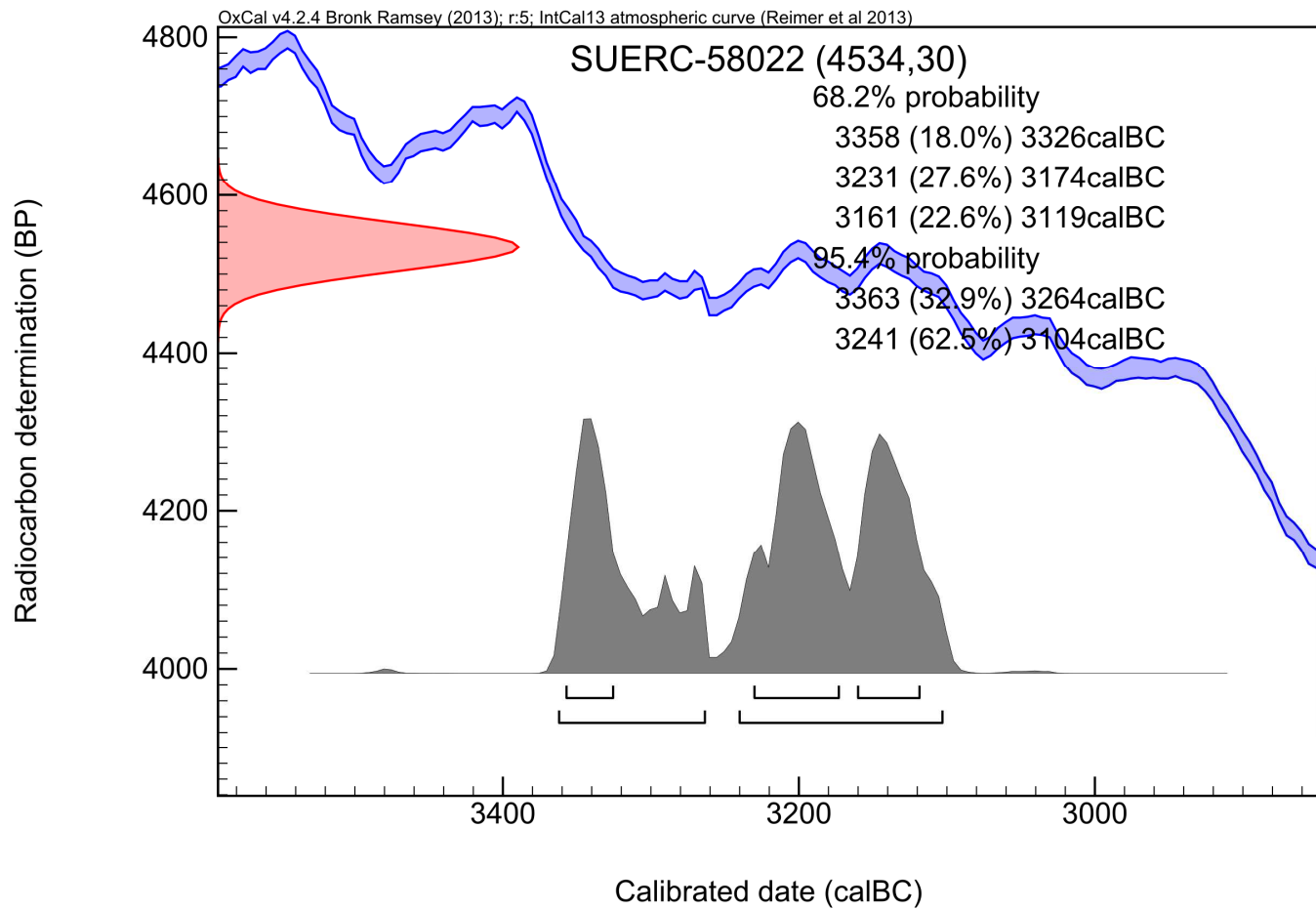
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 20/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

20 February 2015

Laboratory Code SUERC-58023 (GU36364)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002D

Context Reference 1467

Sample Reference 1200

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -26.7 ‰

Radiocarbon Age BP 5091 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

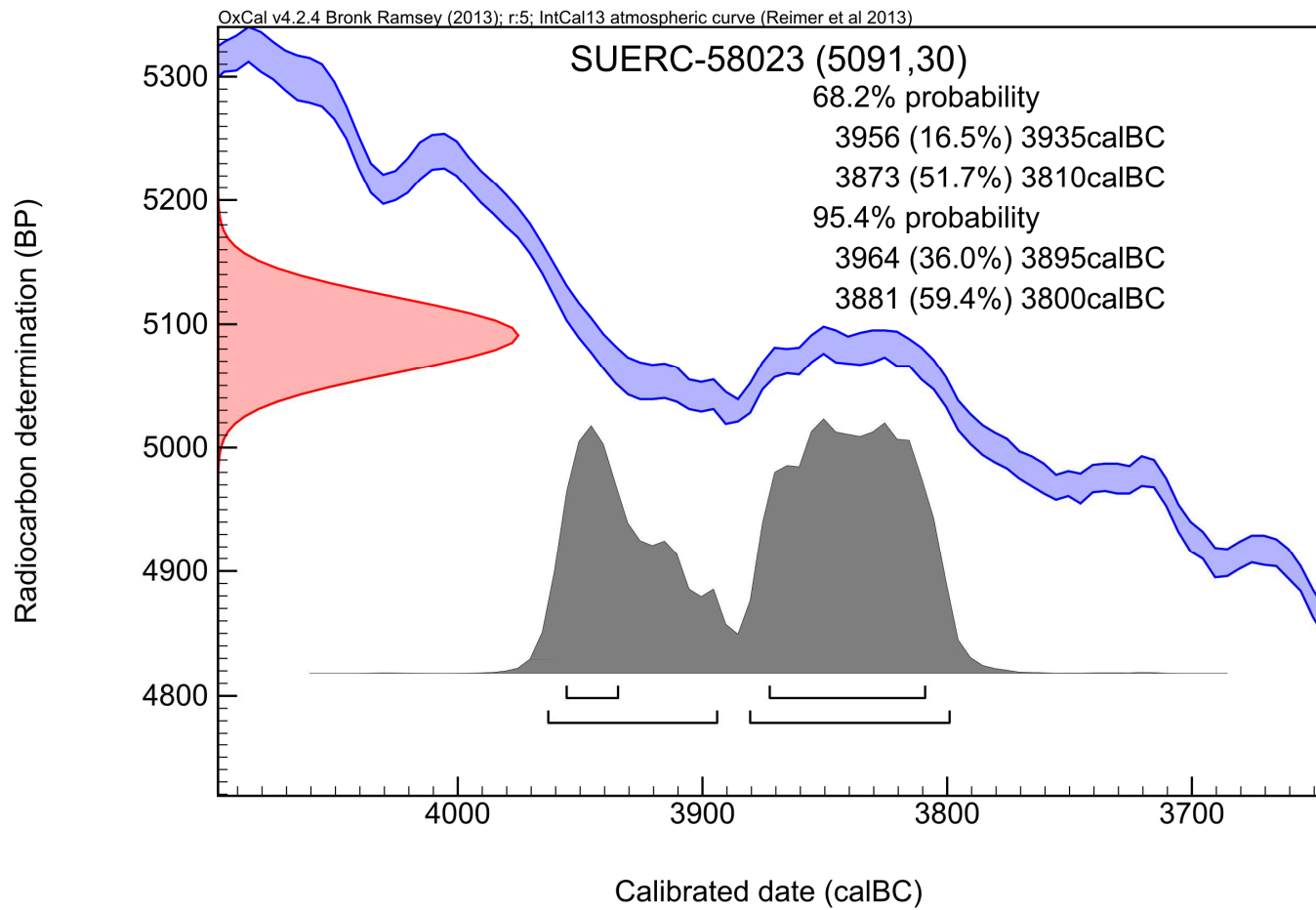
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 20/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

20 February 2015

Laboratory Code SUERC-58025 (GU36366)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-004A

Context Reference 3

Sample Reference 1009

Material Charcoal : Alnus glutinosa

$\delta^{13}\text{C}$ relative to VPDB -28.1 ‰

Radiocarbon Age BP 3634 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

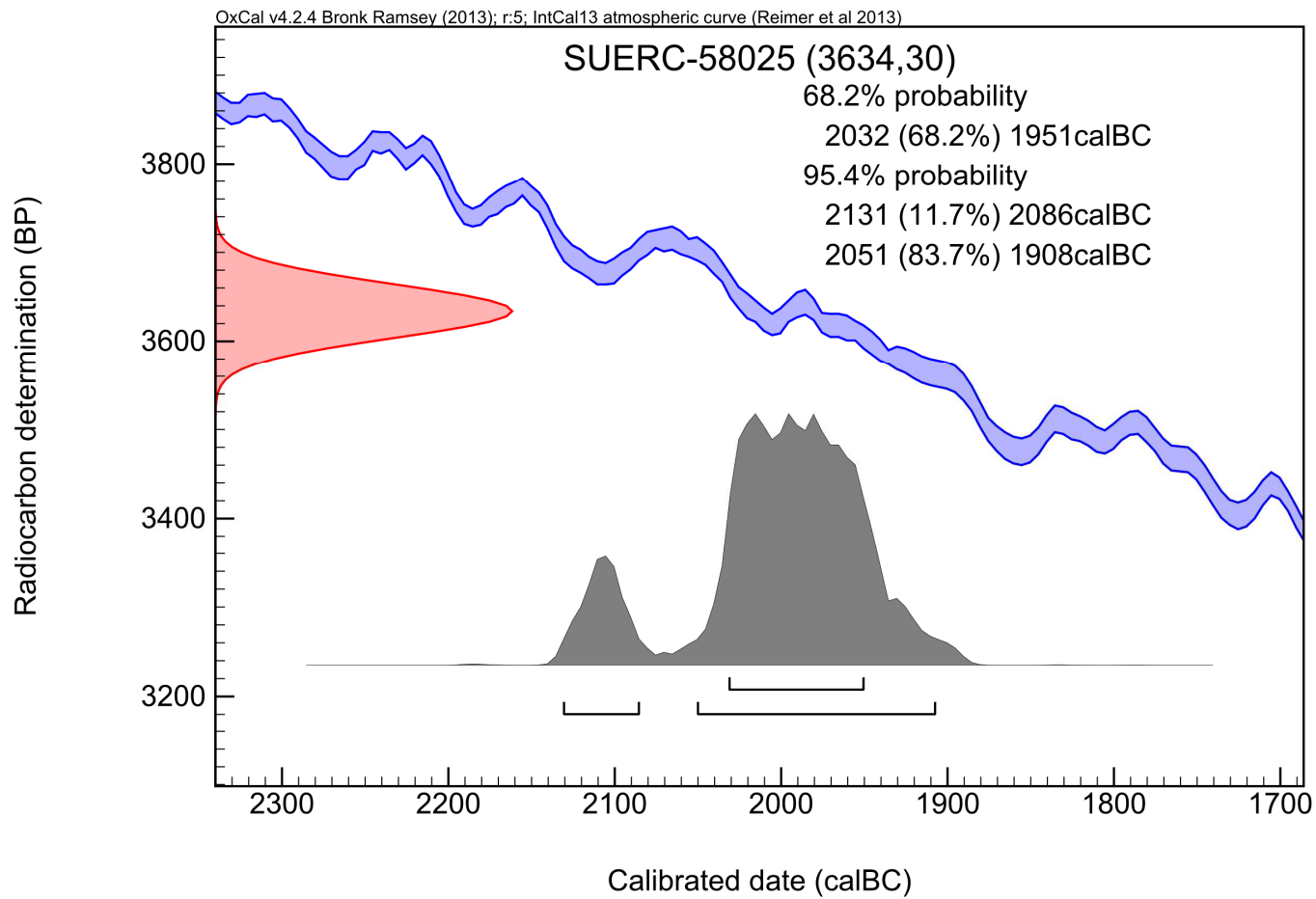
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/02/2015

Checked and signed off by :- *P. Naynt*

Date :- 20/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

20 February 2015

Laboratory Code SUERC-58026 (GU36367)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-004A
Context Reference 14
Sample Reference 24

Material Waterlogged wood : Alnus glutinosa

$\delta^{13}\text{C}$ relative to VPDB -29.5 ‰

Radiocarbon Age BP 3642 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/02/2015

Checked and signed off by :- *P. Naynt*

Date :- 20/02/2015

Calibration Plot

OxCal v4.2.4 Bronk Ramsey (2013); r:5; IntCal13 atmospheric curve (Reimer et al 2013)

SUERC-58026 (3642,30)

68.2% probability

2112 (4.1%) 2104calBC

2036 (64.1%) 1952calBC

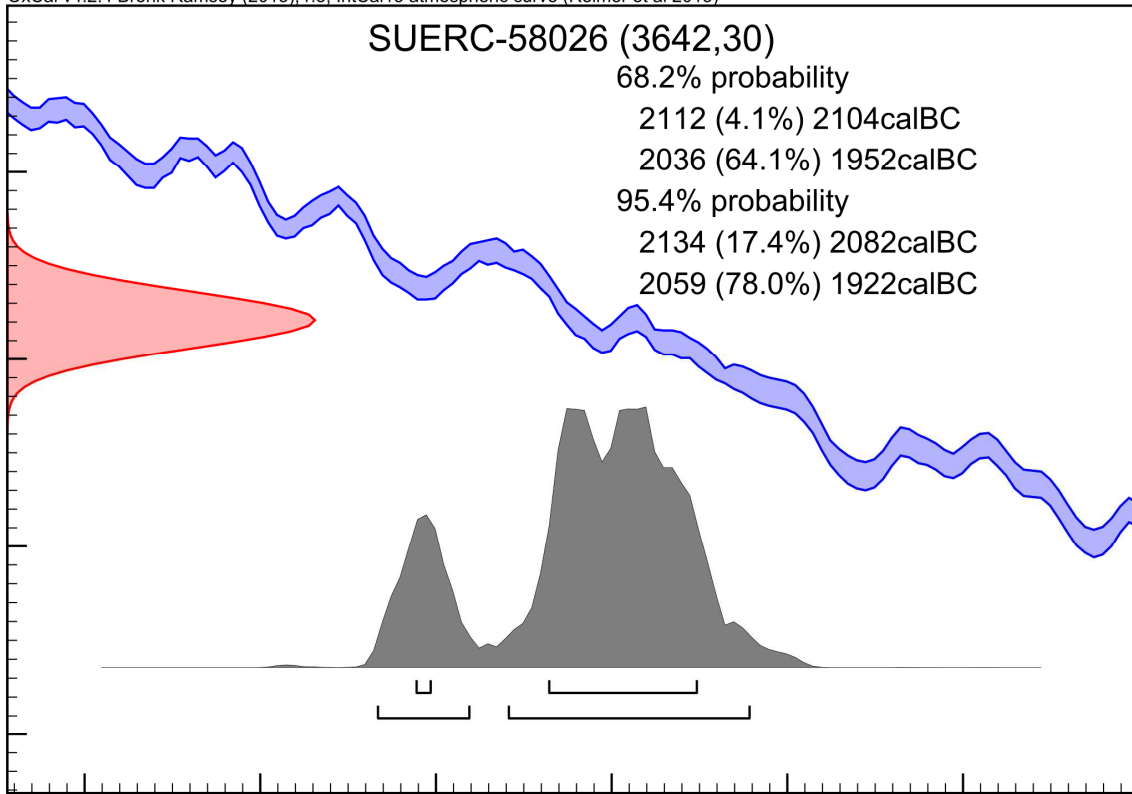
95.4% probability

2134 (17.4%) 2082calBC

2059 (78.0%) 1922calBC

Radiocarbon determination (BP)

3800
3600
3400
3200



Calibrated date (calBC)

RADIOCARBON DATING CERTIFICATE

20 February 2015

Laboratory Code SUERC-58030 (GU36368)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-004D

Context Reference 30

Sample Reference 9

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -26.4 ‰

Radiocarbon Age BP 2850 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

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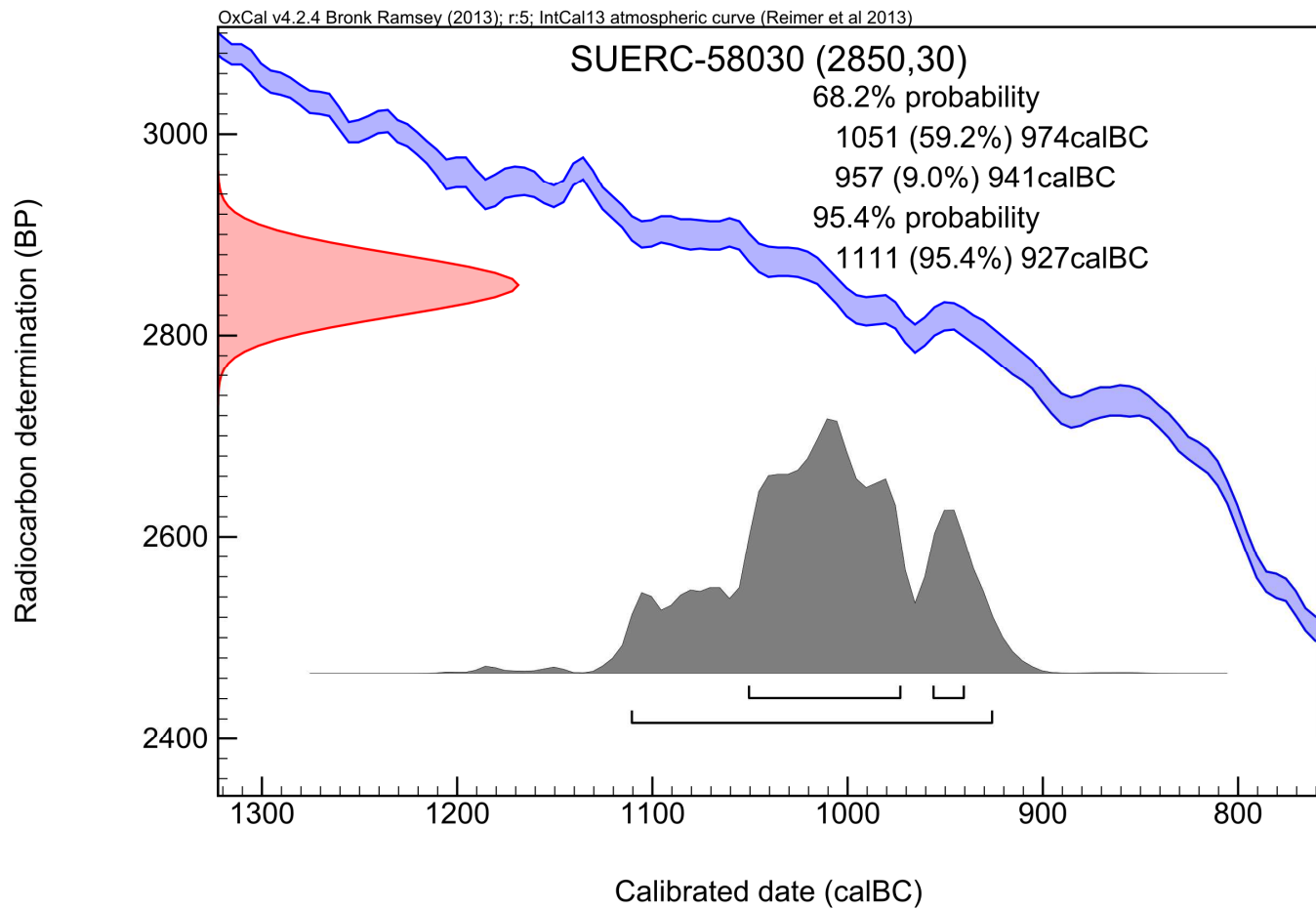
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 20/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

20 February 2015

Laboratory Code SUERC-58031 (GU36369)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-004D

Context Reference 210

Sample Reference 107

Material Charcoal : Alnus glutinosa

$\delta^{13}\text{C}$ relative to VPDB -27.8 ‰

Radiocarbon Age BP 2867 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

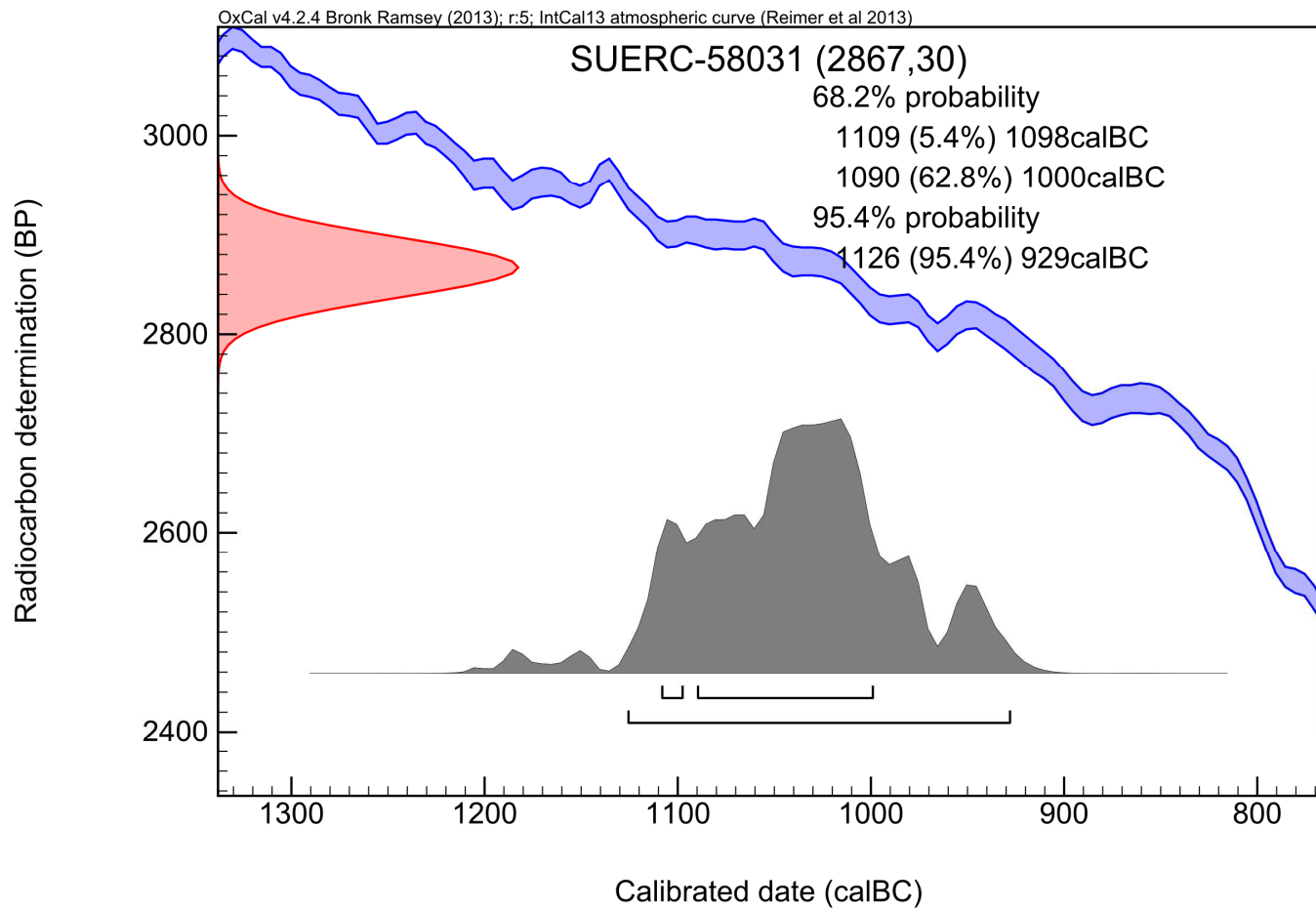
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 20/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

20 February 2015

Laboratory Code SUERC-58032 (GU36370)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-004D

Context Reference 213

Sample Reference 92

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -26.2 ‰

Radiocarbon Age BP 2819 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

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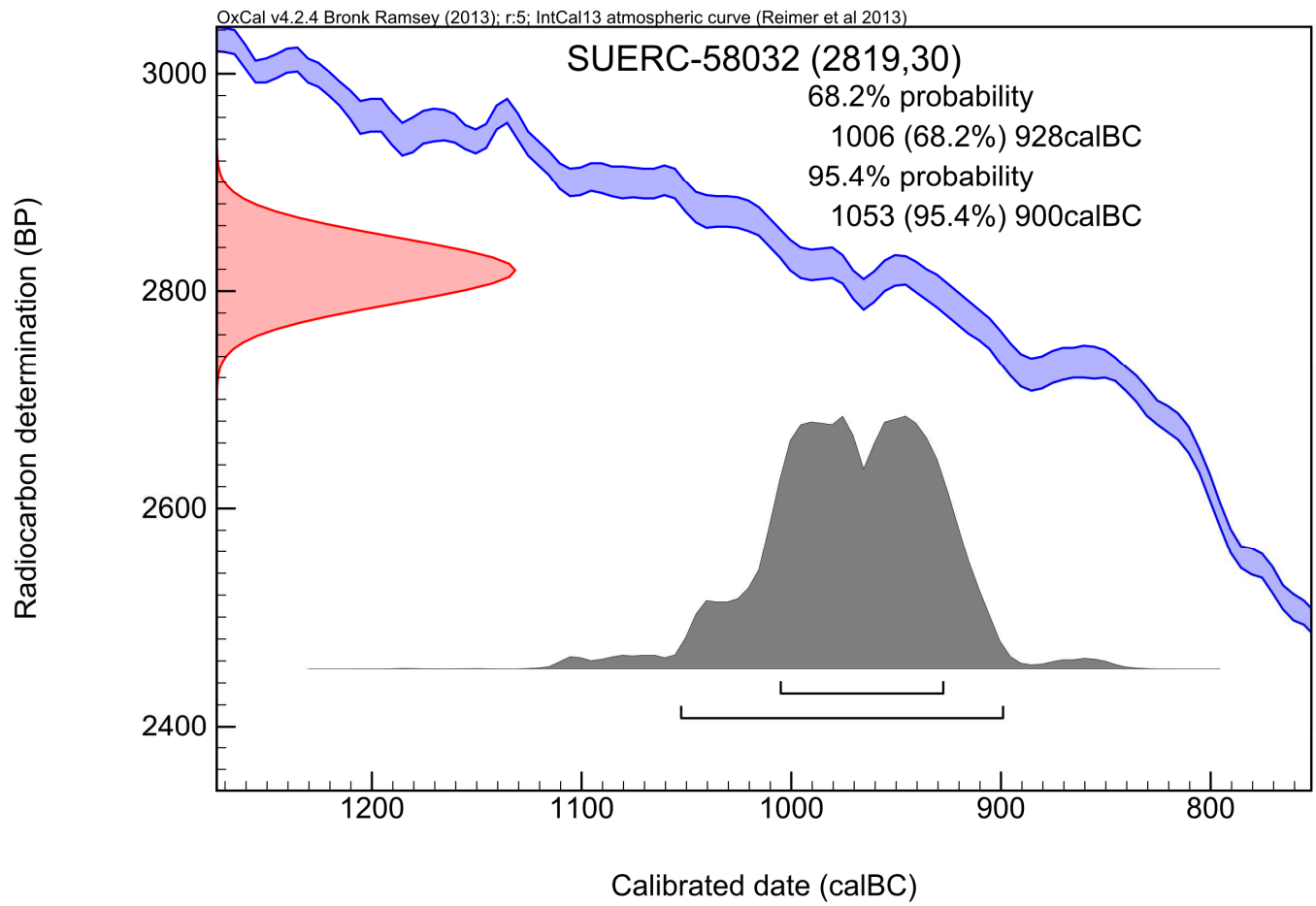
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 20/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

20 February 2015

Laboratory Code SUERC-58033 (GU36371)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-004D

Context Reference 403

Sample Reference 161

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -27.3 ‰

Radiocarbon Age BP 2852 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

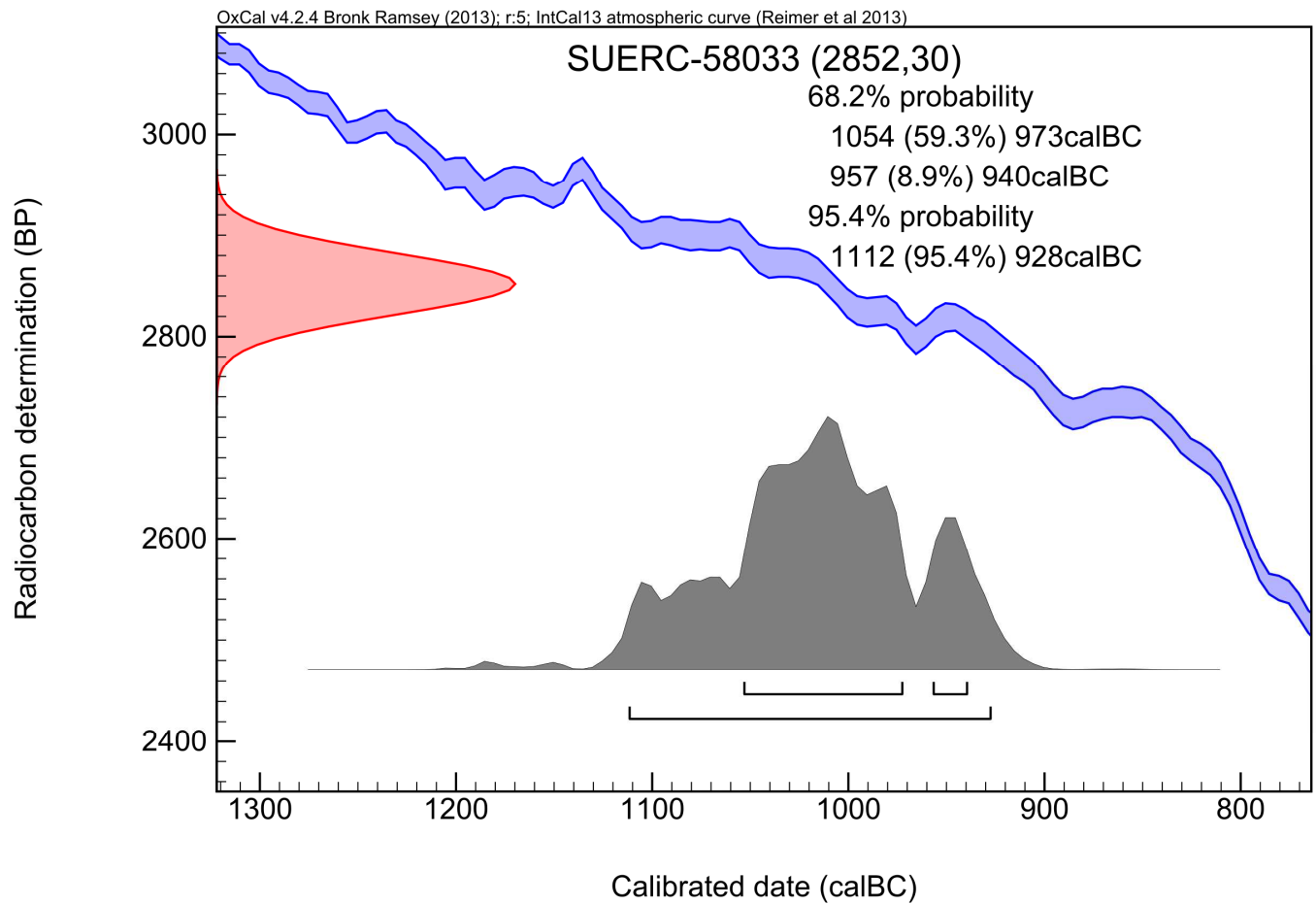
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 20/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

20 February 2015

Laboratory Code SUERC-58034 (GU36372)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-004D

Context Reference 502

Sample Reference 247

Material Charcoal : Pomoideae sp

$\delta^{13}\text{C}$ relative to VPDB -26.8 ‰

Radiocarbon Age BP 2772 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

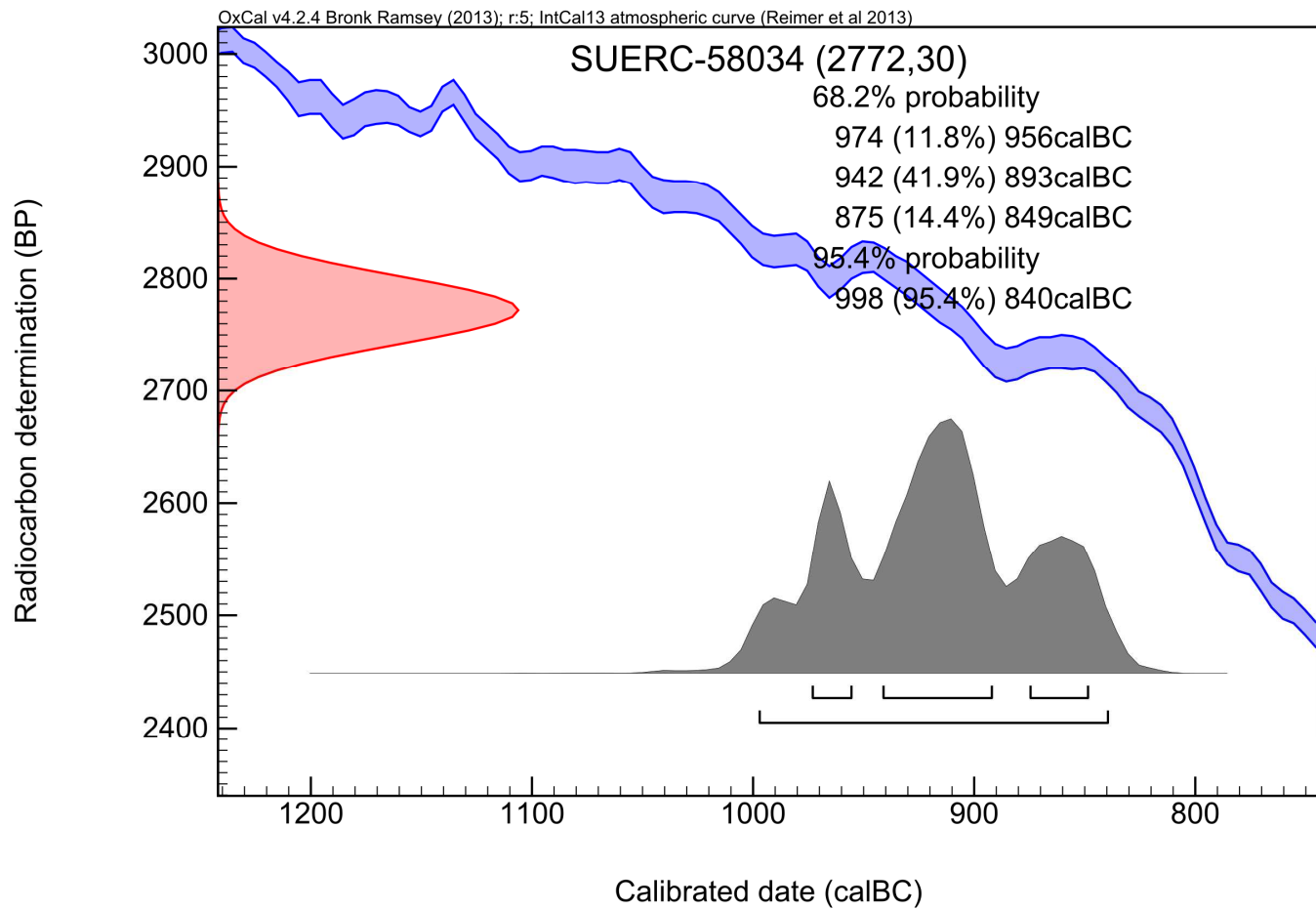
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 20/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

20 February 2015

Laboratory Code SUERC-58035 (GU36373)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-004D

Context Reference 514

Sample Reference 251

Material Charcoal : Betula sp

$\delta^{13}\text{C}$ relative to VPDB -27.6 ‰

Radiocarbon Age BP 2986 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

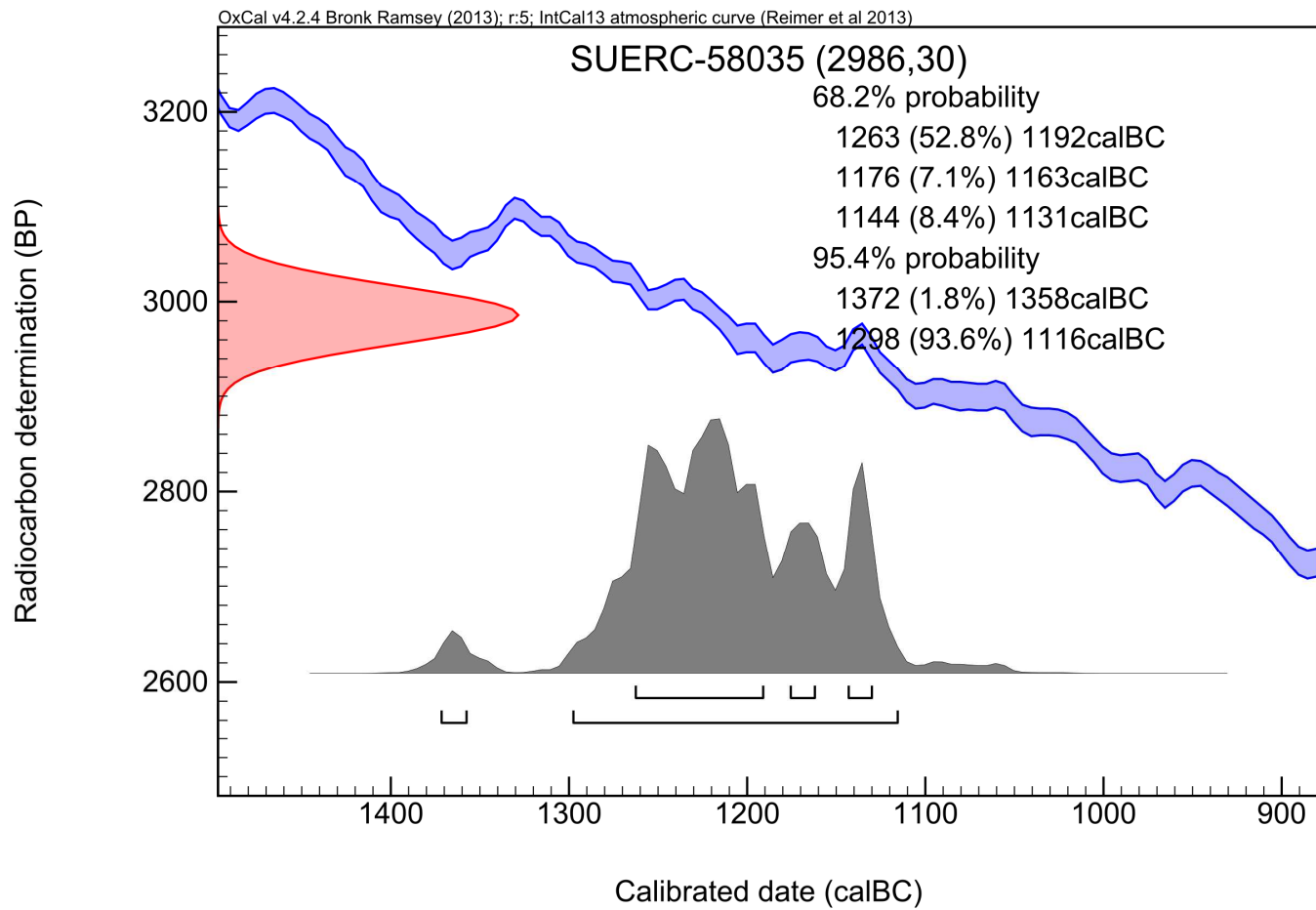
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/02/2015

Checked and signed off by :- *P. Naynt*

Date :- 20/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

20 February 2015

Laboratory Code SUERC-58036 (GU36374)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-004D

Context Reference 550

Sample Reference 260

Material Charcoal : Alnus glutinosa

$\delta^{13}\text{C}$ relative to VPDB -27.9 ‰

Radiocarbon Age BP 2876 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

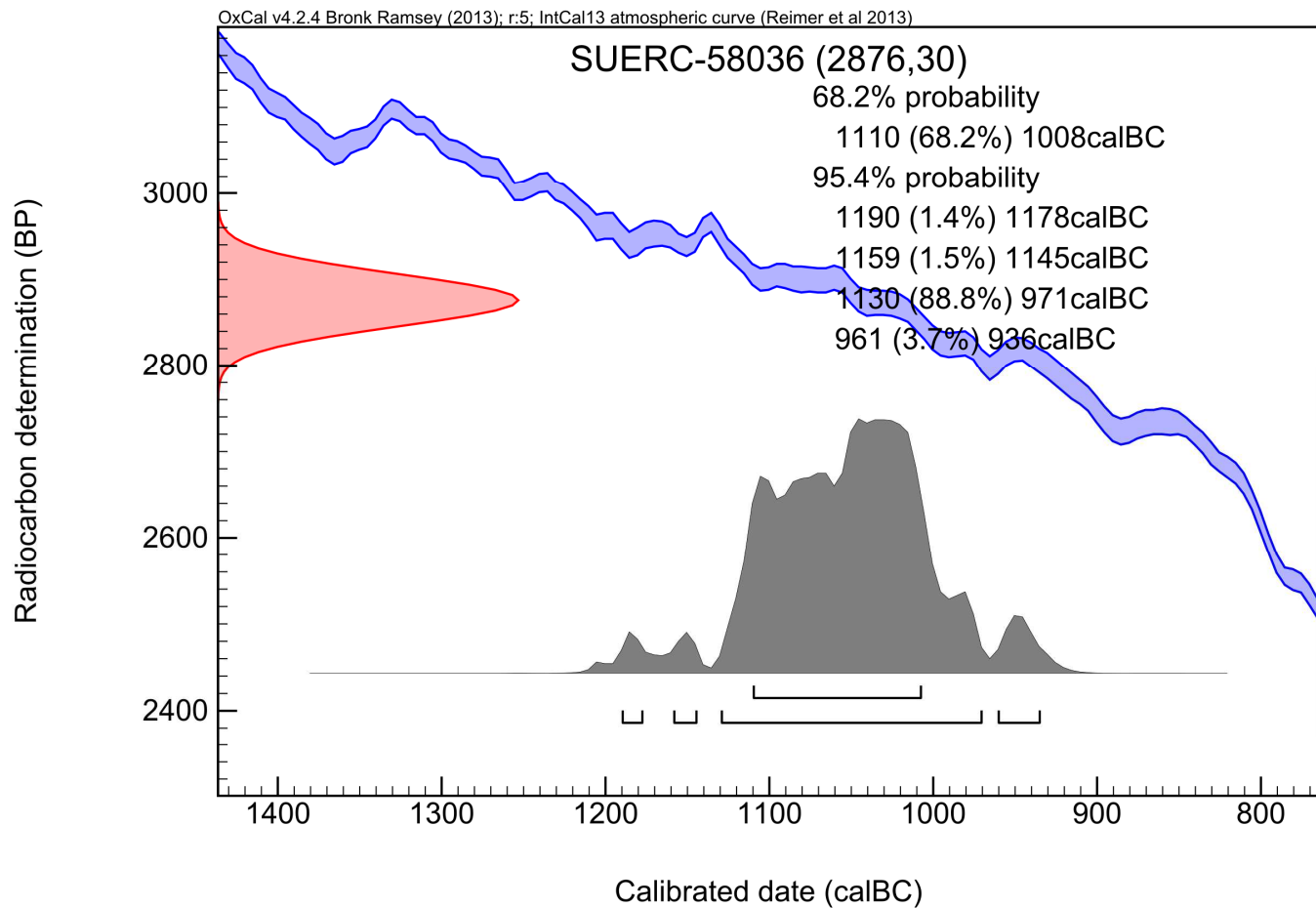
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 20/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

23 February 2015

Laboratory Code SUERC-58187 (GU36506)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL001

Context Reference 14

Sample Reference 110

Material Cereal : Hordeum vulgare

$\delta^{13}\text{C}$ relative to VPDB -22.8 ‰

Radiocarbon Age BP 1613 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

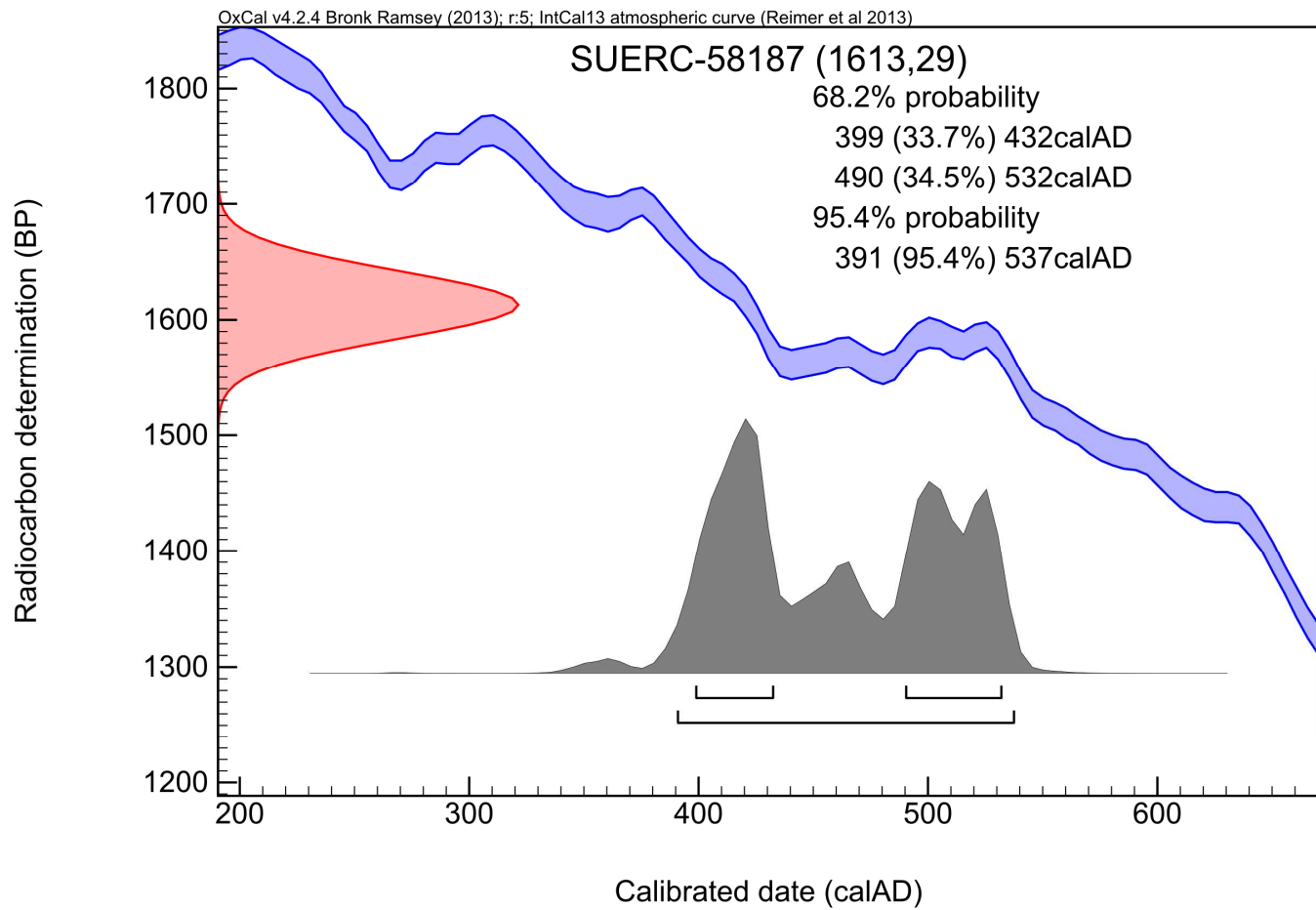
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 23/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 23/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

23 February 2015

Laboratory Code SUERC-58188 (GU36507)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002D

Context Reference 1435

Sample Reference 1187

Material Nutshell : *Corylus avellana*

$\delta^{13}\text{C}$ relative to VPDB -24.2 ‰

Radiocarbon Age BP 5092 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

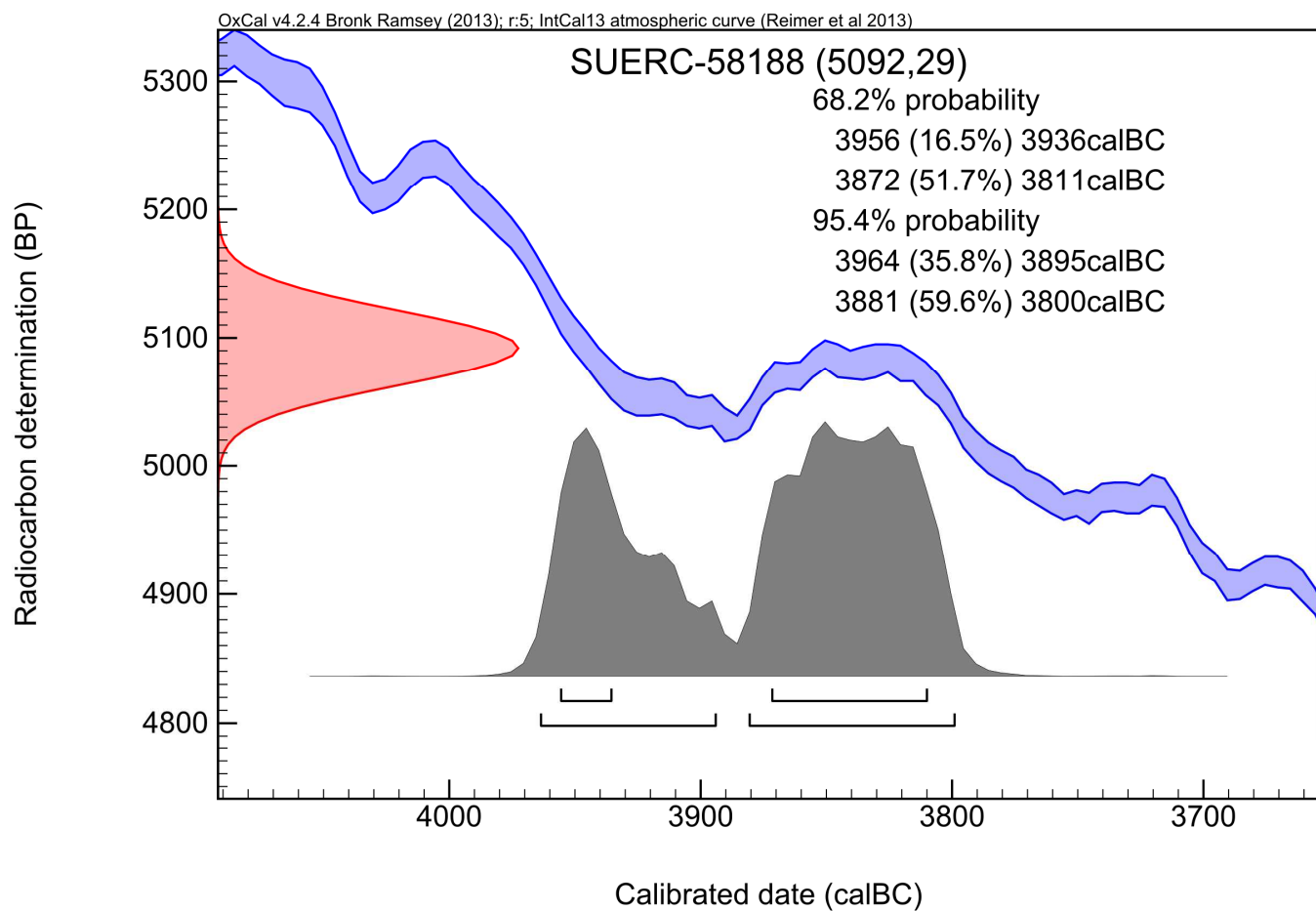
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 23/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 23/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

23 February 2015

Laboratory Code SUERC-58189 (GU36508)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002D

Context Reference 1716

Sample Reference 1230

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -26.2 ‰

Radiocarbon Age BP 6843 \pm 31

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

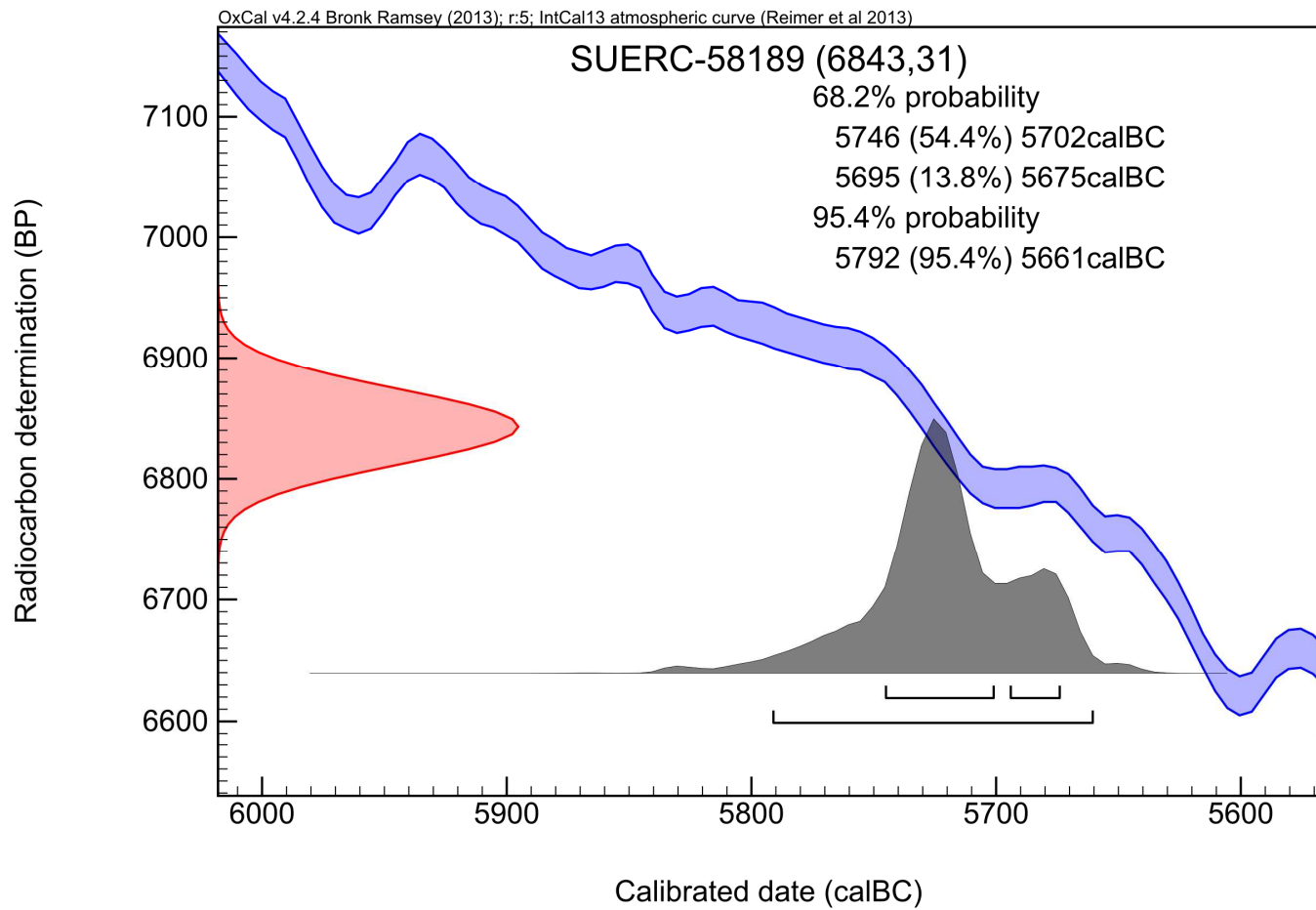
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 23/02/2015

Checked and signed off by :- *P. Naynt*

Date :- 23/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

23 February 2015

Laboratory Code SUERC-58193 (GU36509)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002D

Context Reference 1509

Sample Reference 1207

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -25.4 ‰

Radiocarbon Age BP 5017 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

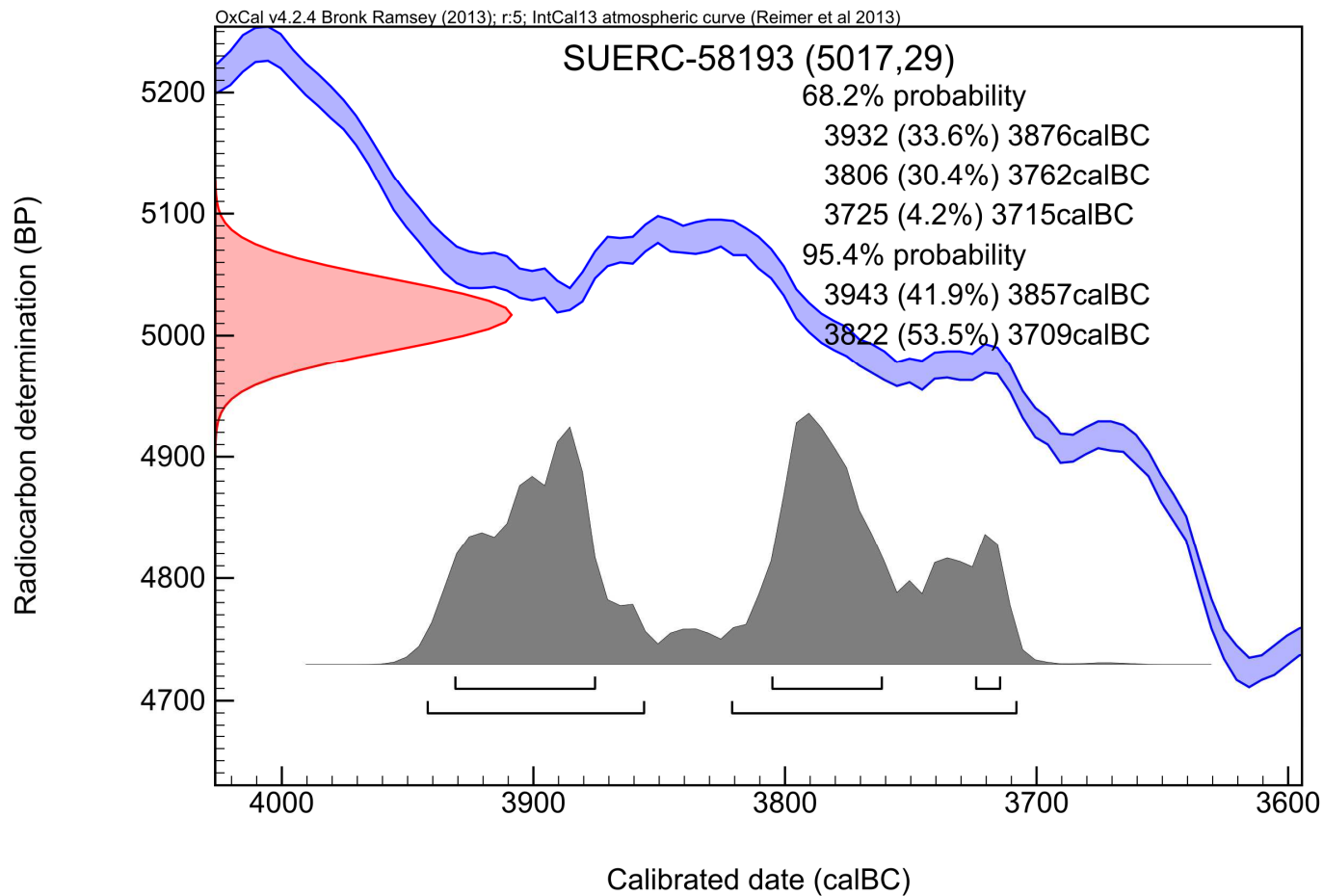
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 23/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 23/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

23 February 2015

Laboratory Code SUERC-58194 (GU36510)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002D

Context Reference 1636

Sample Reference 1265

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -27.2 ‰

Radiocarbon Age BP 5081 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

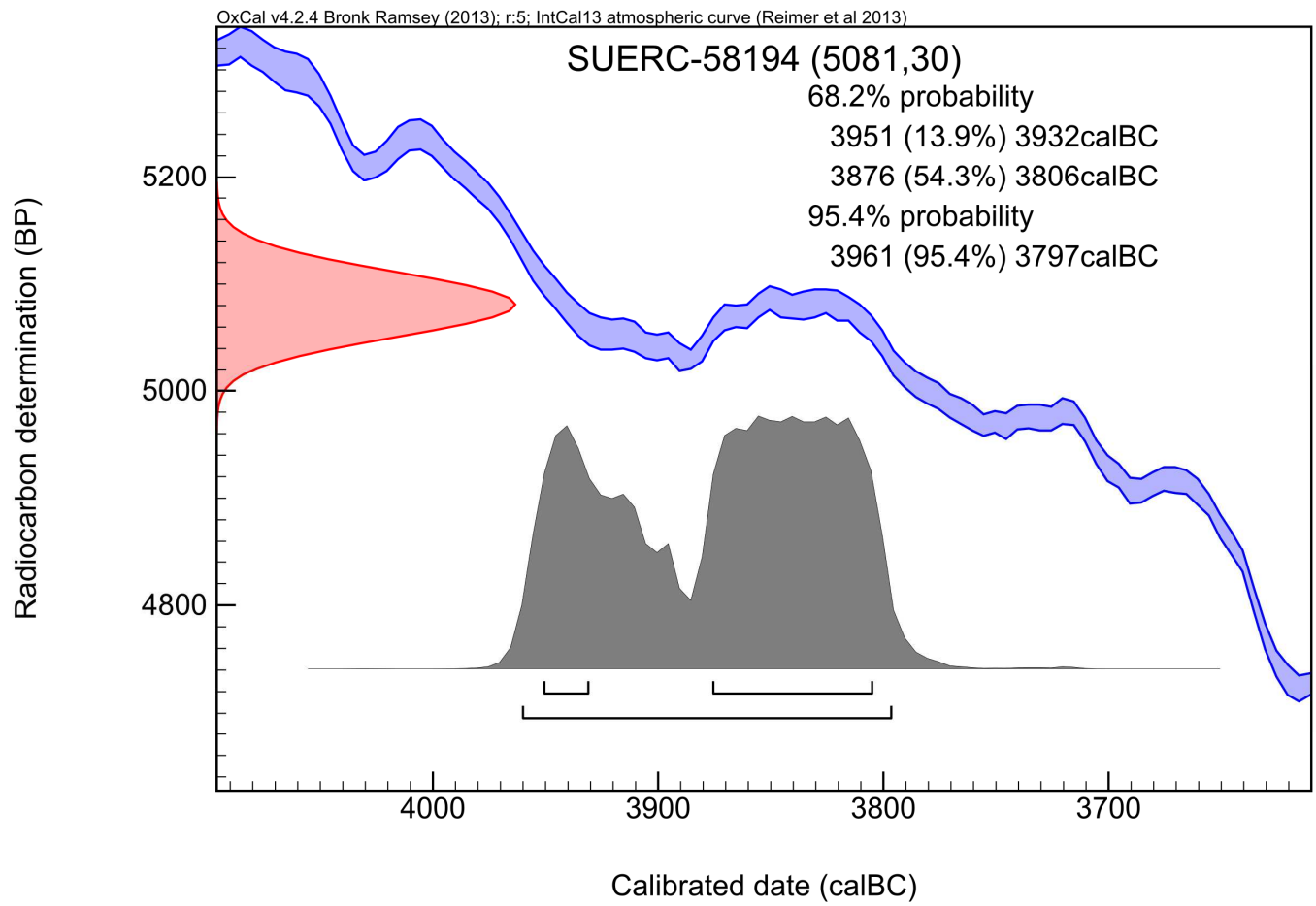
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 23/02/2015

Checked and signed off by :- *P. Naynab*

Date :- 23/02/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58495 (GU36813)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL003B

Context Reference 60

Sample Reference 1026

Material Charcoal : Alnus glutinosa

$\delta^{13}\text{C}$ relative to VPDB -27.4 ‰

Radiocarbon Age BP 3223 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

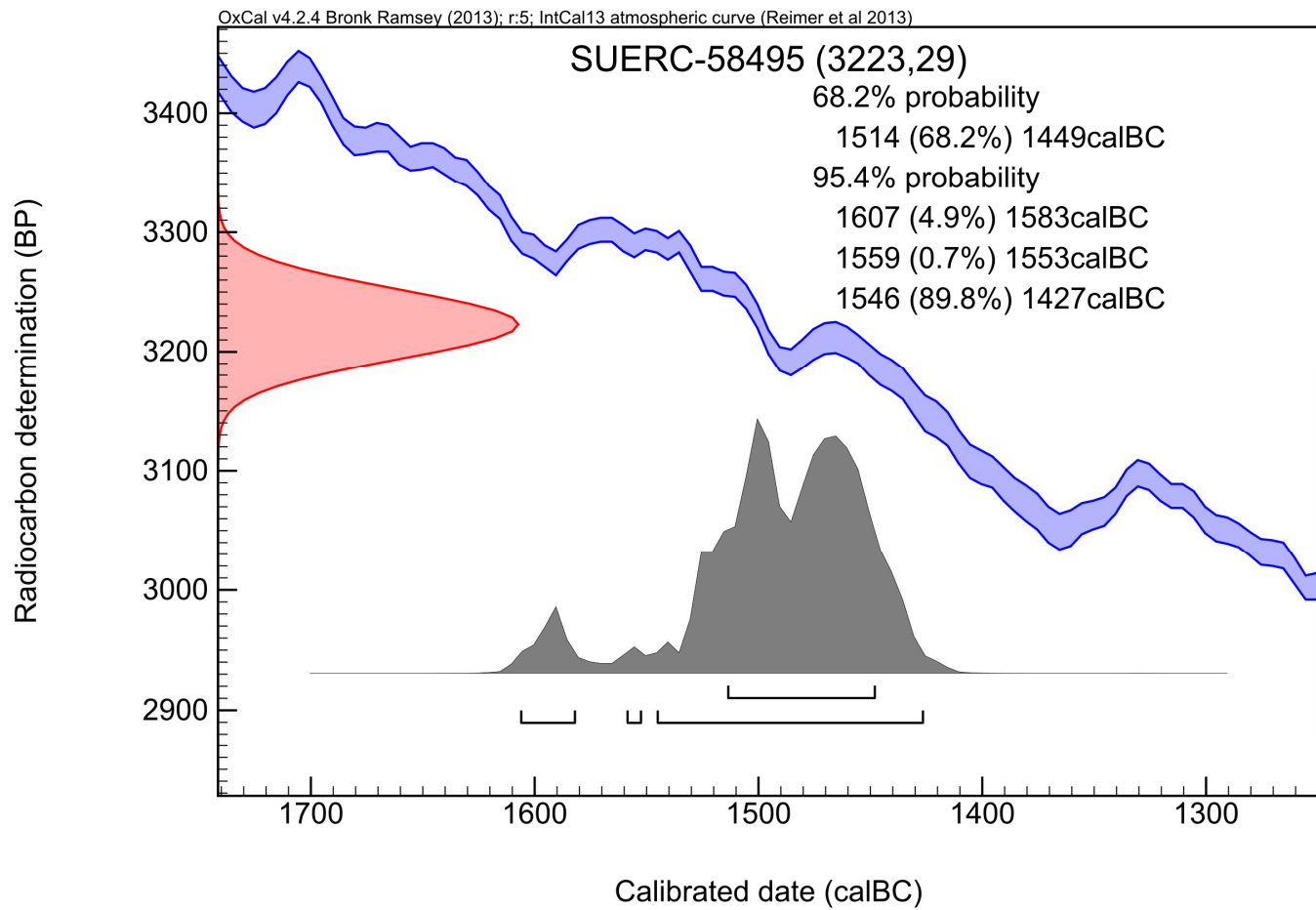
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58496 (GU36814)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL004B

Context Reference 39

Sample Reference 1019

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -25.3 ‰

Radiocarbon Age BP 3084 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

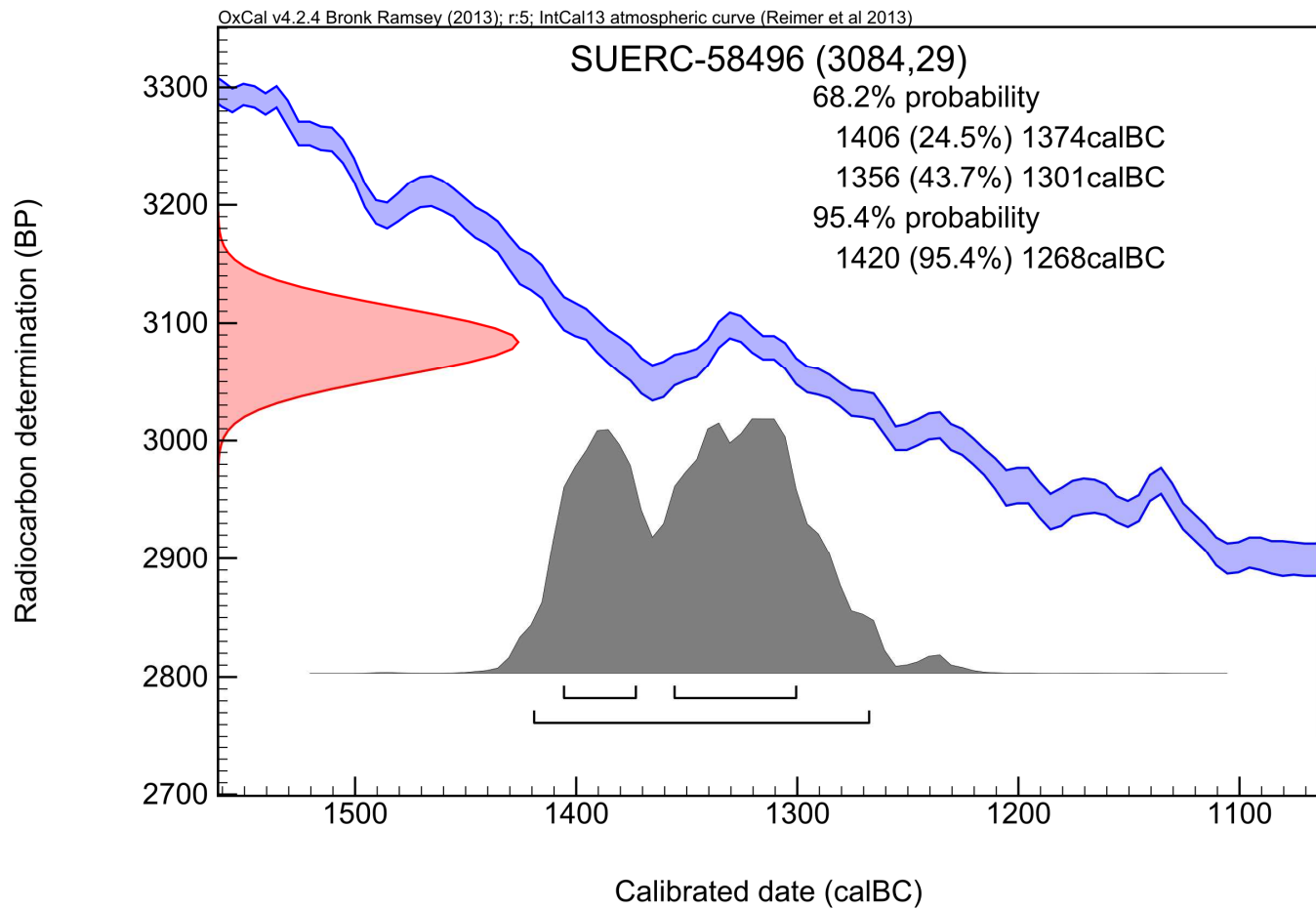
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58497 (GU36511)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002AB

Context Reference 2261

Sample Reference 1220

Material Charcoal : Calluna vulgaris

$\delta^{13}\text{C}$ relative to VPDB -28.1 ‰

Radiocarbon Age BP 1931 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

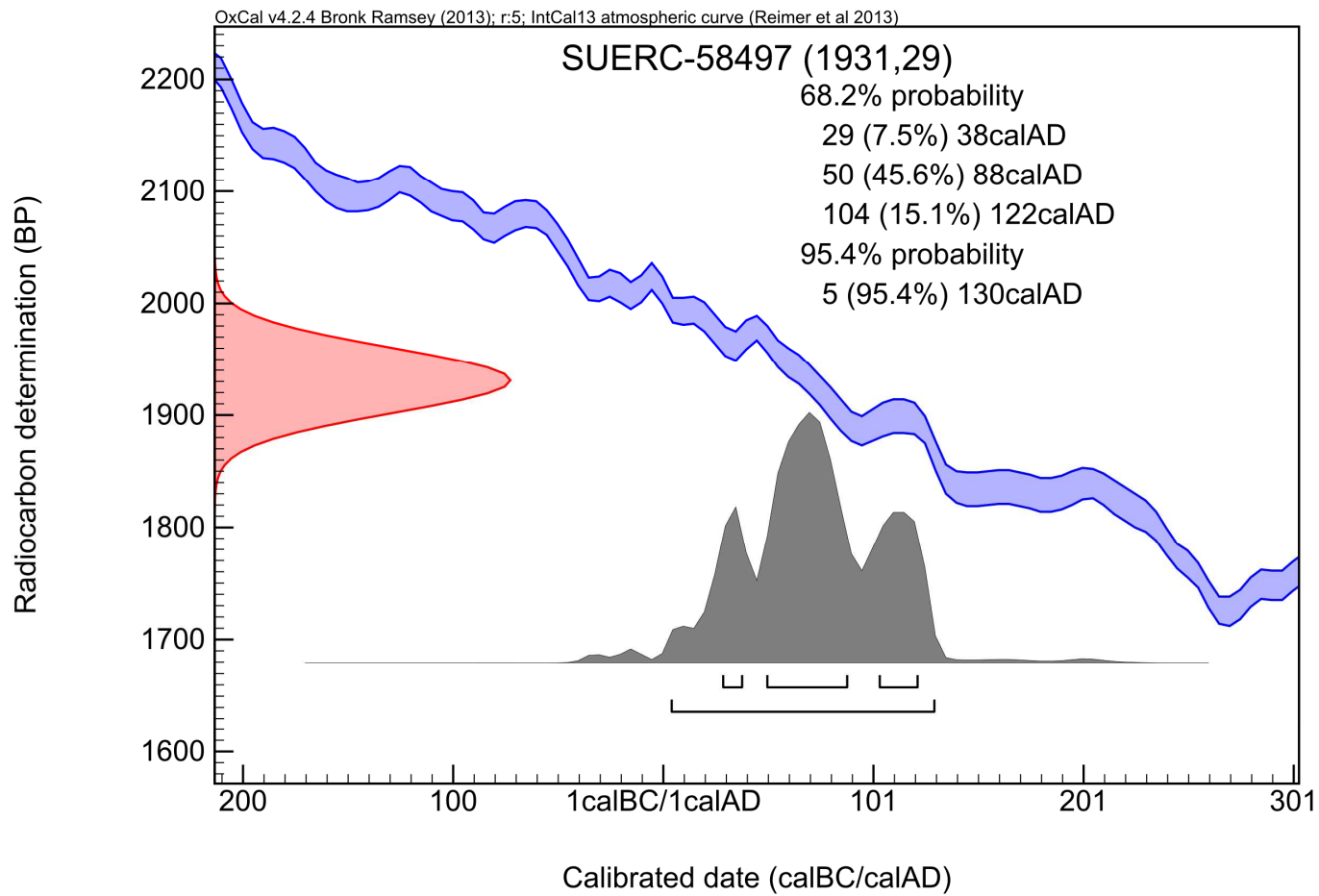
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58498 (GU36512)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002AB

Context Reference 2180

Sample Reference 1113

Material Charcoal : Calluna vulgaris

$\delta^{13}\text{C}$ relative to VPDB -24.4 ‰

Radiocarbon Age BP 2003 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

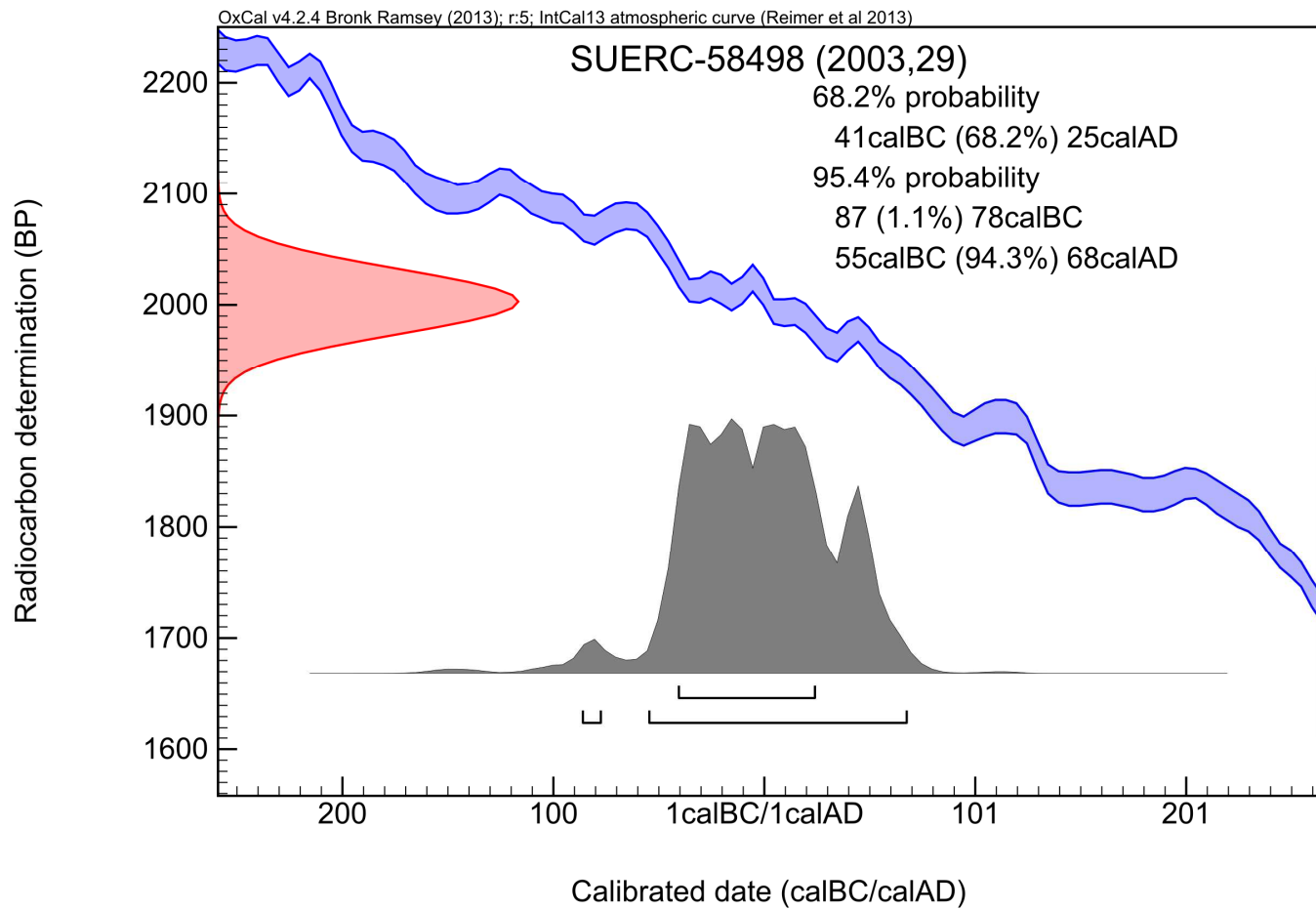
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynt*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58499 (GU36513)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002B

Context Reference 2003

Sample Reference 1073

Material Charcoal : Calluna vulgaris

$\delta^{13}\text{C}$ relative to VPDB -26.4 ‰

Radiocarbon Age BP 1883 \pm 28

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

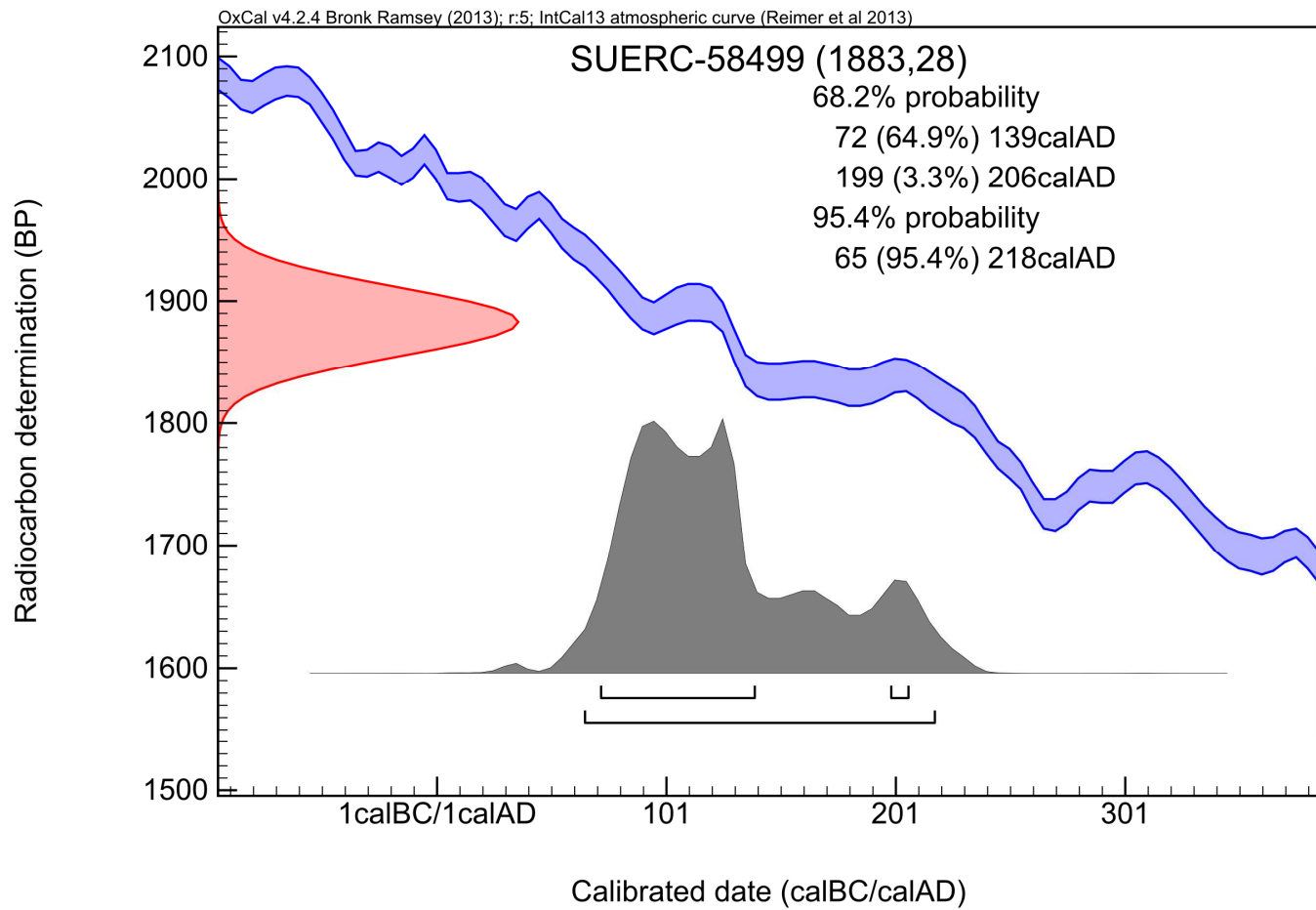
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58500 (GU36514)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002AB

Context Reference 2277

Sample Reference 1088

Material Charcoal : Calluna vulgaris

$\delta^{13}\text{C}$ relative to VPDB -25.9 ‰

Radiocarbon Age BP 1970 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

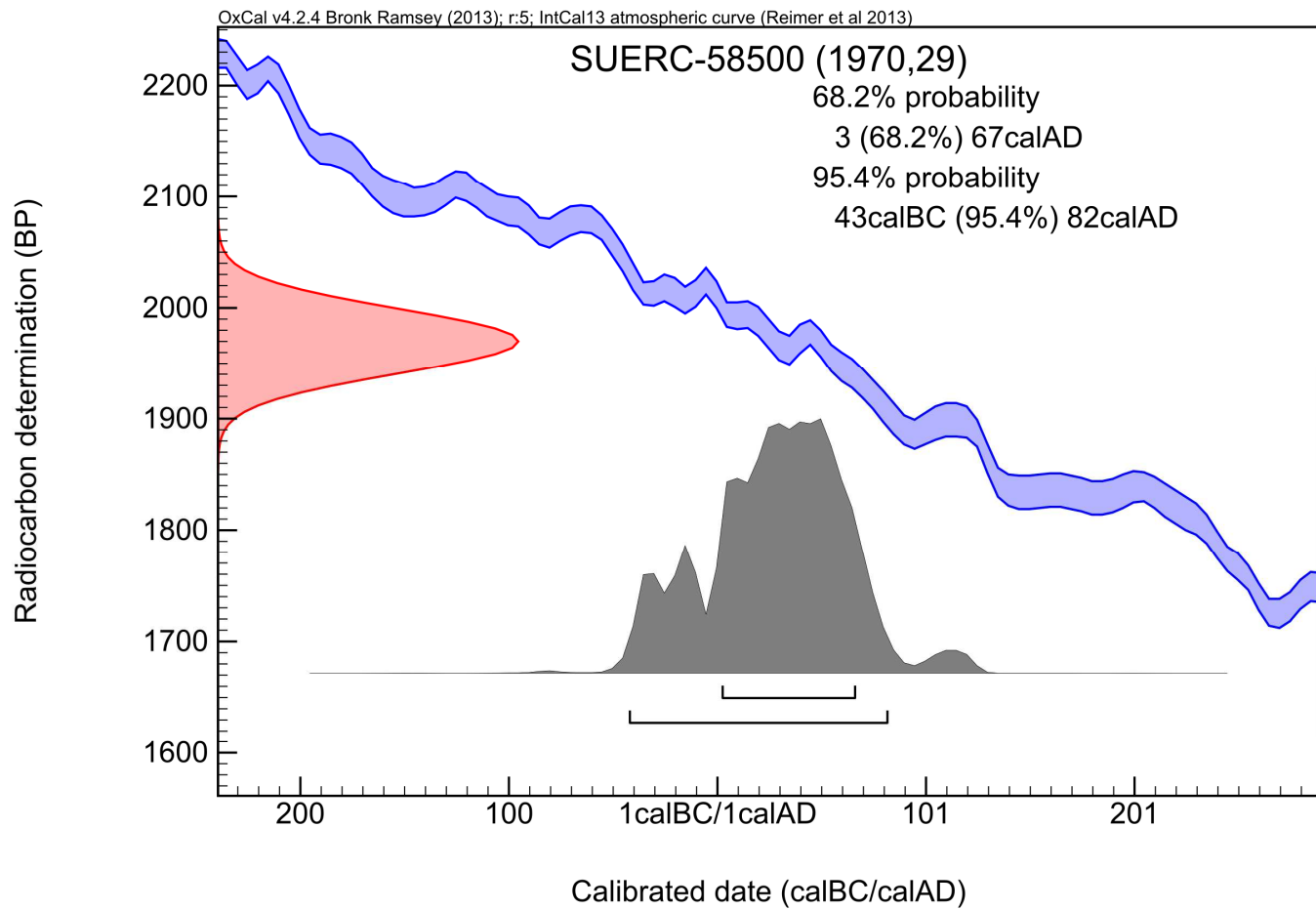
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58504 (GU36515)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002AB

Context Reference 2038

Sample Reference 1070

Material Charcoal : Alnus glutinosa

$\delta^{13}\text{C}$ relative to VPDB -25.5 ‰

Radiocarbon Age BP 1911 \pm 28

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

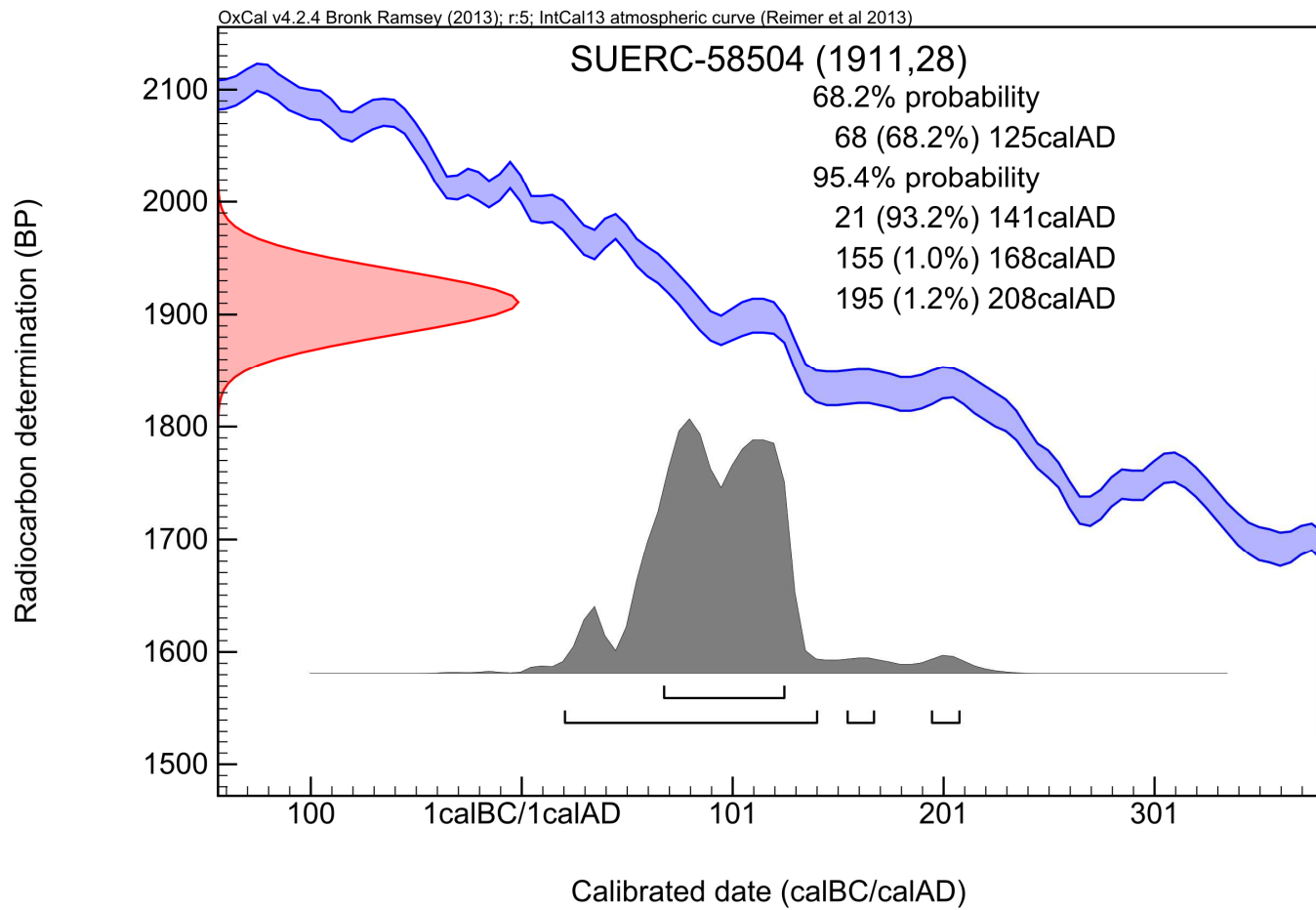
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58505 (GU36516)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002AB

Context Reference 2111

Sample Reference 1110

Material Charcoal : Quercus sp

$\delta^{13}\text{C}$ relative to VPDB -26.7 ‰

Radiocarbon Age BP 2067 \pm 28

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

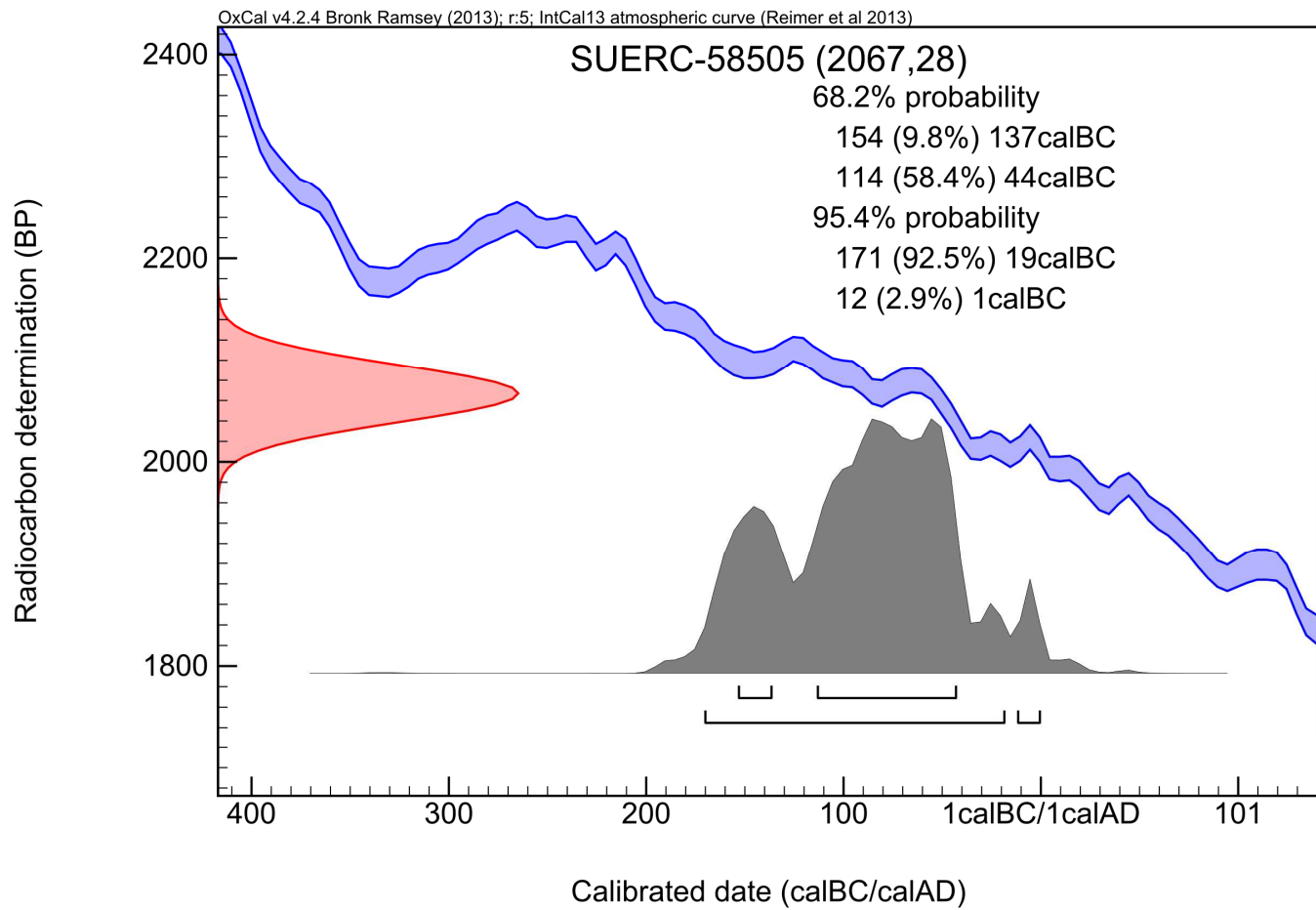
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynt*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58506 (GU36517)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002B

Context Reference 90

Sample Reference 1040

Material Nutshell : *Corylus avellana*

$\delta^{13}\text{C}$ relative to VPDB -28.1 ‰

Radiocarbon Age BP 1051 \pm 28

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

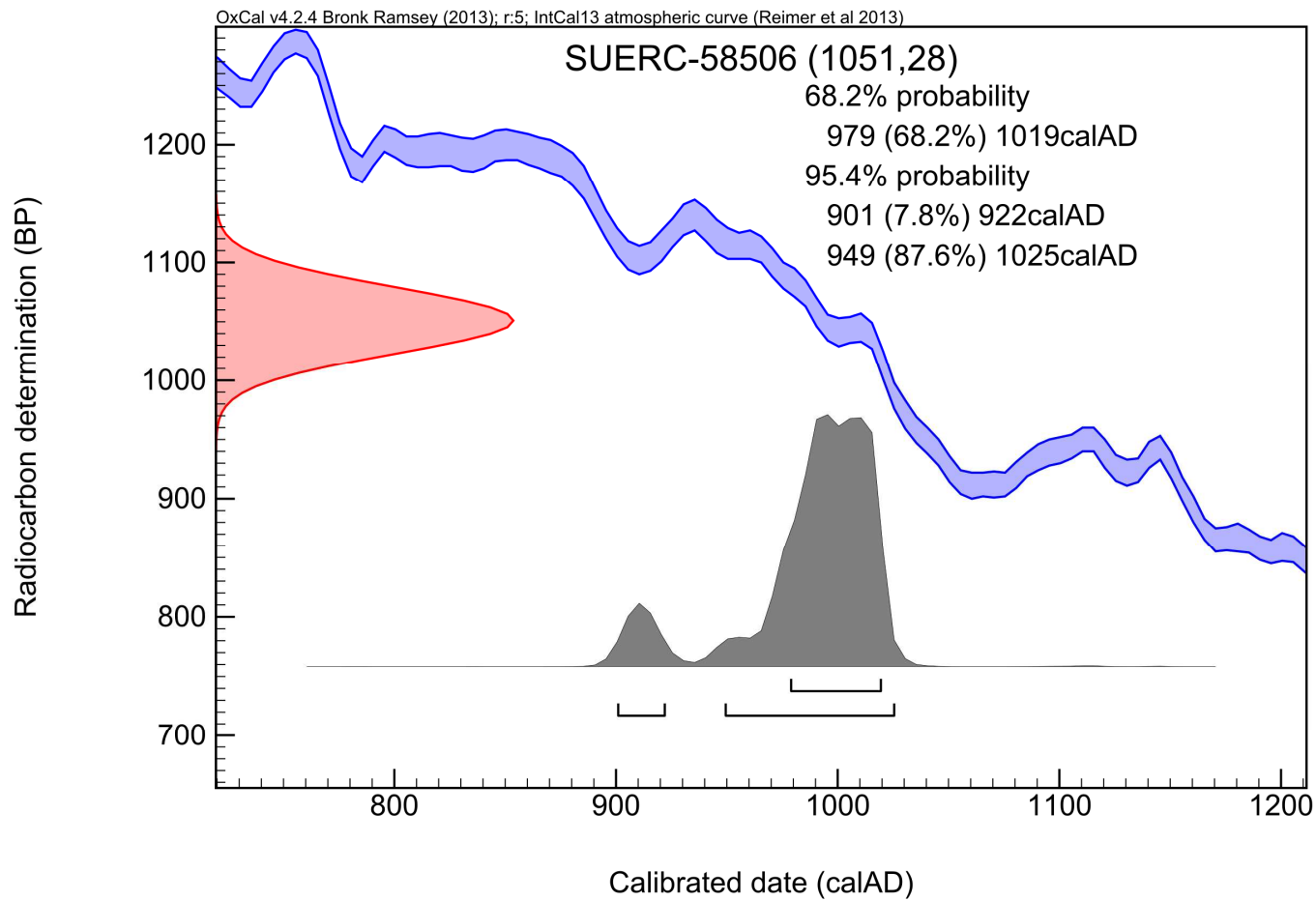
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58507 (GU36518)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002AB

Context Reference 2448

Sample Reference 1134

Material Cereal : Hordeum vulgare

$\delta^{13}\text{C}$ relative to VPDB -23.4 ‰

Radiocarbon Age BP 1334 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

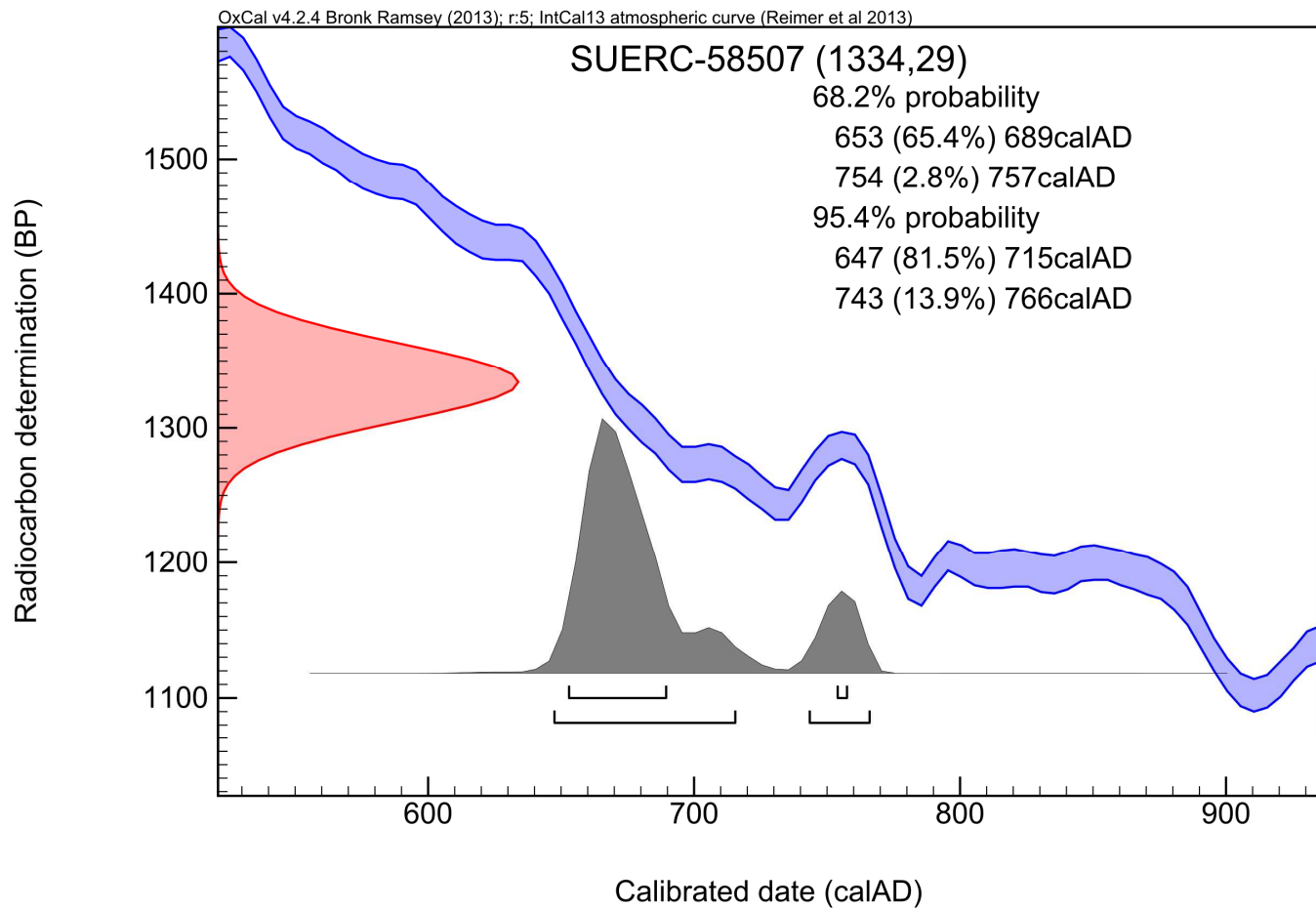
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58508 (GU36519)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002AB

Context Reference 2331

Sample Reference 1107

Material Nutshell : *Corylus avellana*

$\delta^{13}\text{C}$ relative to VPDB -26.4 ‰

Radiocarbon Age BP 314 ± 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot

OxCal v4.2.4 Bronk Ramsey (2013); r:5; IntCal13 atmospheric curve (Reimer et al 2013)

SUERC-58508 (314,29)

68.2% probability

1521 (52.8%) 1591calAD

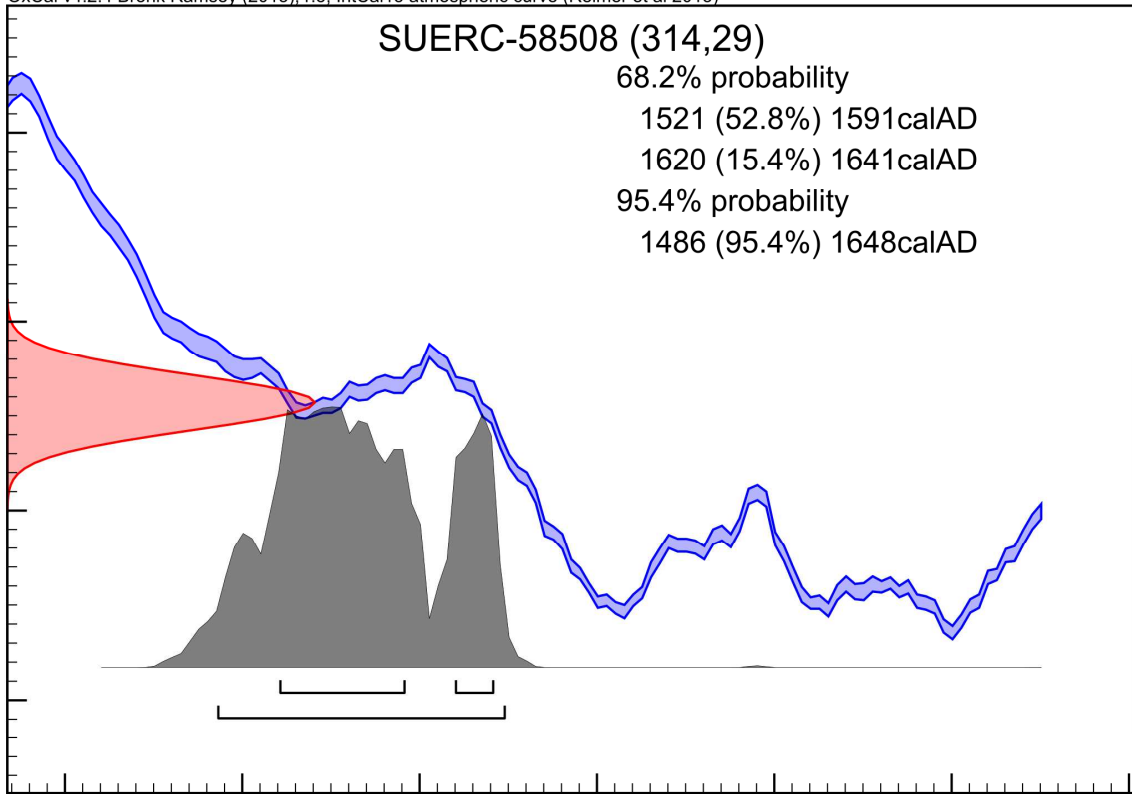
1620 (15.4%) 1641calAD

95.4% probability

1486 (95.4%) 1648calAD

Radiocarbon determination (BP)

600
400
200
0



Calibrated date (calAD)

2000

RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58509 (GU36520)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002A

Context Reference 49

Sample Reference 1021

Material Charcoal : Ilex aquifolium

$\delta^{13}\text{C}$ relative to VPDB -24.7 ‰

Radiocarbon Age BP 1897 \pm 28

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

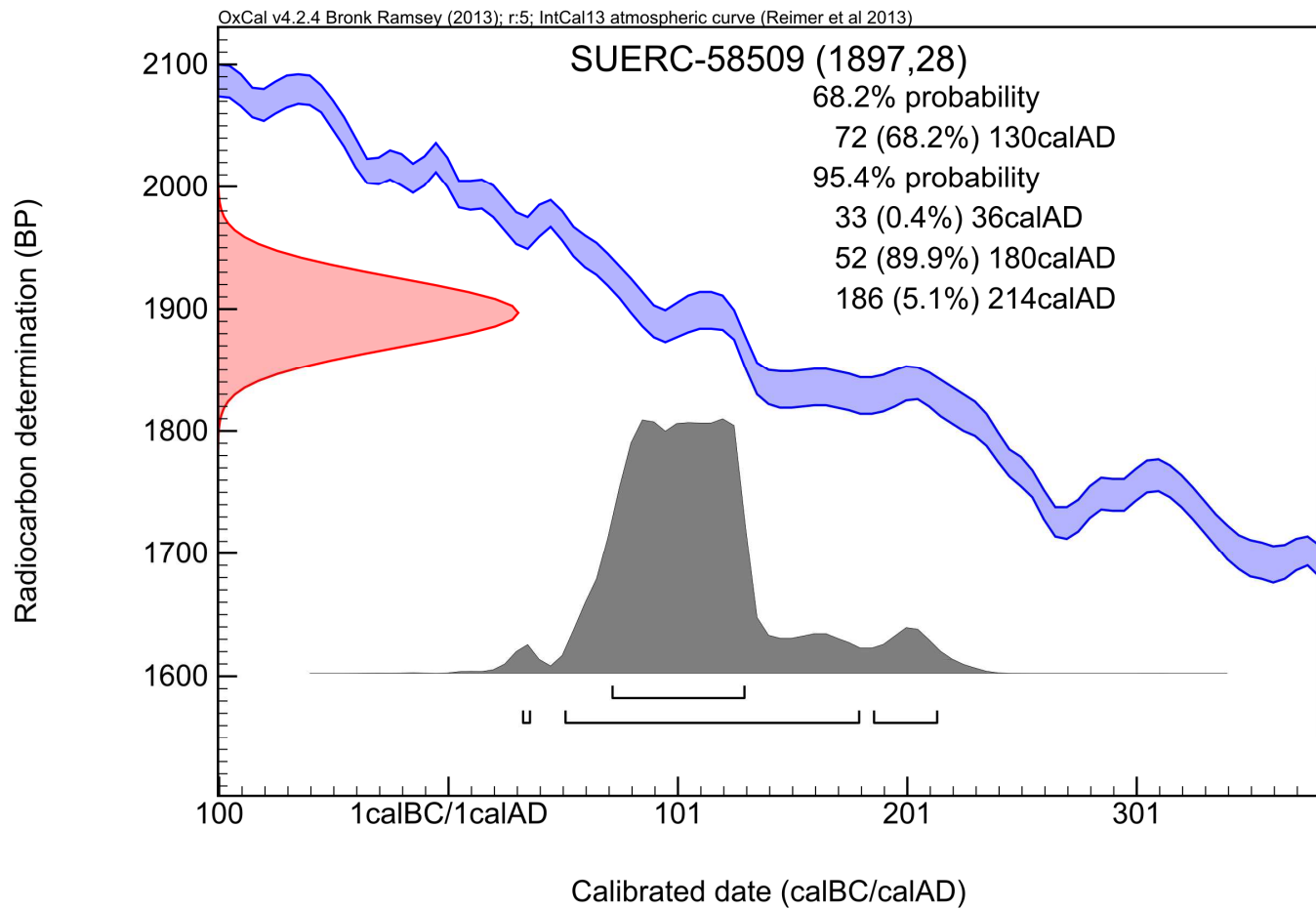
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58510 (GU36522)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL003B

Context Reference 127

Sample Reference 1057

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -26.3 ‰

Radiocarbon Age BP 3183 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

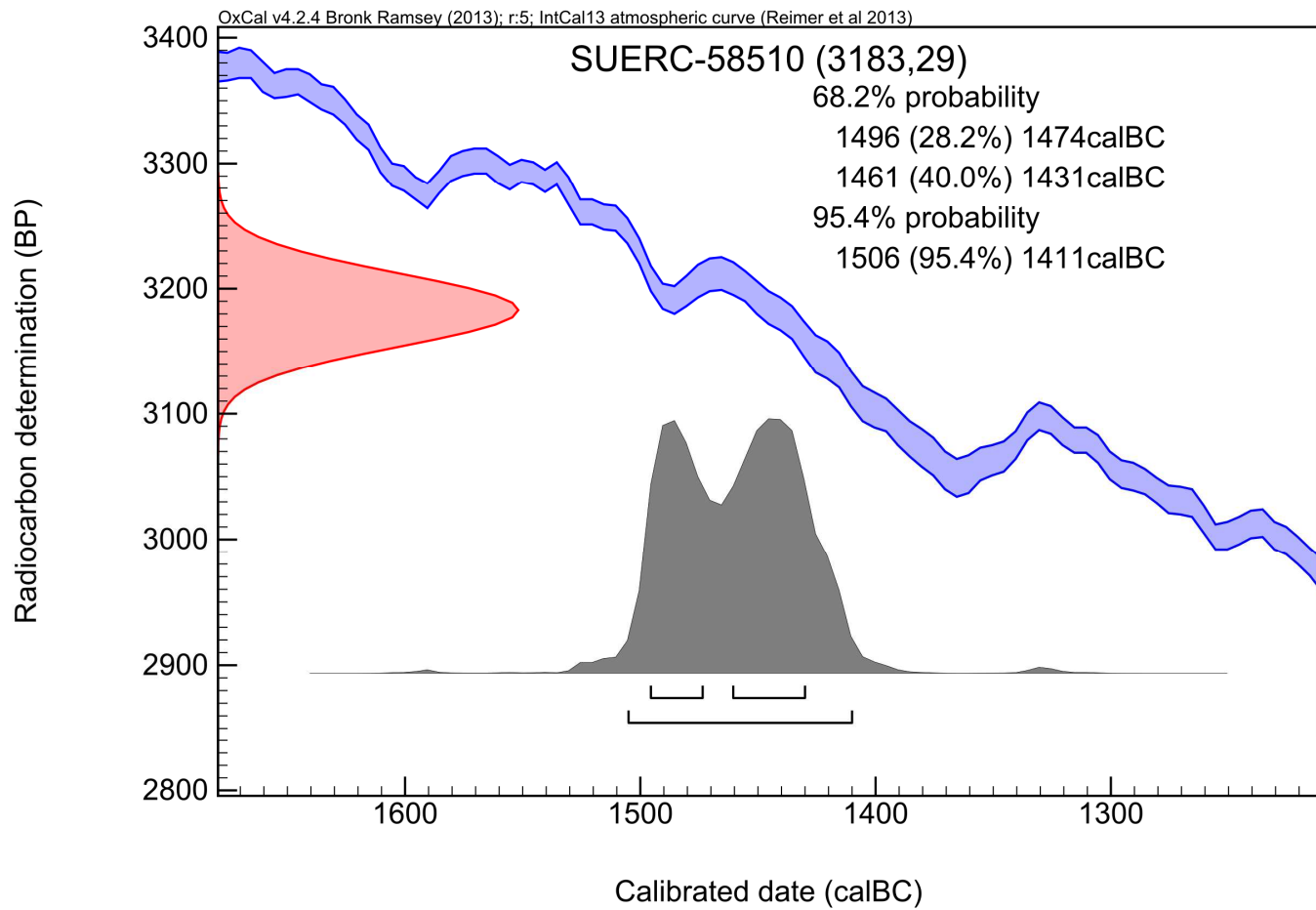
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58514 (GU36523)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL003B

Context Reference 16

Sample Reference 1059

Material Charcoal : Salix sp

$\delta^{13}\text{C}$ relative to VPDB -24.8 ‰

Radiocarbon Age BP 3136 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

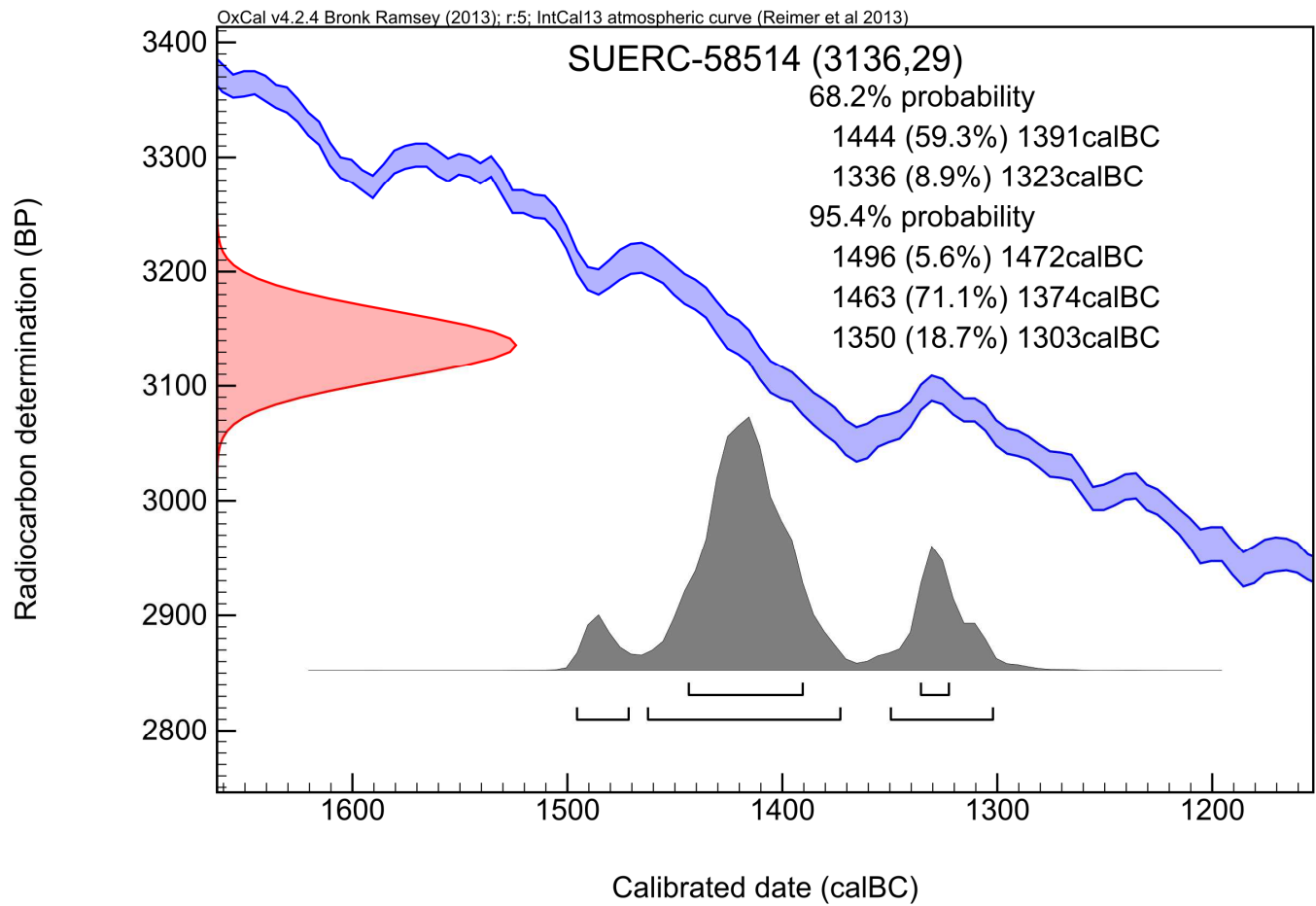
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58515 (GU36525)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL003B

Context Reference 127

Sample Reference 1097

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -26.5 ‰

Radiocarbon Age BP 3134 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

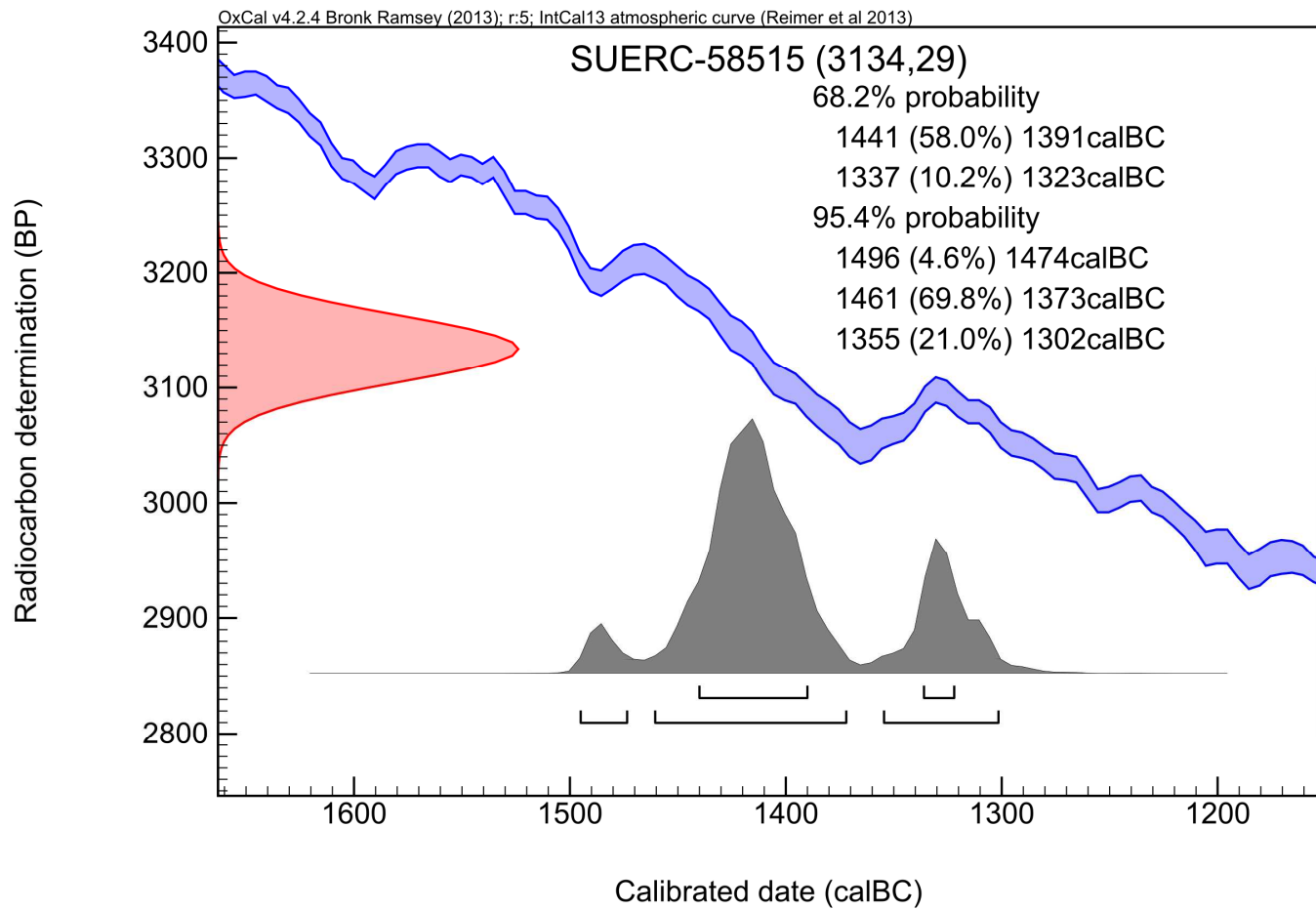
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58516 (GU36527)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002C

Context Reference 17

Sample Reference 1008

Material Charcoal : Coryuls avellana

$\delta^{13}\text{C}$ relative to VPDB -26.6 ‰

Radiocarbon Age BP 3886 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot

OxCal v4.2.4 Bronk Ramsey (2013); r:5; IntCal13 atmospheric curve (Reimer et al 2013)

SUERC-58516 (3886,29)

68.2% probability

2457 (68.2%) 2342calBC

95.4% probability

2468 (95.4%) 2290calBC

Radiocarbon determination (BP)

4000

3800

3600

2600

2500

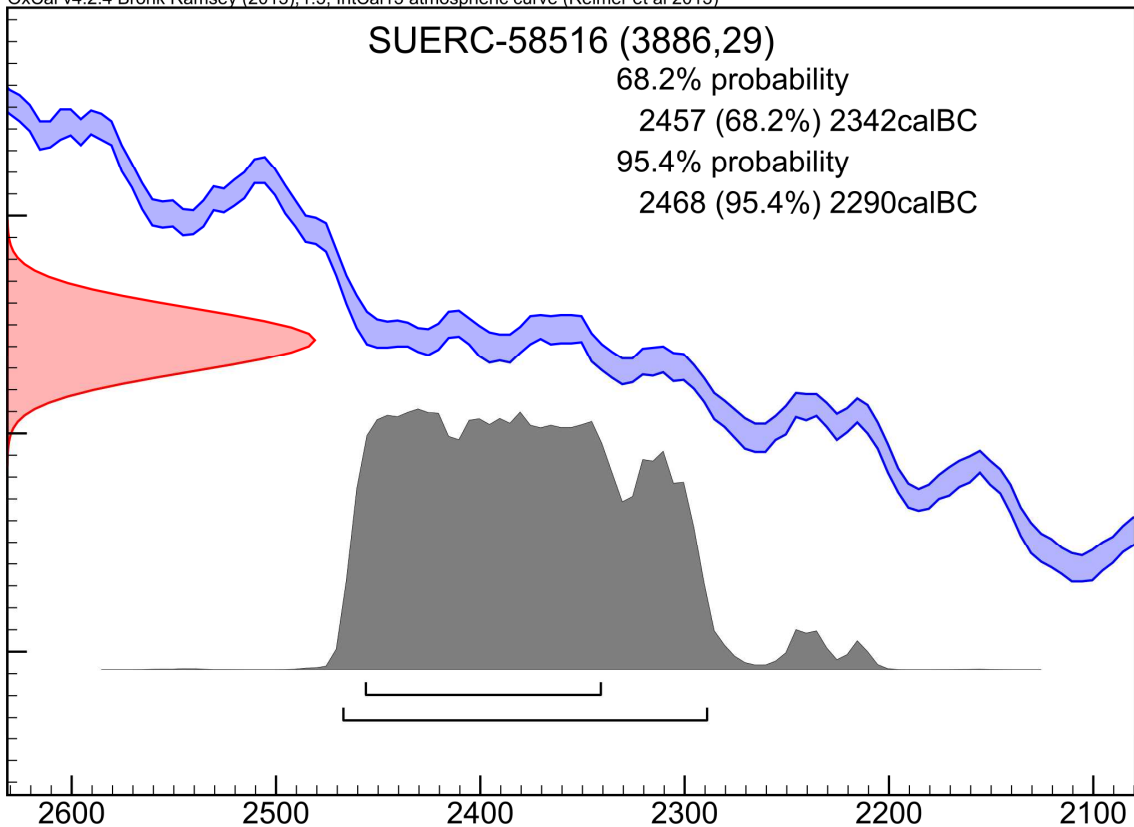
2400

2300

2200

2100

Calibrated date (calBC)



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58517 (GU36529)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002C

Context Reference 160

Sample Reference 1096

Material Charcoal : Quercus sp

$\delta^{13}\text{C}$ relative to VPDB -27.0 ‰

Radiocarbon Age BP 3909 \pm 28

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot

OxCal v4.2.4 Bronk Ramsey (2013); r:5; IntCal13 atmospheric curve (Reimer et al 2013)

SUERC-58517 (3909,28)

68.2% probability

2466 (43.8%) 2401calBC

2382 (24.4%) 2348calBC

95.4% probability

2472 (88.4%) 2333calBC

2325 (7.0%) 2300calBC

Radiocarbon determination (BP)

4000
3800
3600

2600

2500

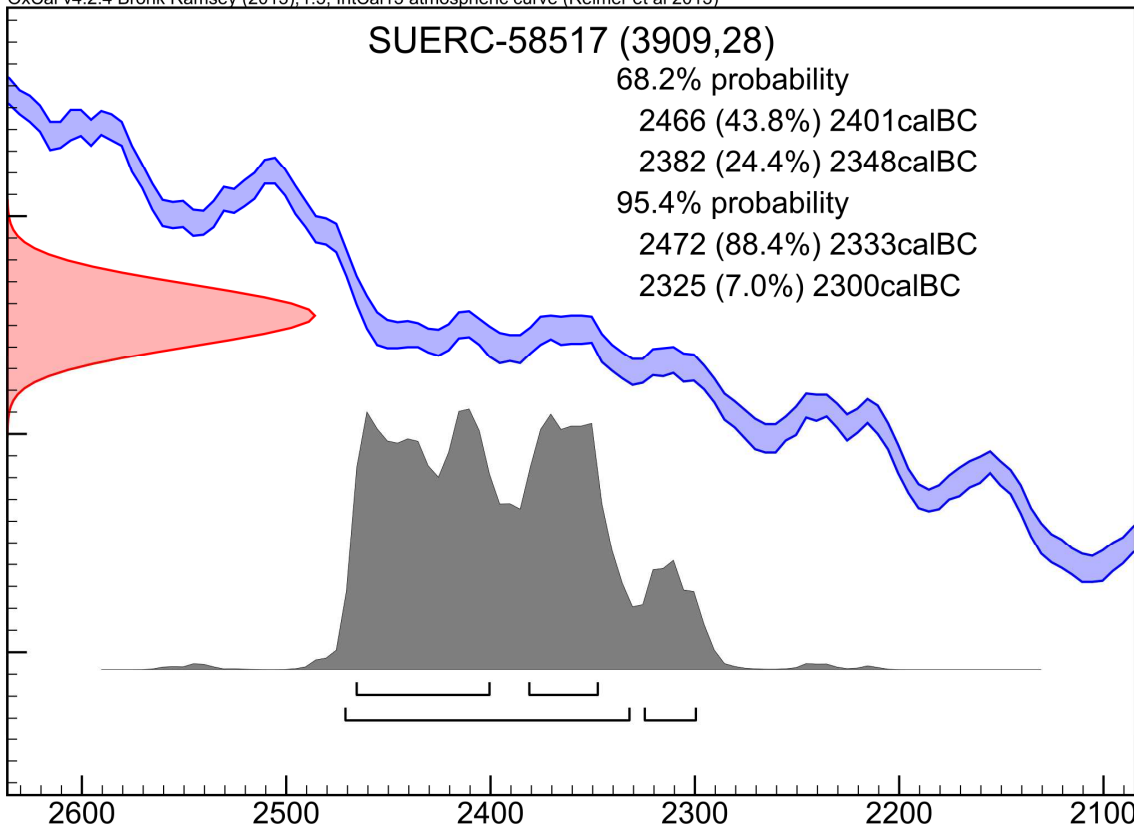
2400

2300

2200

2100

Calibrated date (calBC)



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58518 (GU36530)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL004B

Context Reference 13

Sample Reference 1014

Material Nutshell : *Corylus avellana*

$\delta^{13}\text{C}$ relative to VPDB -26.2 ‰

Radiocarbon Age BP 3124 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

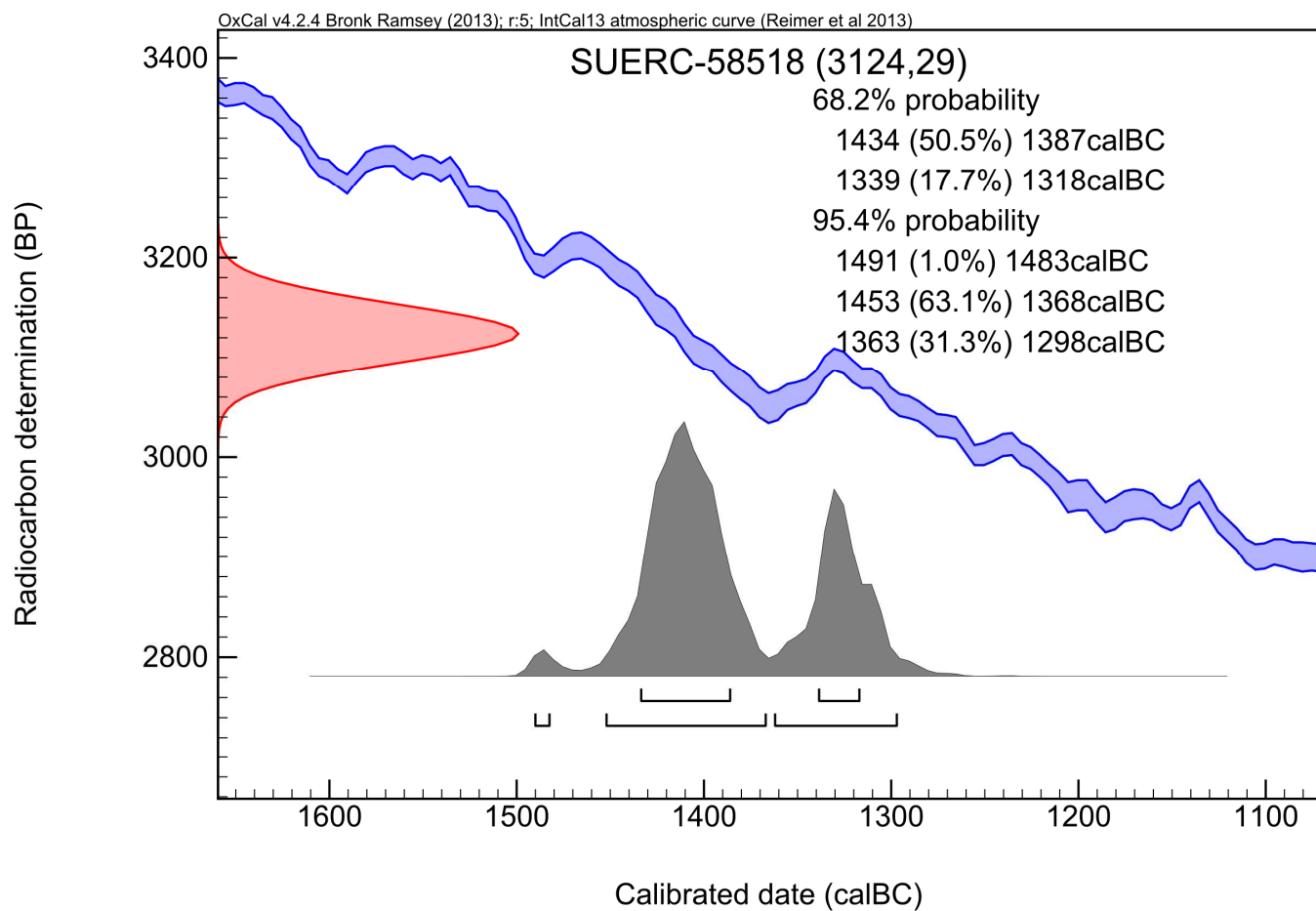
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58599 (GU36683)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL 0012

Context Reference 18

Sample Reference 4

Material Charcoal : Quercus sp

$\delta^{13}\text{C}$ relative to VPDB -24.2 ‰

Radiocarbon Age BP 5111 \pm 28

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

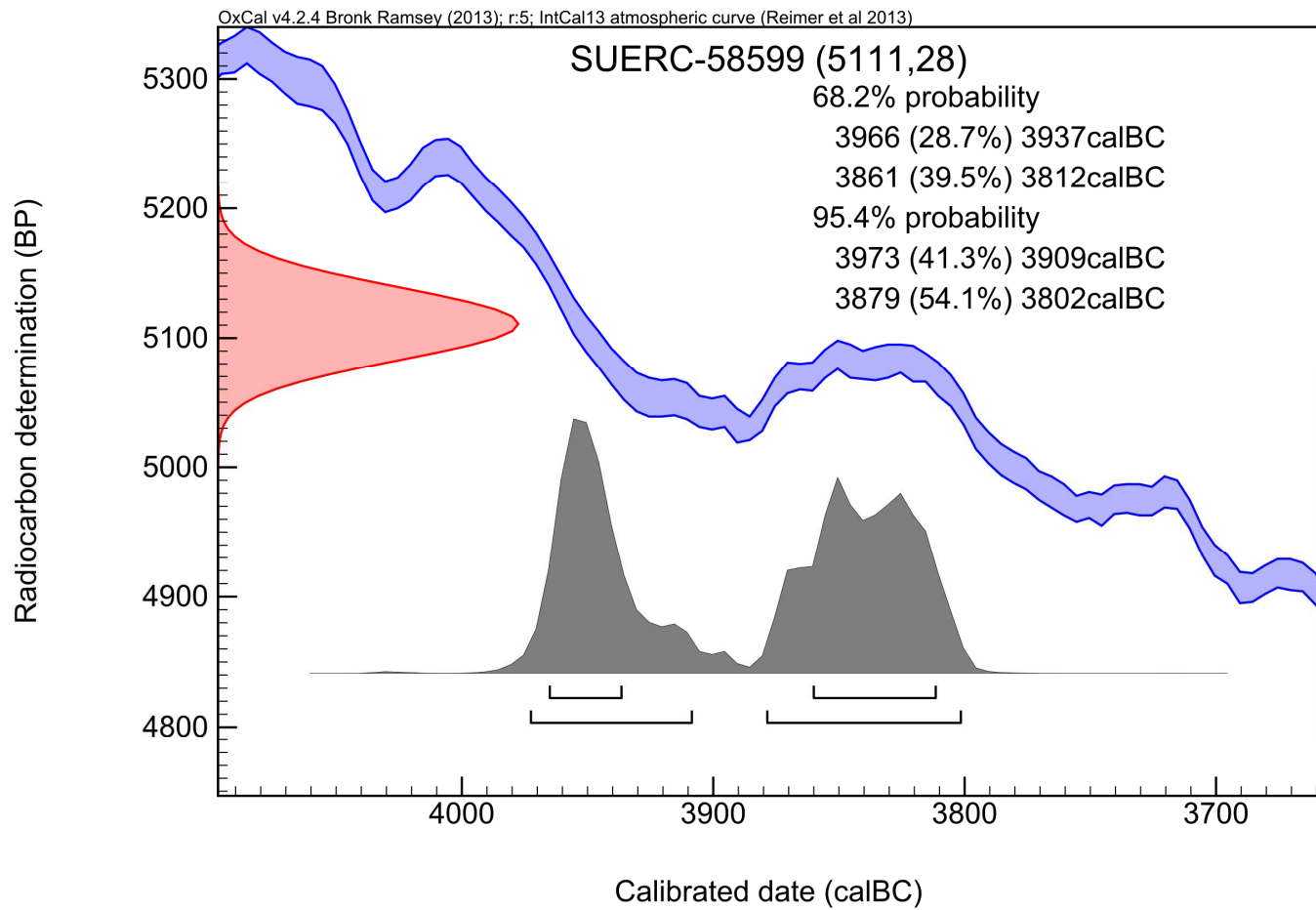
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58600 (GU36684)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL 0012

Context Reference 25

Sample Reference 13

Material Charcoal : Alnus glutinosa

$\delta^{13}\text{C}$ relative to VPDB -26.9 ‰

Radiocarbon Age BP 4744 \pm 28

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

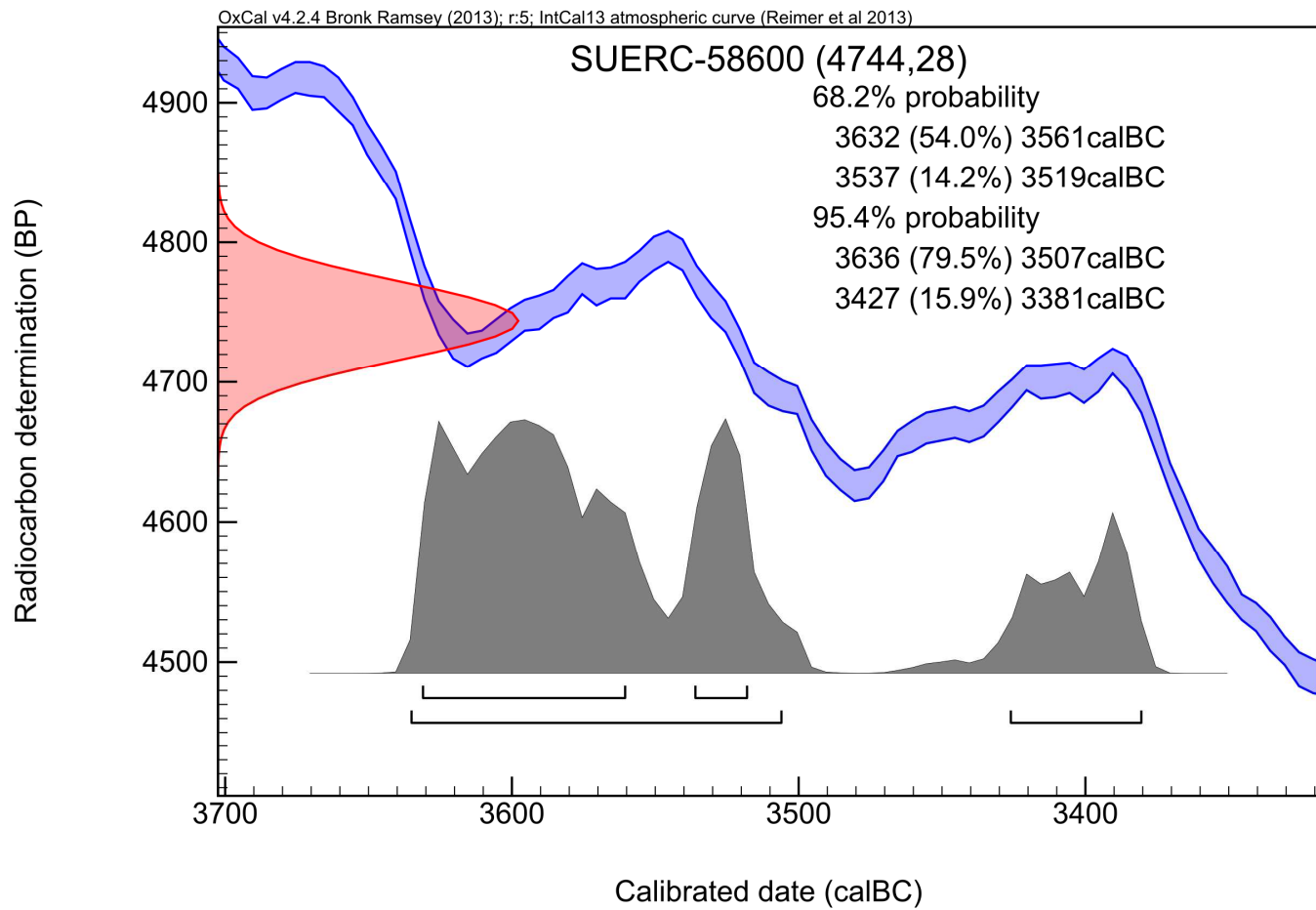
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58604 (GU36685)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 1214

Sample Reference 1120

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -28.0 ‰

Radiocarbon Age BP 4633 \pm 28

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

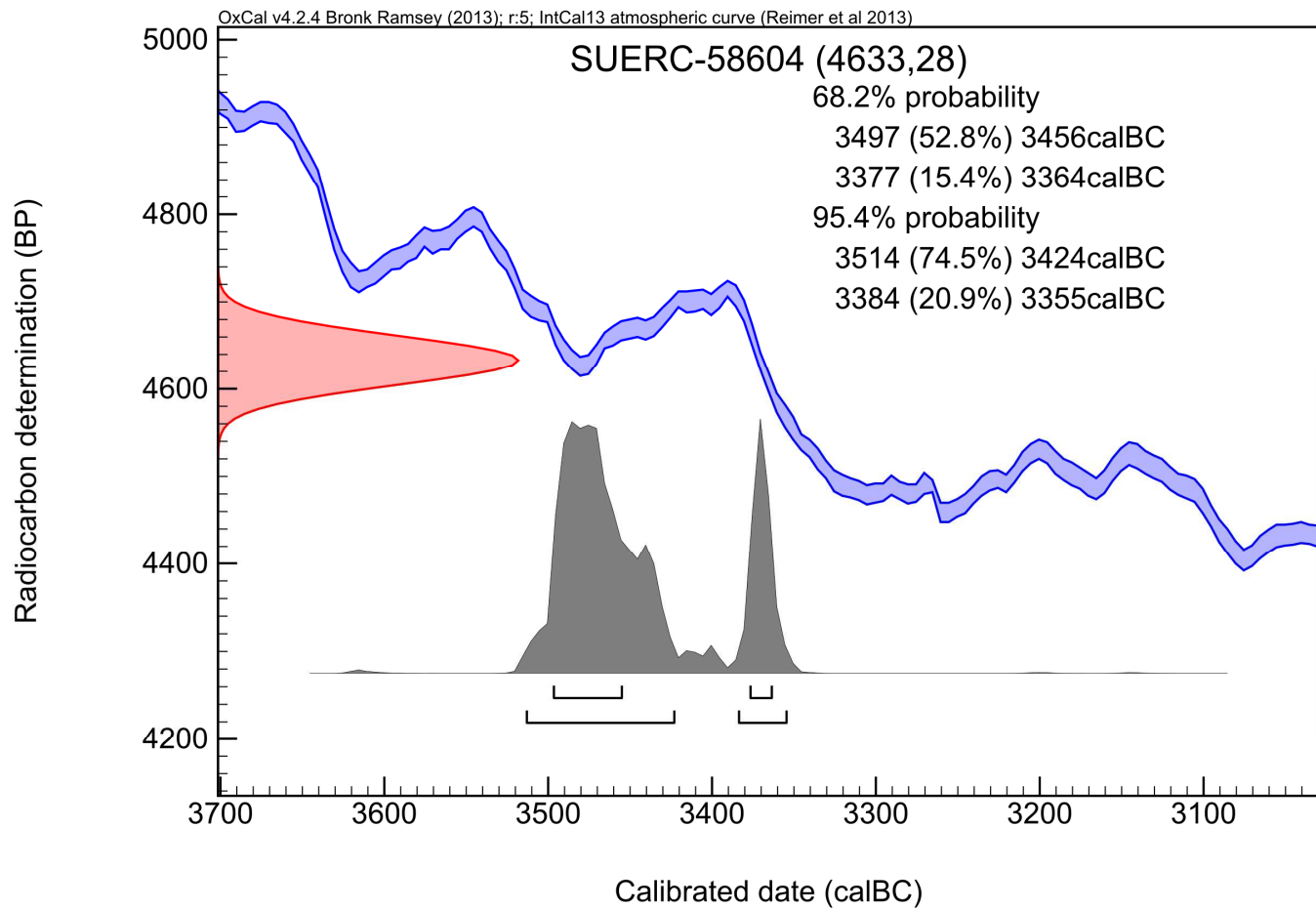
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code SUERC-58605 (GU36686)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 1235

Sample Reference 1113

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -25.8 ‰

Radiocarbon Age BP 4494 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

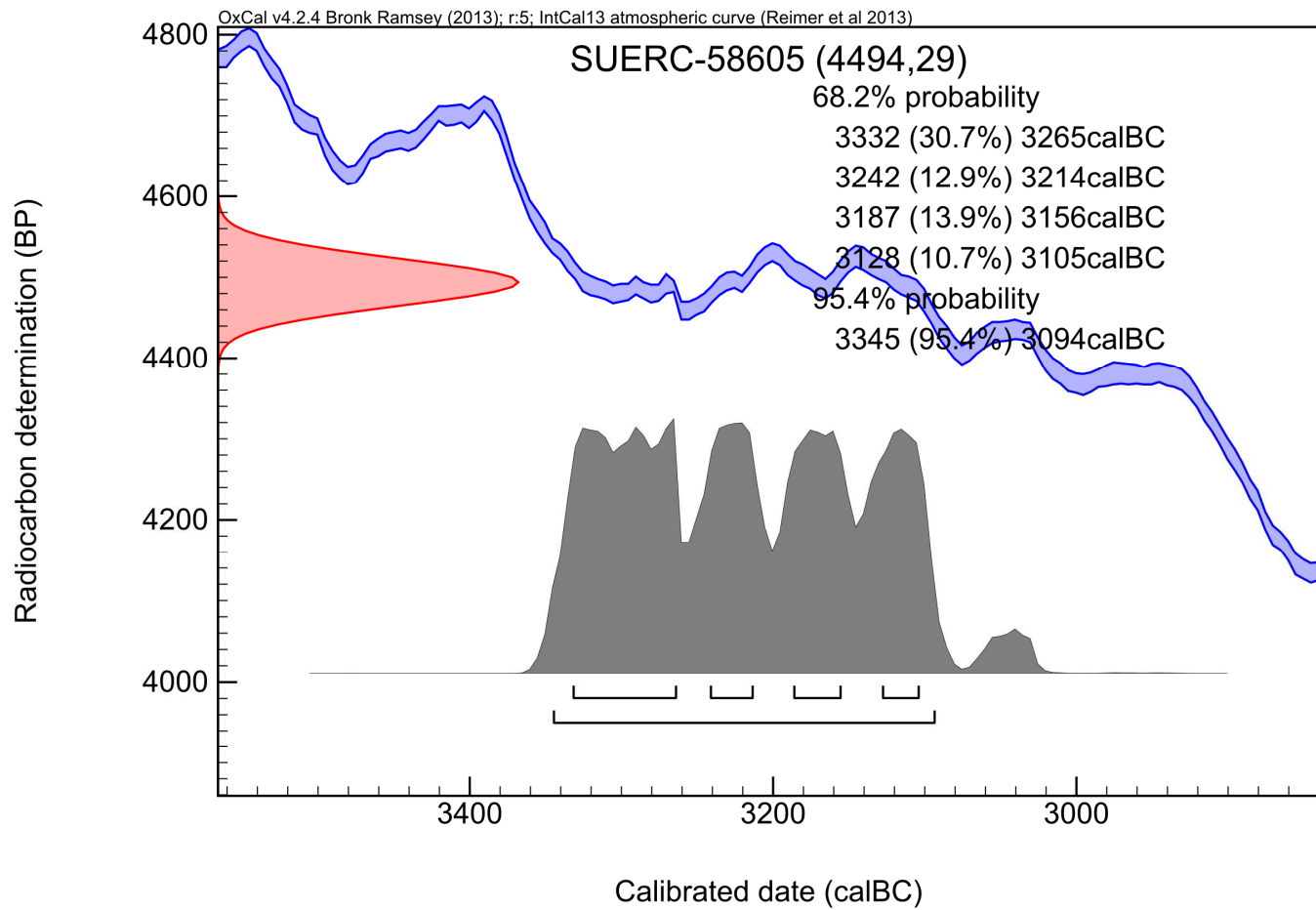
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 16/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 16/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

18 March 2015

Laboratory Code SUERC-58617 (GU36365R)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002D

Context Reference 1898

Sample Reference 1267

Material Charcoal : Salix sp

$\delta^{13}\text{C}$ relative to VPDB -24.9 ‰

Radiocarbon Age BP 5097 \pm 28

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

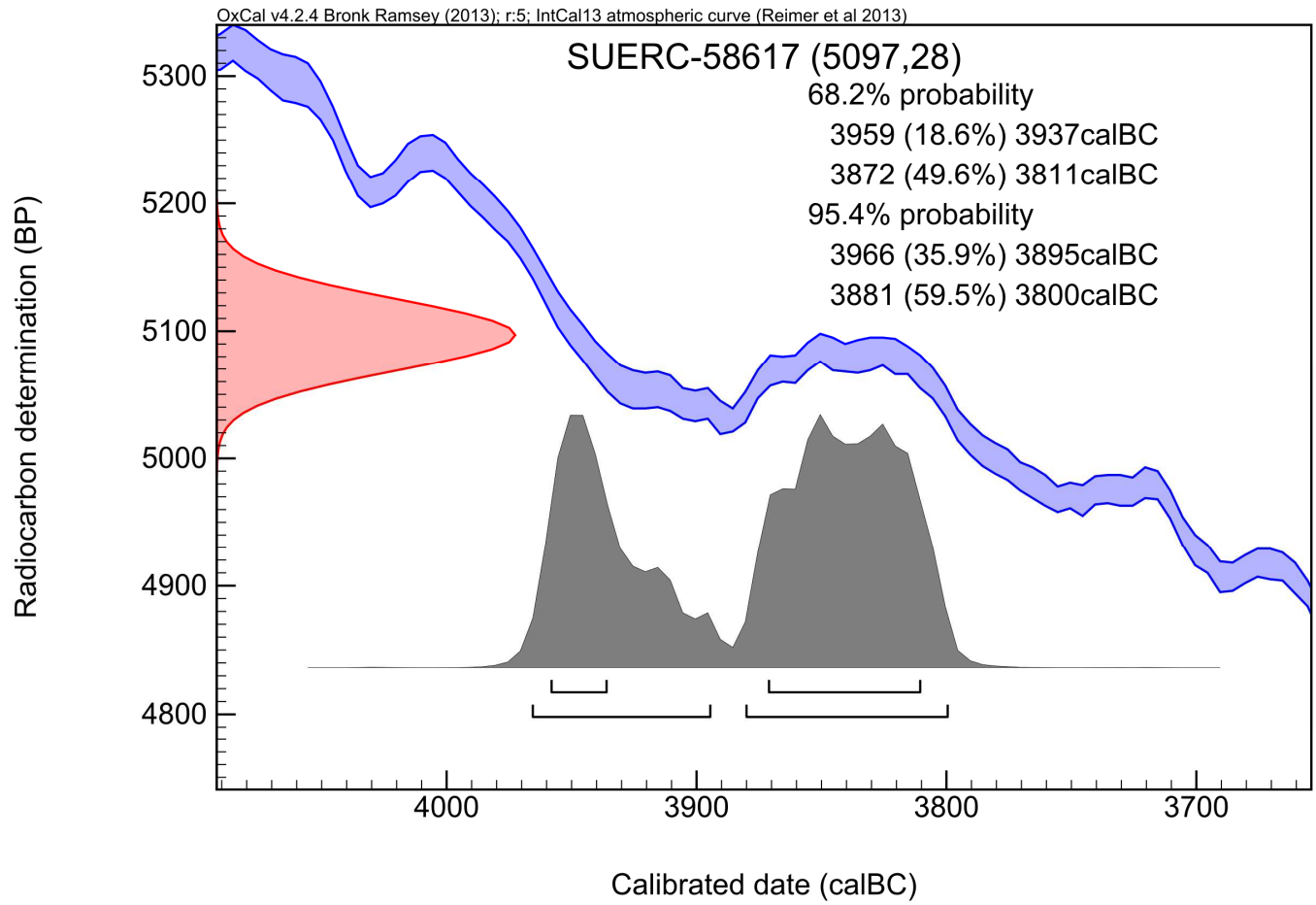
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 18/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 18/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

23 March 2015

Laboratory Code SUERC-58844 (GU36812)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL003B

Context Reference 303

Sample Reference 1130

Material Bone : Burnt bone

$\delta^{13}\text{C}$ relative to VPDB -22.6 ‰

Radiocarbon Age BP 3105 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

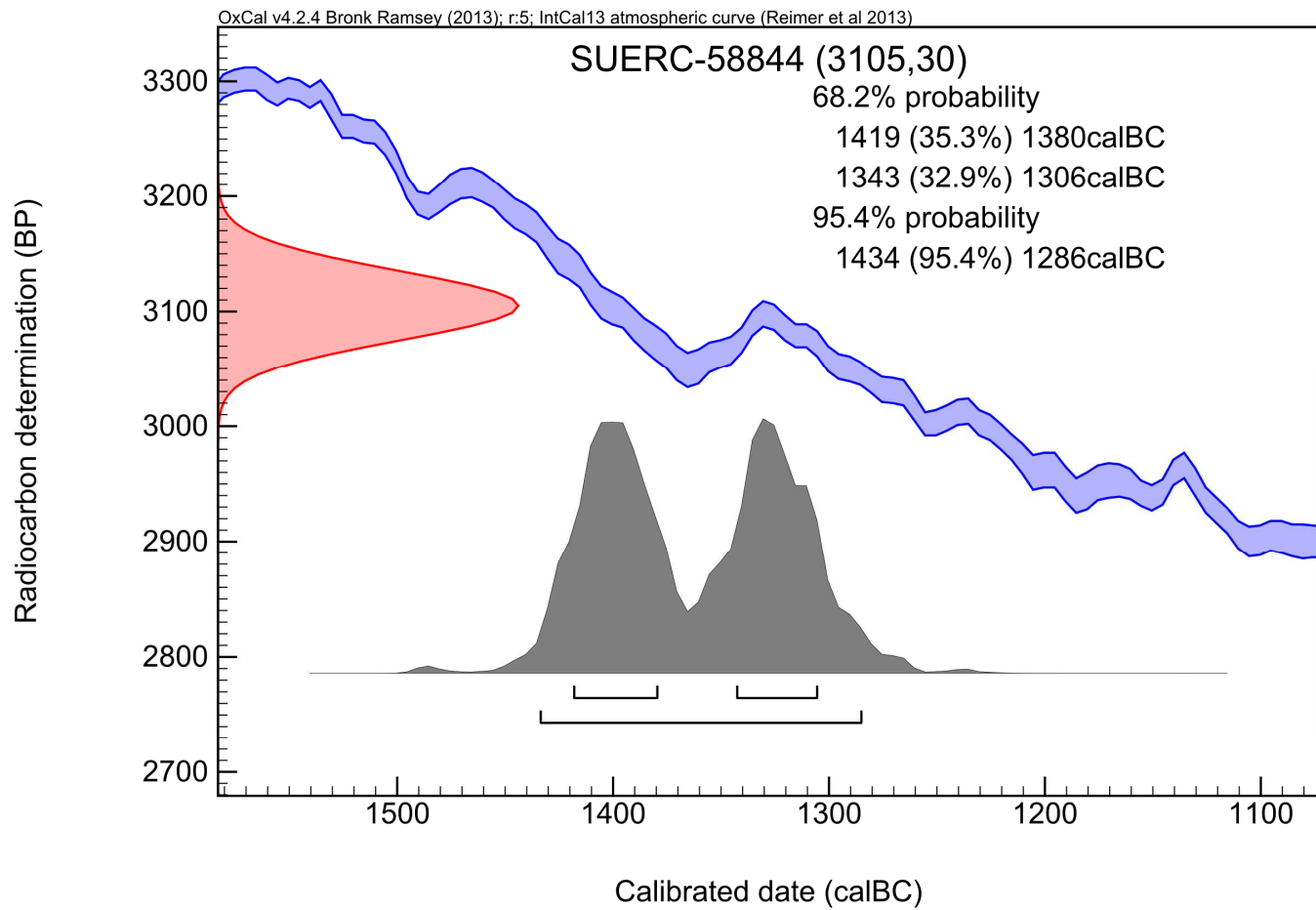
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 23/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 23/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

30 March 2015

Laboratory Code SUERC-59043 (GU36863)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL SL002AB

Context Reference 2113

Sample Reference 1109

Material Charcoal : Ilex aquifolium

$\delta^{13}\text{C}$ relative to VPDB -23.7 ‰

Radiocarbon Age BP 1936 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

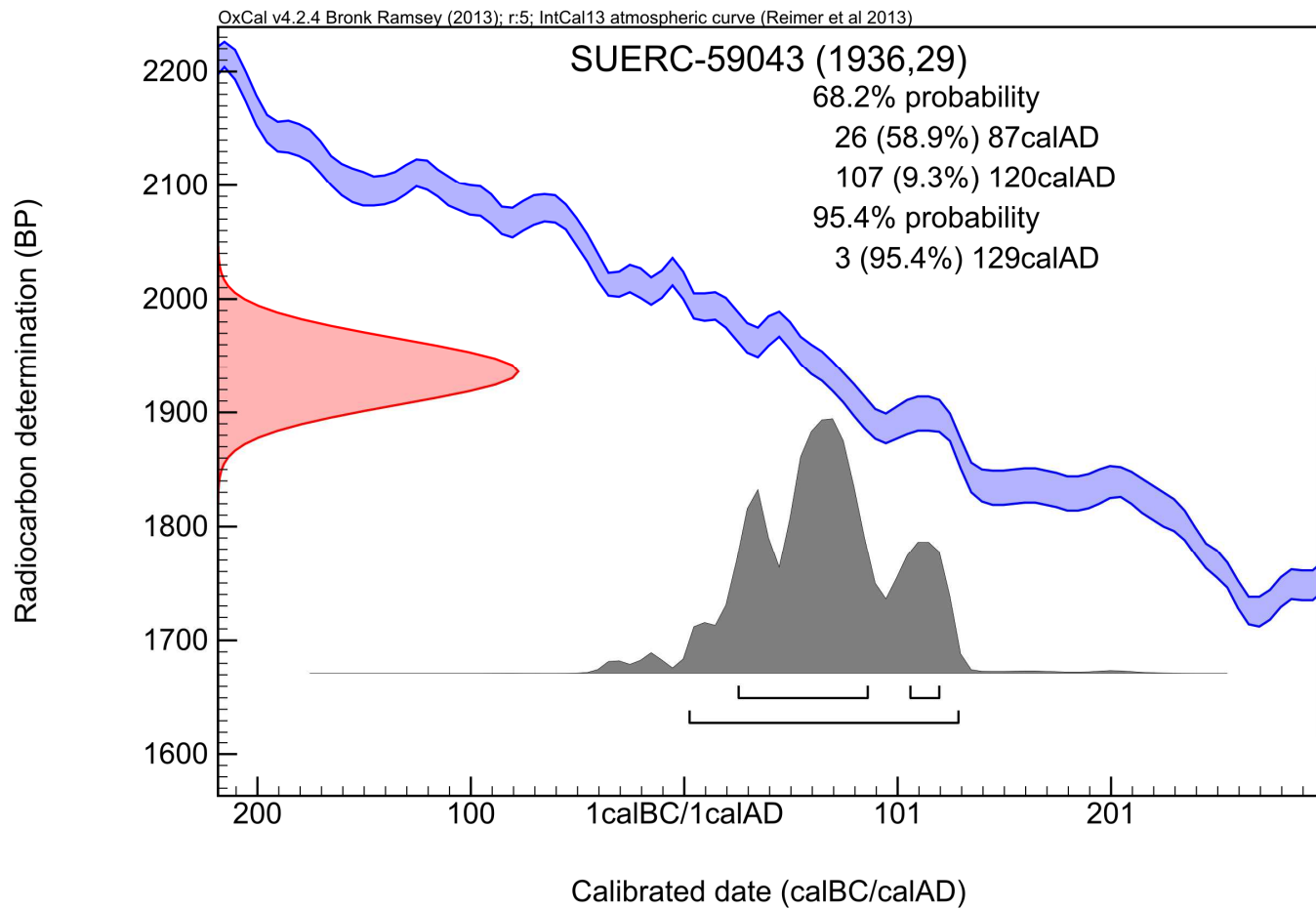
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 30/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 30/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

30 March 2015

Laboratory Code SUERC-59044 (GU36864)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL SL002AB

Context Reference 2429

Sample Reference 1124

Material Charcoal : Alnus glutinosa

$\delta^{13}\text{C}$ relative to VPDB -26.0 ‰

Radiocarbon Age BP 3080 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

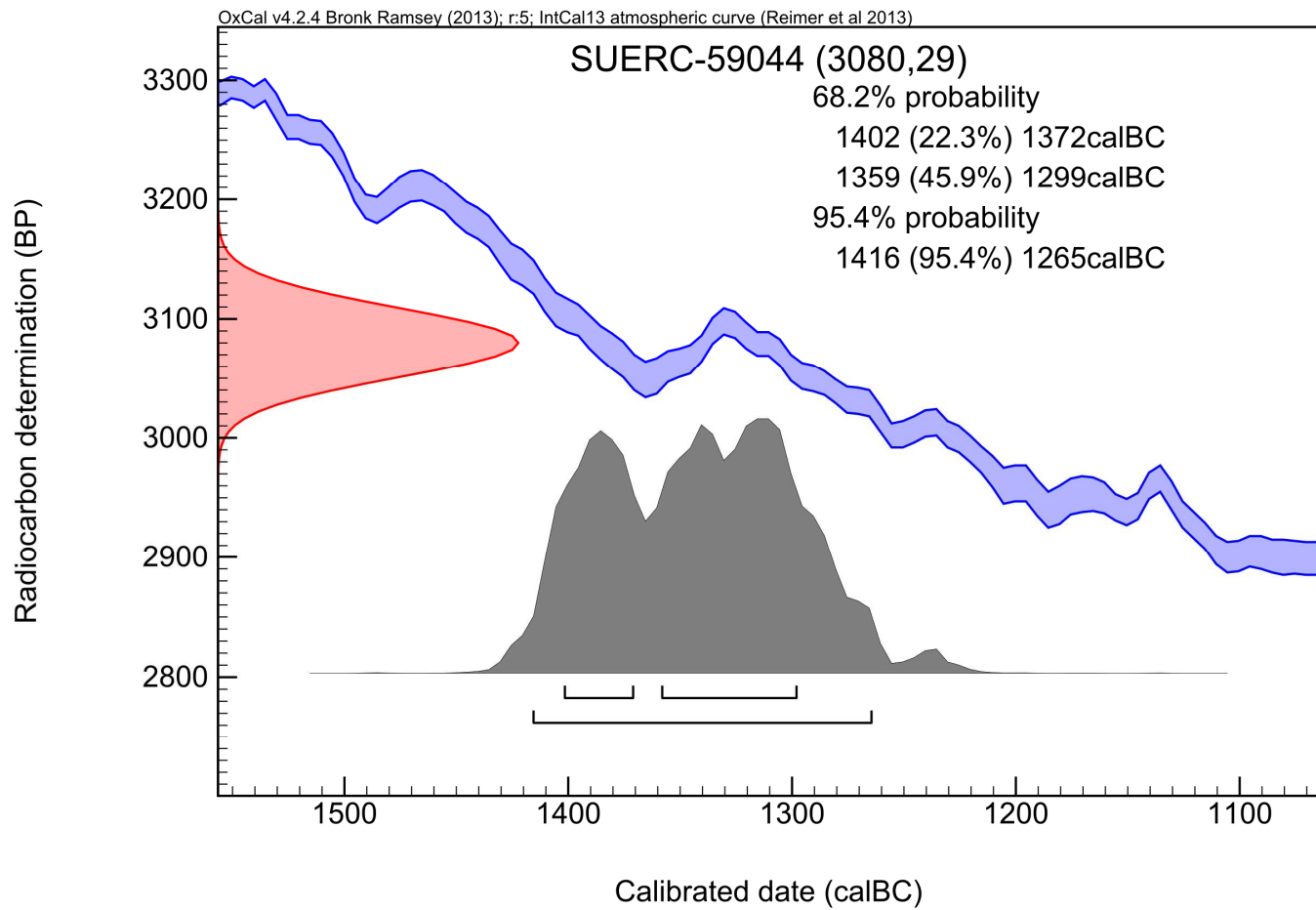
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 30/03/2015

Checked and signed off by :- *P. Naynab*

Date :- 30/03/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

13 April 2015

Laboratory Code SUERC-59290 (GU37159)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL003B

Context Reference 4

Sample Reference 1007

Material Charcoal : Corylus avellana

$\delta^{13}\text{C}$ relative to VPDB -27.7 ‰

Radiocarbon Age BP 3059 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

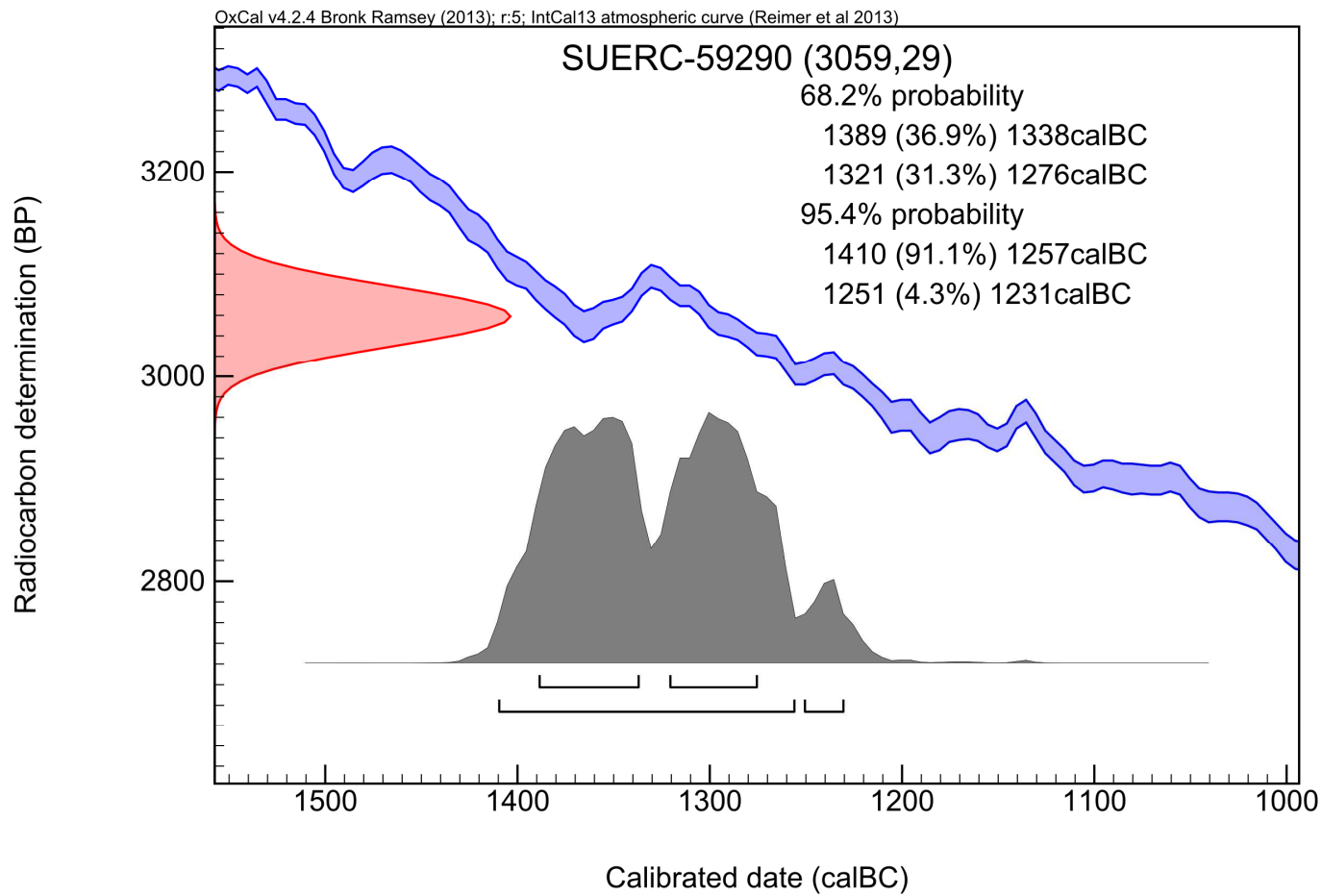
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 13/04/2015

Checked and signed off by :- *P. Naynab*

Date :- 13/04/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

13 April 2015

Laboratory Code SUERC-59291 (GU37160)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002C

Context Reference 10

Sample Reference 1005

Material Charcoal : Alnus glutinosa

$\delta^{13}\text{C}$ relative to VPDB -28.5 ‰

Radiocarbon Age BP 1532 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

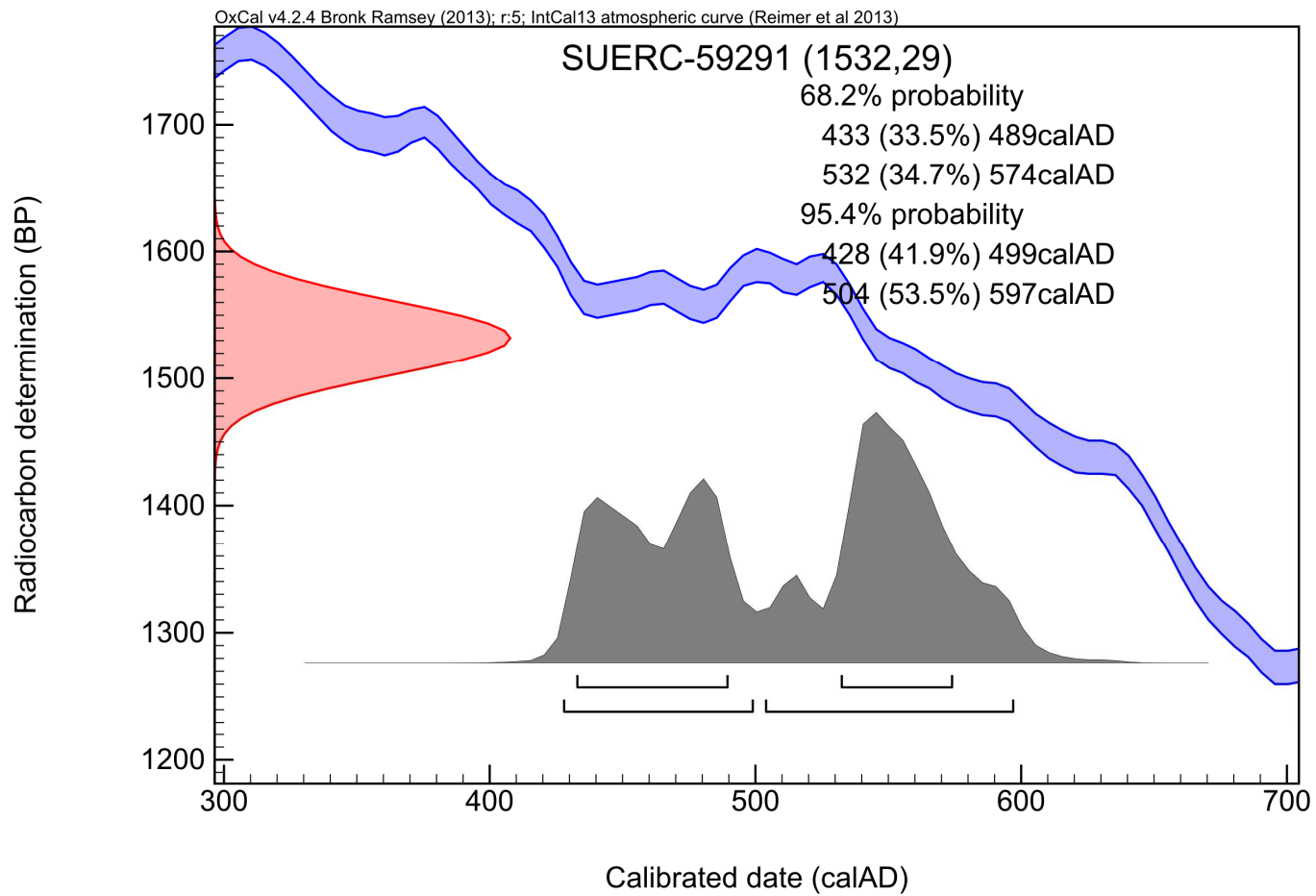
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 13/04/2015

Checked and signed off by :- *P. Naynt*

Date :- 13/04/2015

Calibration Plot



RADIOCARBON DATING CERTIFICATE

08 April 2015

Laboratory Code SUERC-59296 (GU37194)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002B

Context Reference 1033

Sample Reference 59

Material Charcoal : Pinus sp

$\delta^{13}\text{C}$ relative to VPDB -26.9 ‰

Radiocarbon Age BP 104 ± 26

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

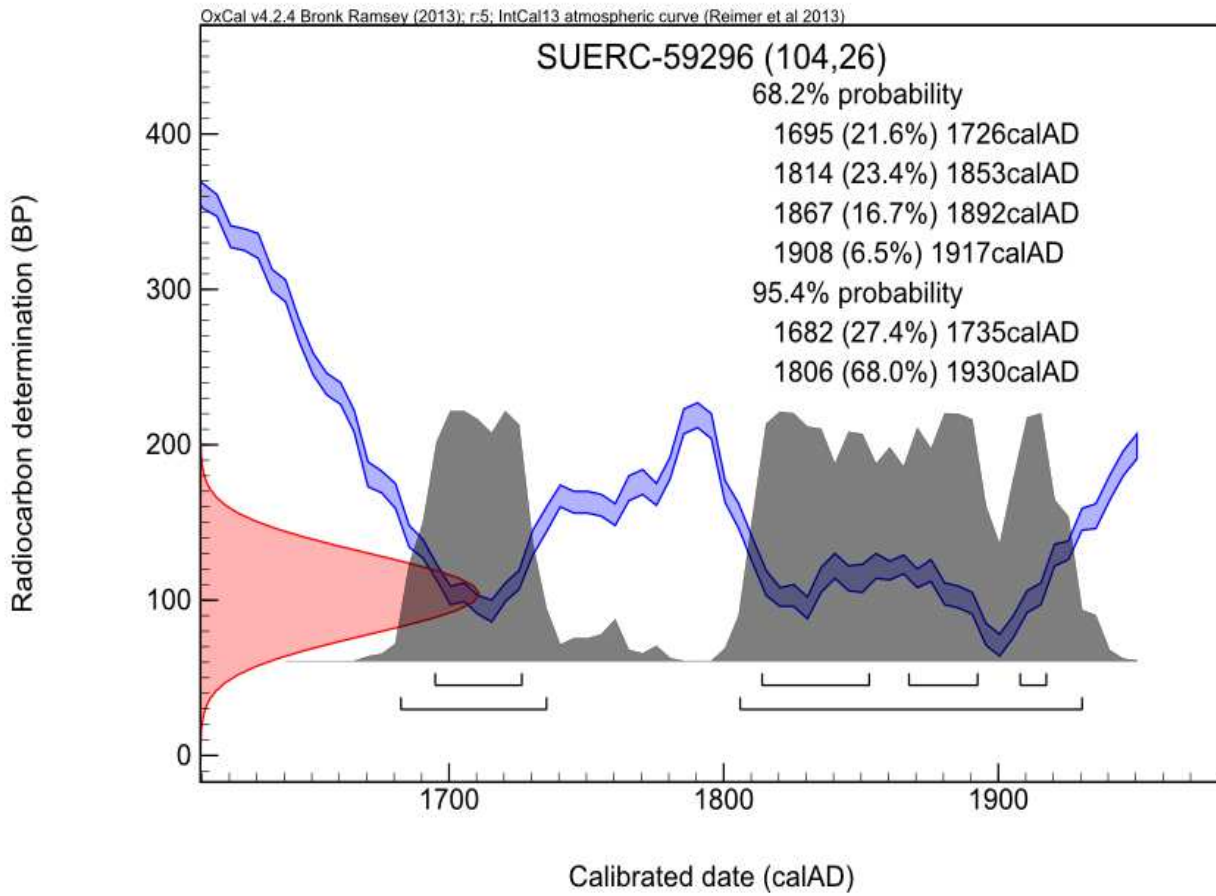
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *P. Nayant* Date :- 08/04/2015

Checked and signed off by :- *B. Taylor* Date :- 08/04/2015

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68060 (GU41210)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven A05

Context Reference 2AB-2019

Sample Reference 2AB-1219

Material Charcoal : Calluna vulgaris


$\delta^{13}\text{C}$ relative to VPDB -27.2 ‰

Radiocarbon Age BP 1960 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

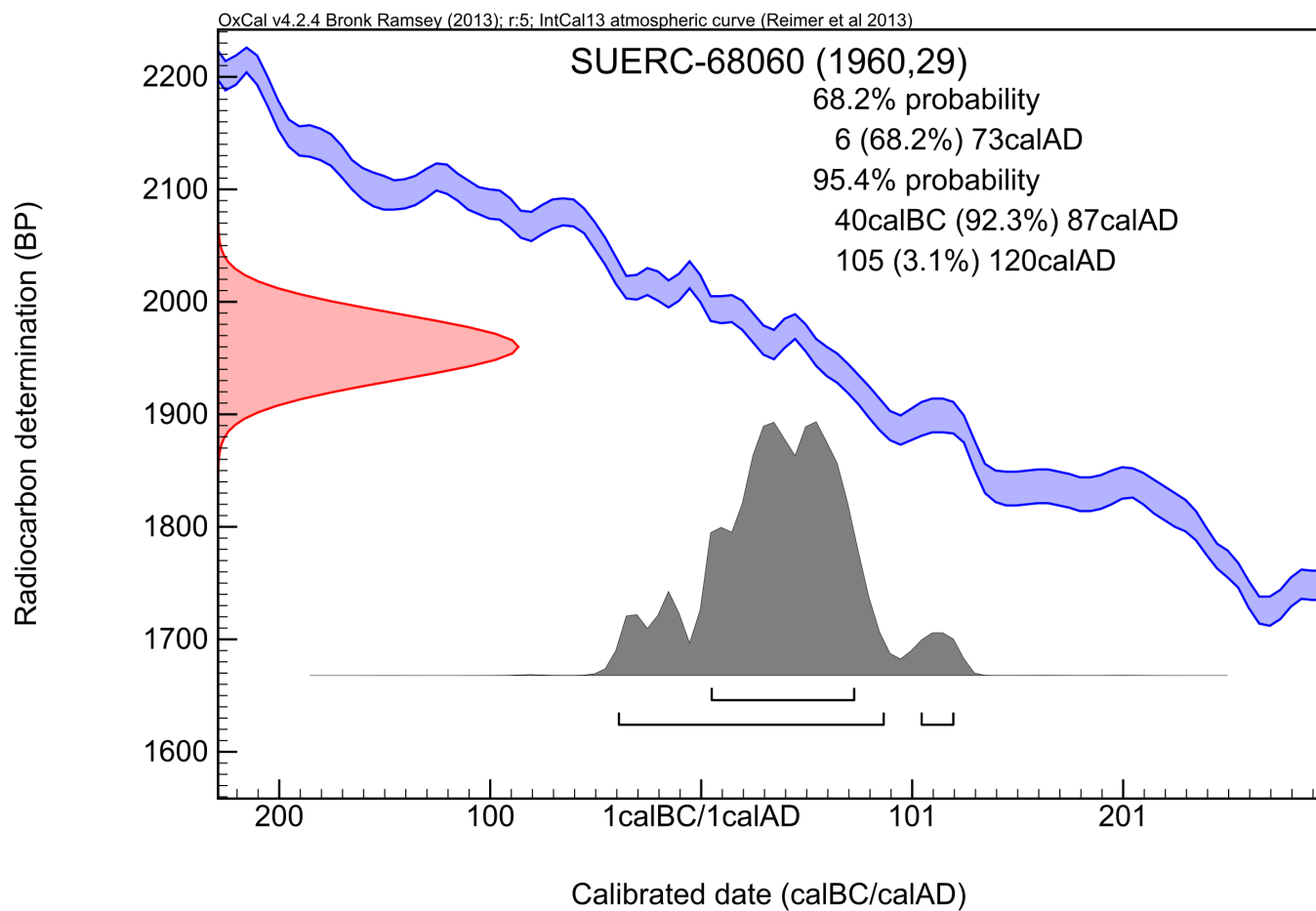
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68061 (GU41211)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven A07

Context Reference 2AB-2227

Sample Reference 2AB- 1093

Material Charcoal : Calluna vulgaris


$\delta^{13}\text{C}$ relative to VPDB -25.9 ‰

Radiocarbon Age BP 1838 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

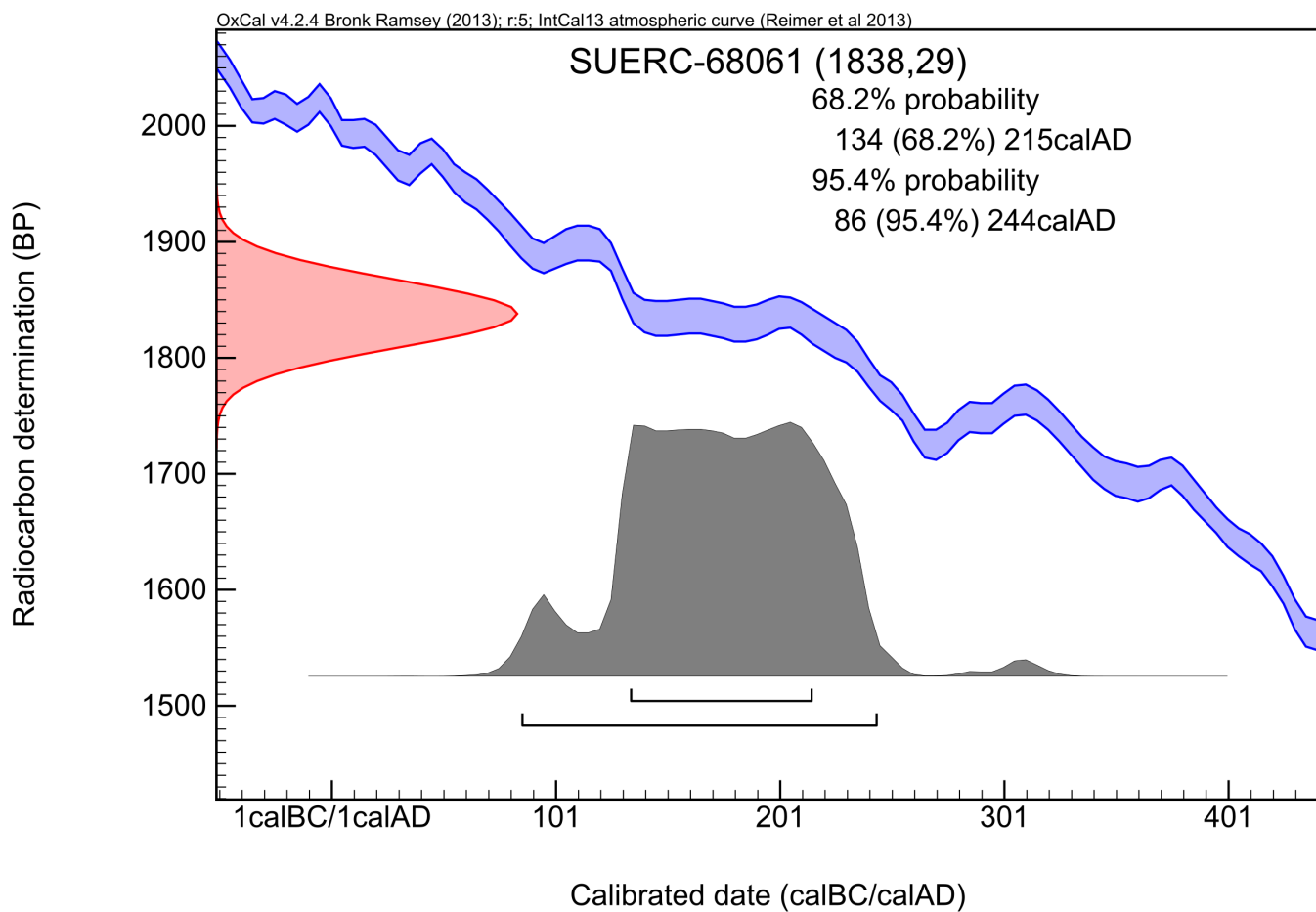
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68062 (GU41212)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven A08

Context Reference 2AB-2272

Sample Reference 2AB-1086

Material Charcoal : Calluna vulgaris


$\delta^{13}\text{C}$ relative to VPDB -25.9 ‰

Radiocarbon Age BP 1942 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

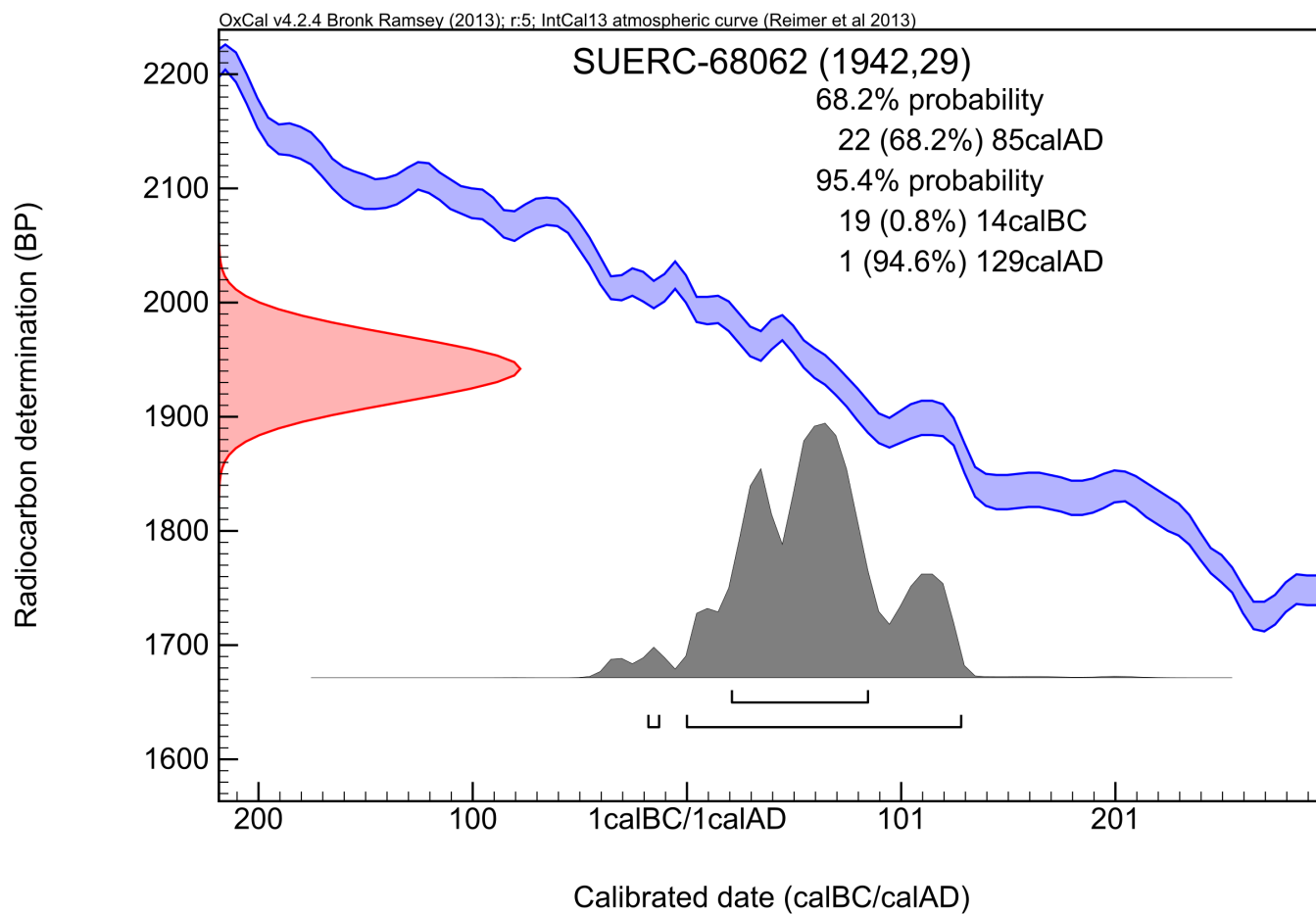
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68063 (GU41213)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002A - Oven B09

Context Reference 2A-0083

Sample Reference 2A-1048

Material Charcoal : Calluna vulgaris


$\delta^{13}\text{C}$ relative to VPDB -27.0 ‰

Radiocarbon Age BP 1902 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

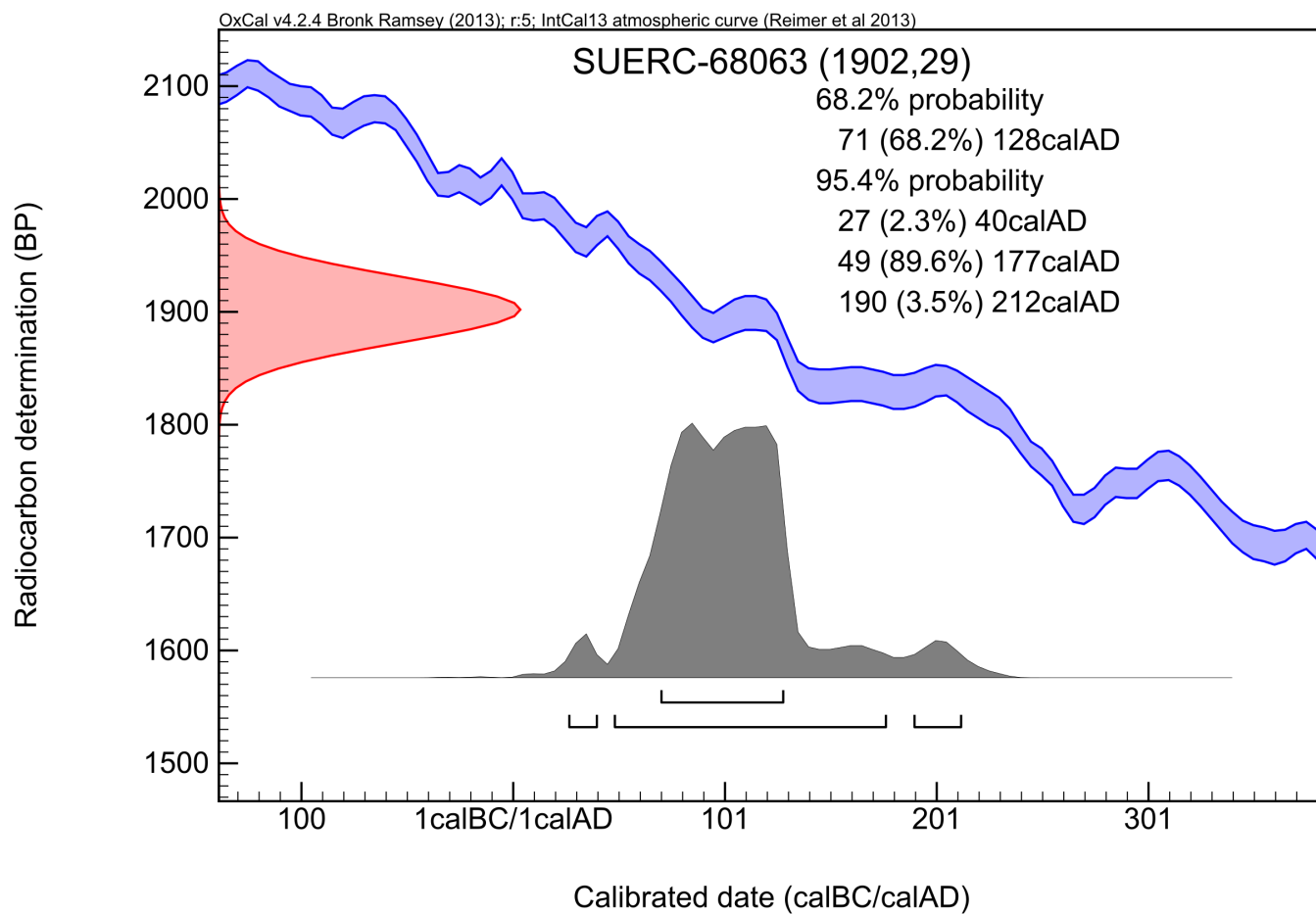
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68064 (GU41214)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002A - Oven B21

Context Reference 2A-0108

Sample Reference 2A-1071

Material Charcoal : Betula sp.


$\delta^{13}\text{C}$ relative to VPDB -29.8 ‰

Radiocarbon Age BP 2067 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

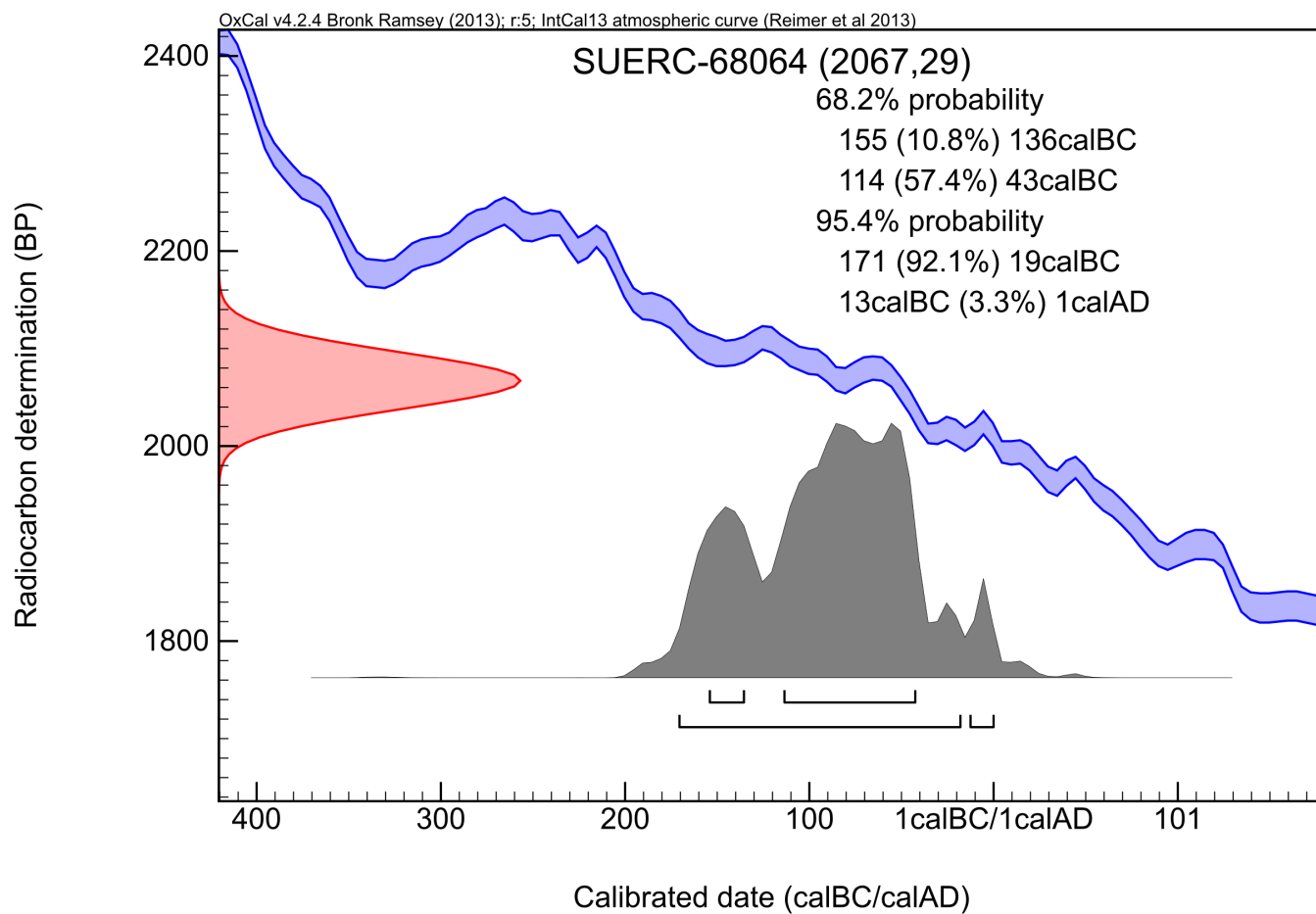
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68065 (GU41215)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002A - Oven C01

Context Reference 2A-0073

Sample Reference 2A-1036

Material Charcoal : Alnus glutinosa


$\delta^{13}\text{C}$ relative to VPDB -27.0 ‰

Radiocarbon Age BP 1901 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

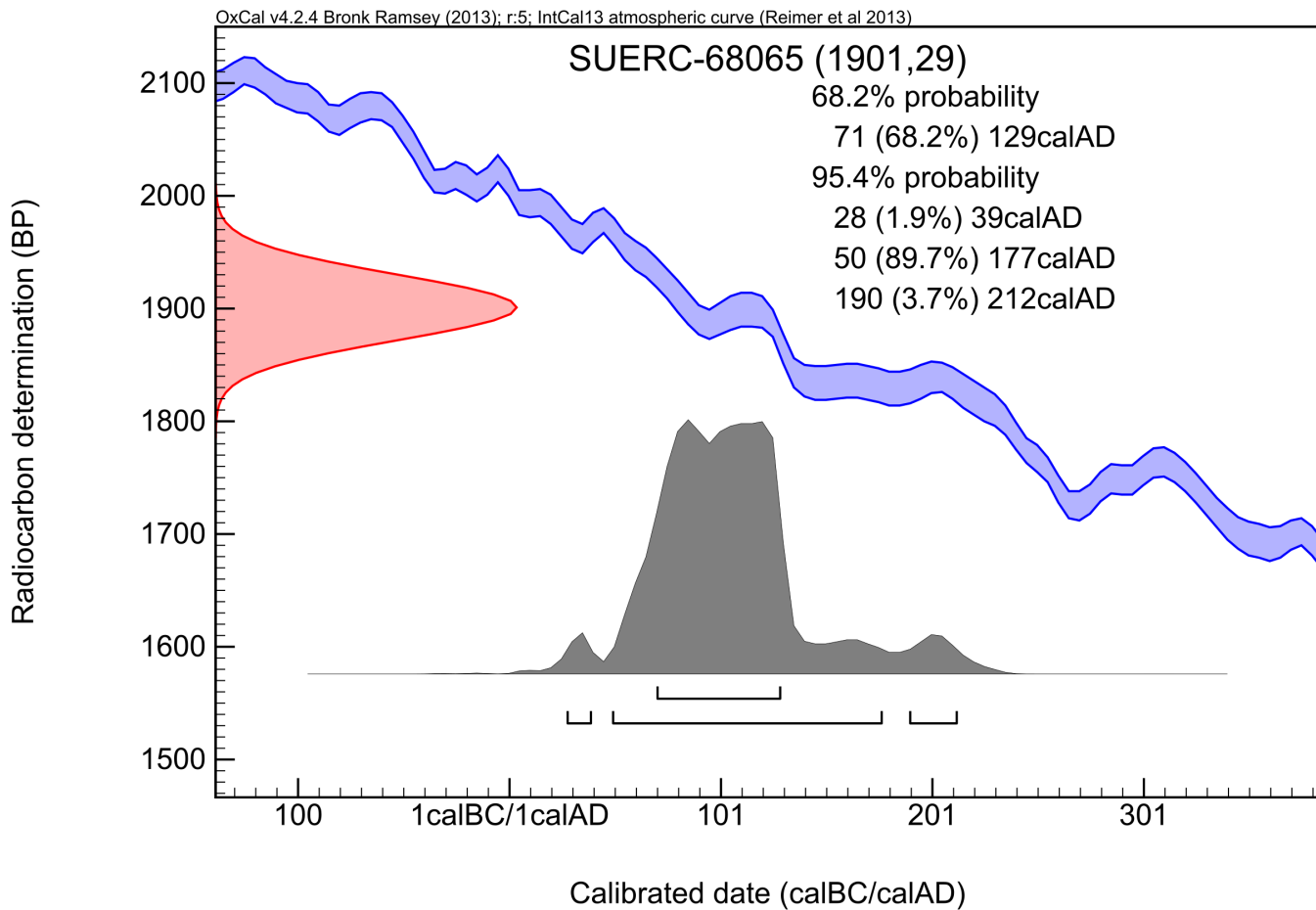
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68066 (GU41216)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven C04

Context Reference 2AB-2629

Sample Reference 2AB-1235

Material Charcoal : Betula sp.


$\delta^{13}\text{C}$ relative to VPDB -25.8 ‰

Radiocarbon Age BP 1984 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

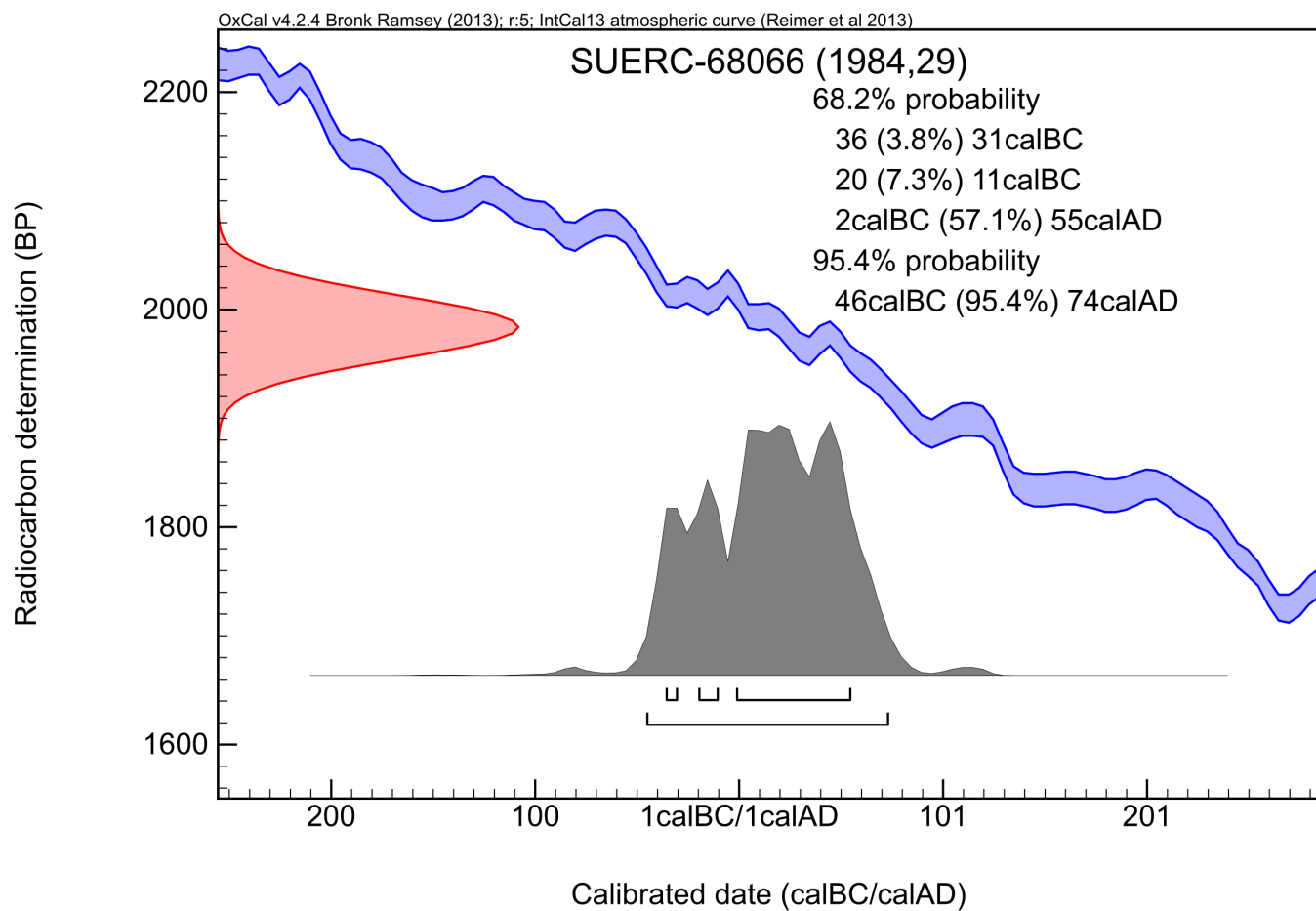
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68070 (GU41217)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002A - Oven C08

Context Reference 2A-0090

Sample Reference 2A-1056

Material Charcoal : *Alnus glutinosa*


$\delta^{13}\text{C}$ relative to VPDB -26.8 ‰

Radiocarbon Age BP 1937 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

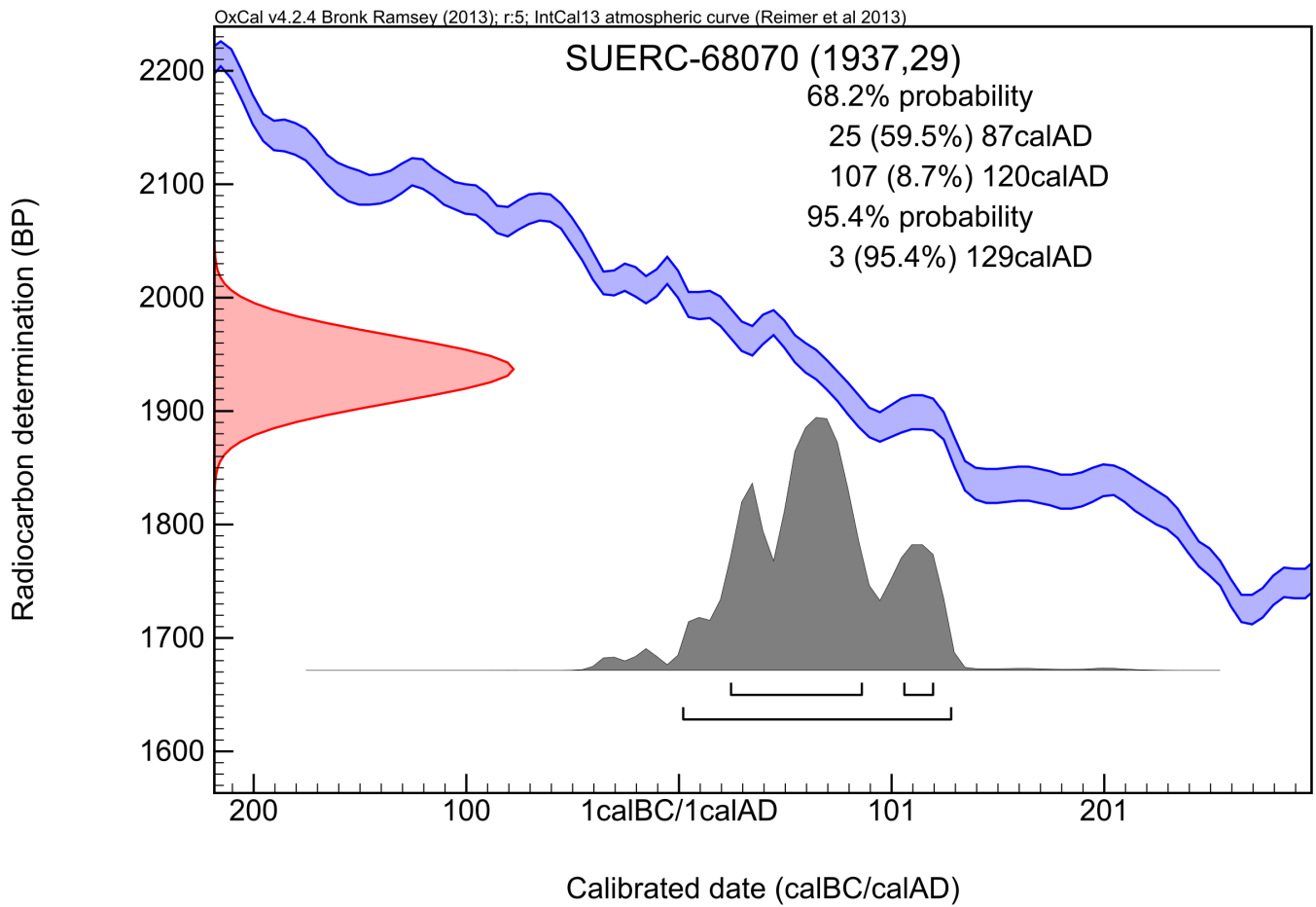
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68071 (GU41218)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven D04 (rake-out)

Context Reference 2AB-2294

Sample Reference 2AB-1090

Material Charcoal : Alnus glutinosa


$\delta^{13}\text{C}$ relative to VPDB -27.3 ‰

Radiocarbon Age BP 1947 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

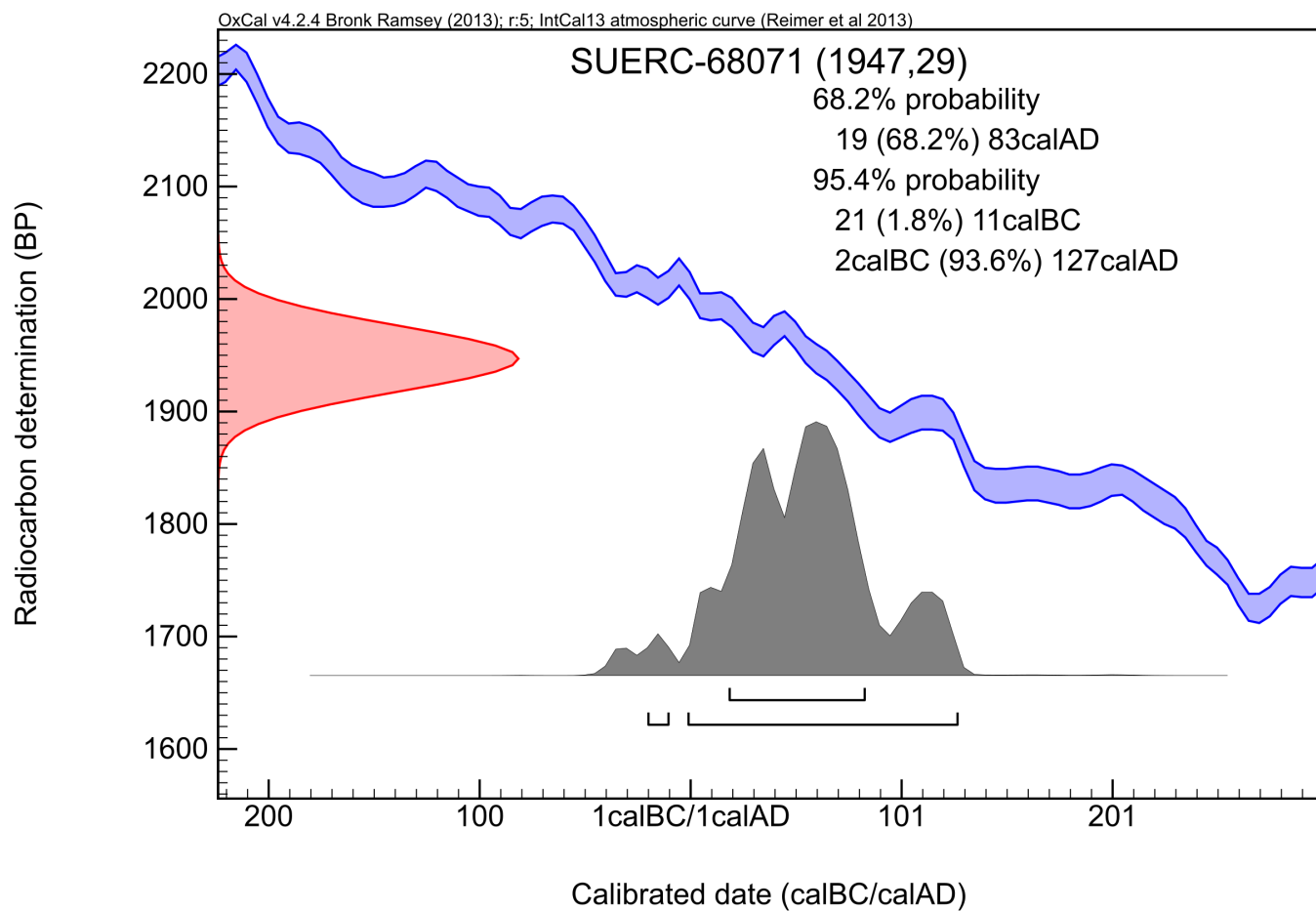
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

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Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68072 (GU41219)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven E01

Context Reference 2AB-2083

Sample Reference 2AB-1103

Material Charcoal : Alnus glutinosa


$\delta^{13}\text{C}$ relative to VPDB -29.2 ‰

Radiocarbon Age BP 1903 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

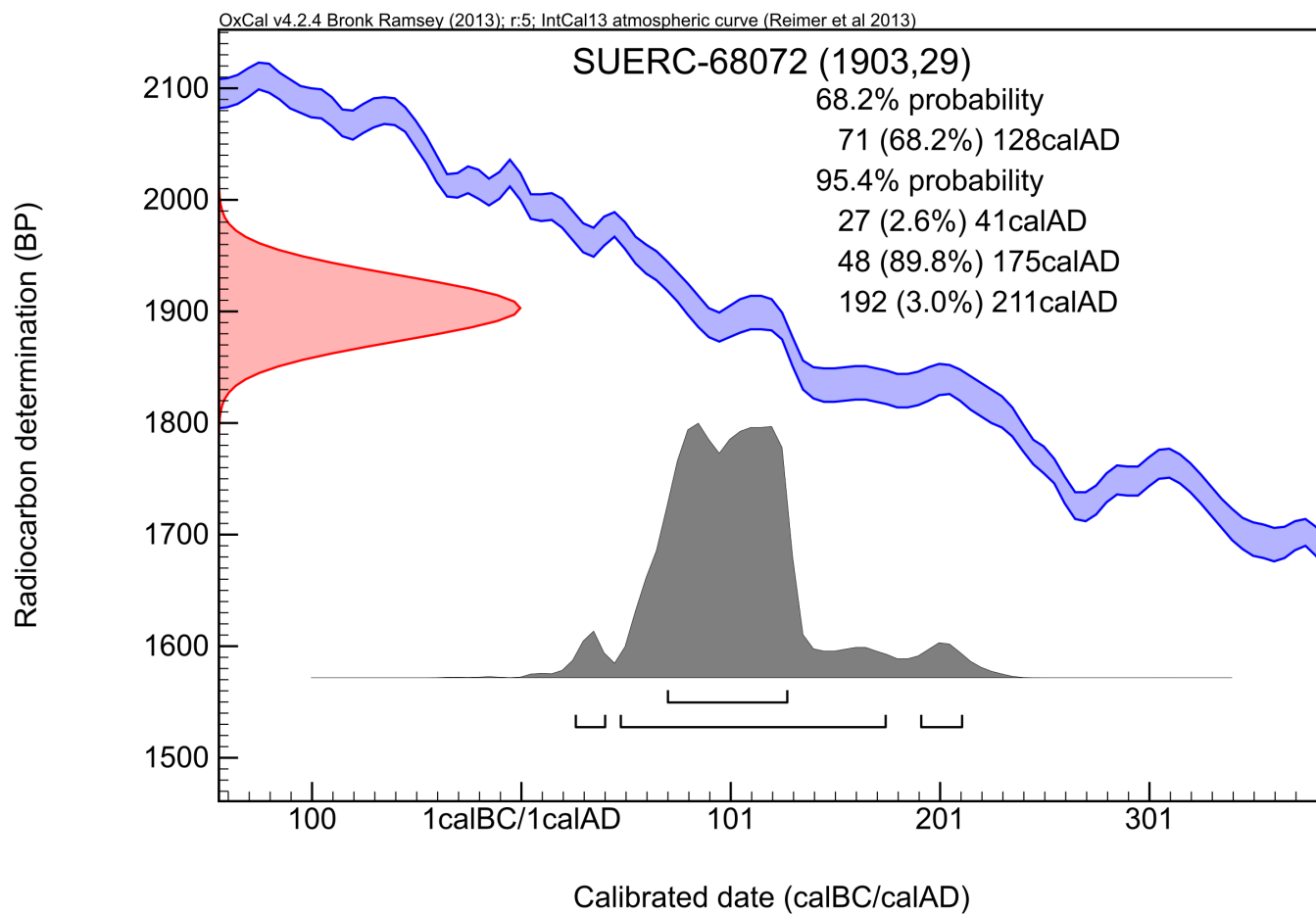
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68073 (GU41220)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven E04

Context Reference 2AB-2078

Sample Reference 2AB-1121

Material Charcoal : *Alnus glutinosa*


$\delta^{13}\text{C}$ relative to VPDB -26.4 ‰

Radiocarbon Age BP 1870 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

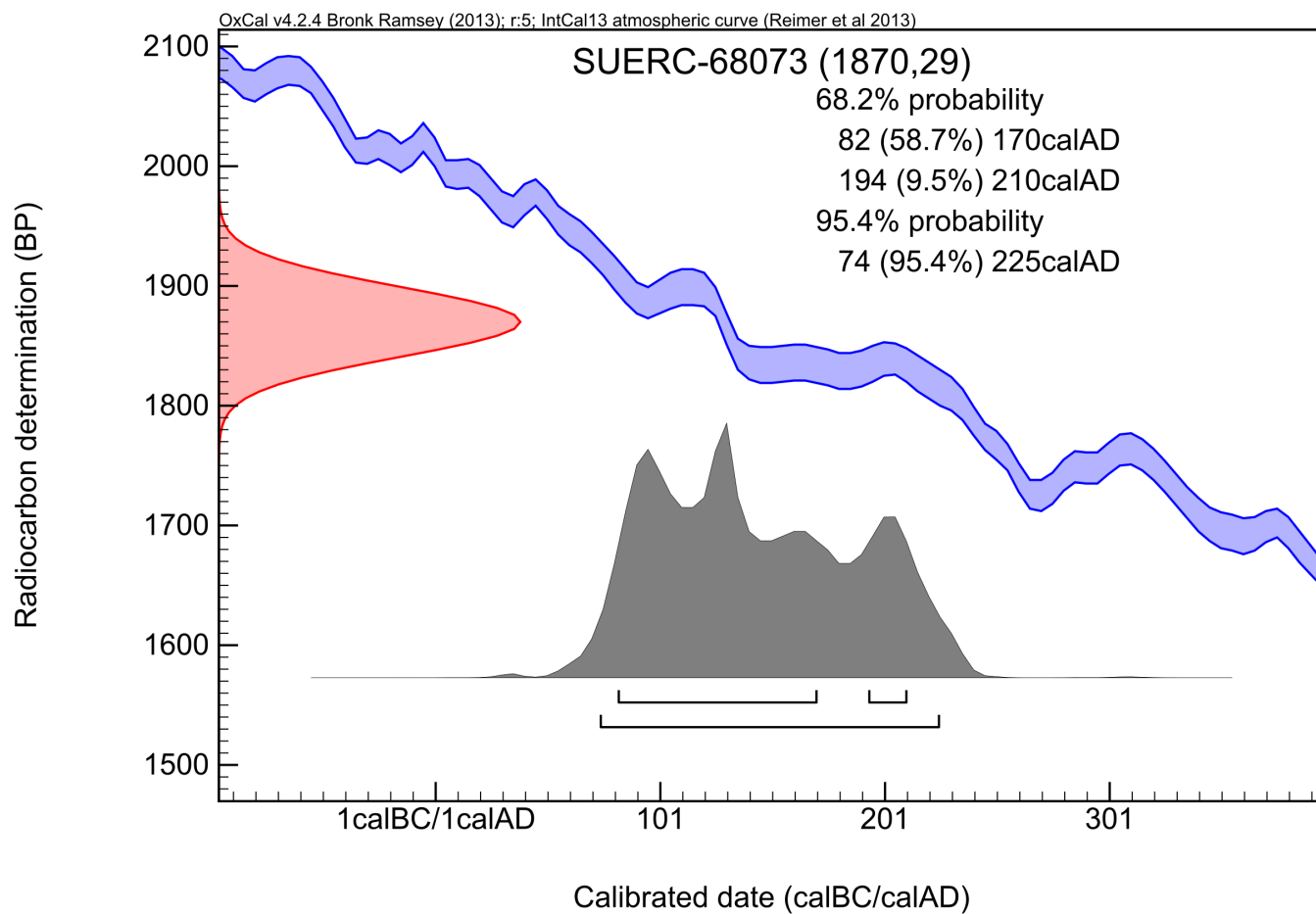
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68074 (GU41221)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven E09

Context Reference 2AB-2028

Sample Reference 2AB-1118

Material Charcoal : Salix sp.


$\delta^{13}\text{C}$ relative to VPDB -28.7 ‰

Radiocarbon Age BP 1938 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

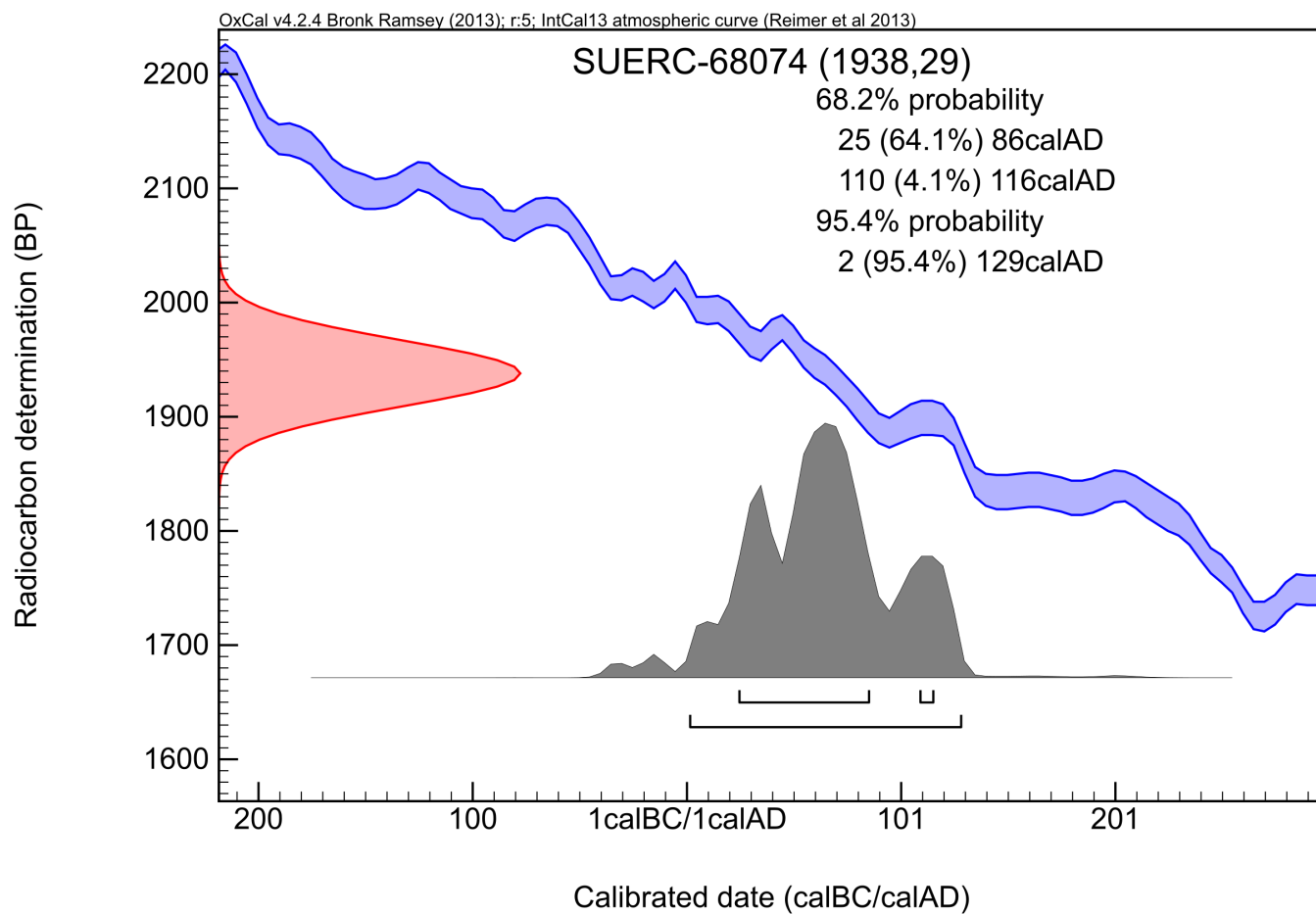
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68075 (GU41222)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven F13

Context Reference 2AB-2119

Sample Reference 2AB-1084

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -27.0 ‰

Radiocarbon Age BP 1917 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

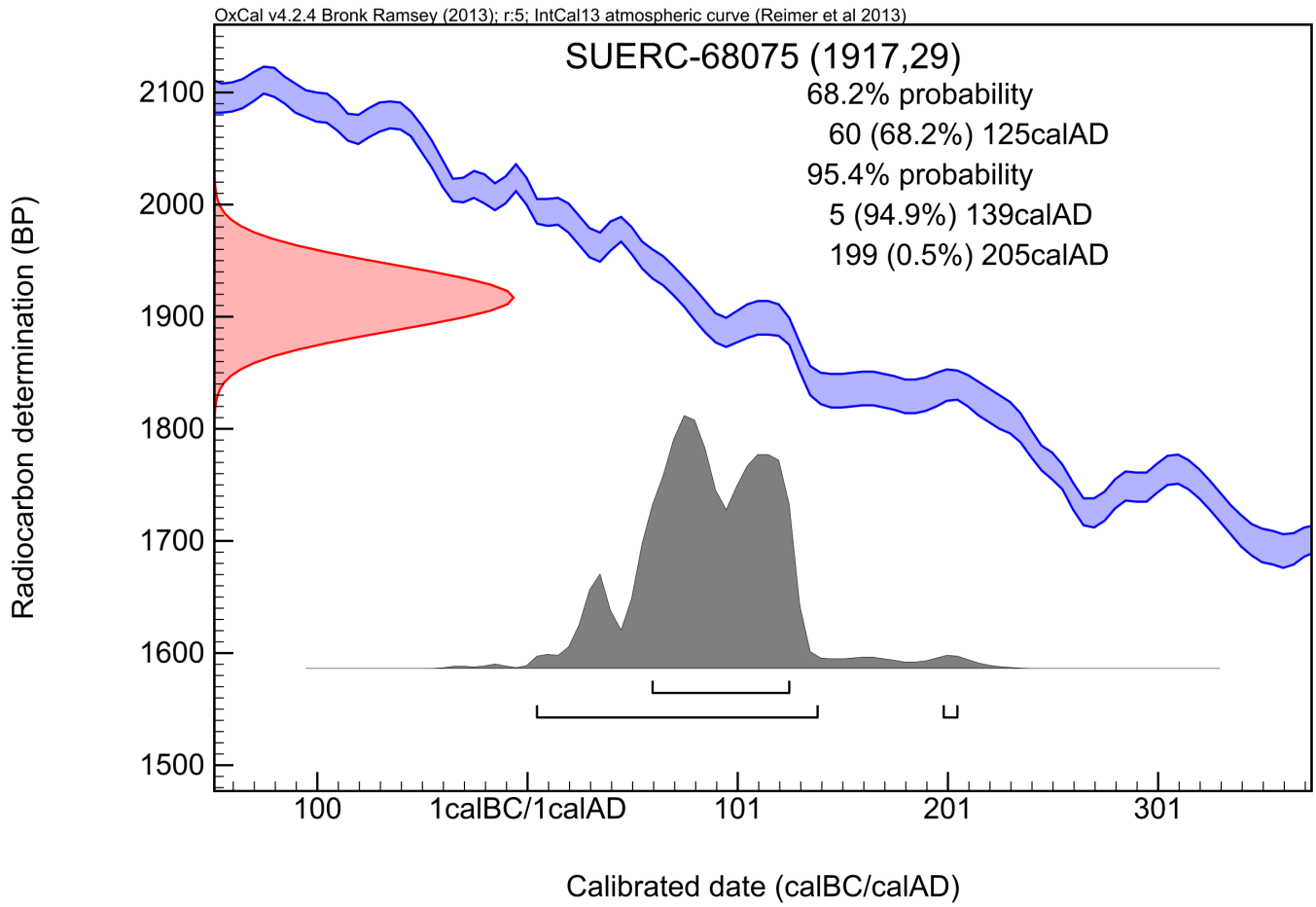
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

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Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68076 (GU41223)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven G07

Context Reference 2AB-2191

Sample Reference 2AB-1215

Material Charcoal : Calluna vulgaris


$\delta^{13}\text{C}$ relative to VPDB -25.9 ‰

Radiocarbon Age BP 1900 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

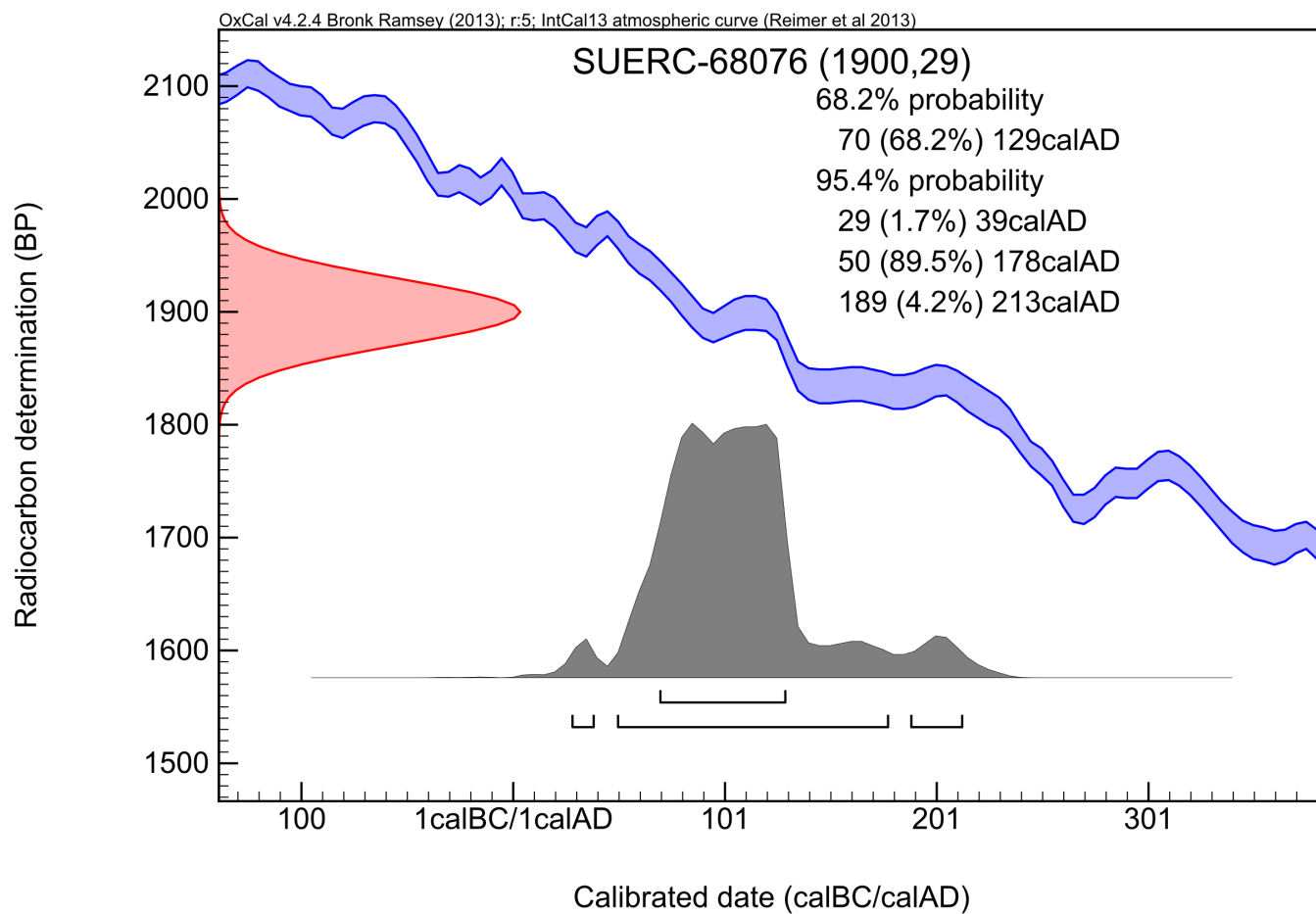
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68080 (GU41224)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven G08

Context Reference 2AB-2433

Sample Reference 2AB-1251

Material Charcoal : Ilex aquifolium


$\delta^{13}\text{C}$ relative to VPDB -24.5 ‰

Radiocarbon Age BP 1885 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

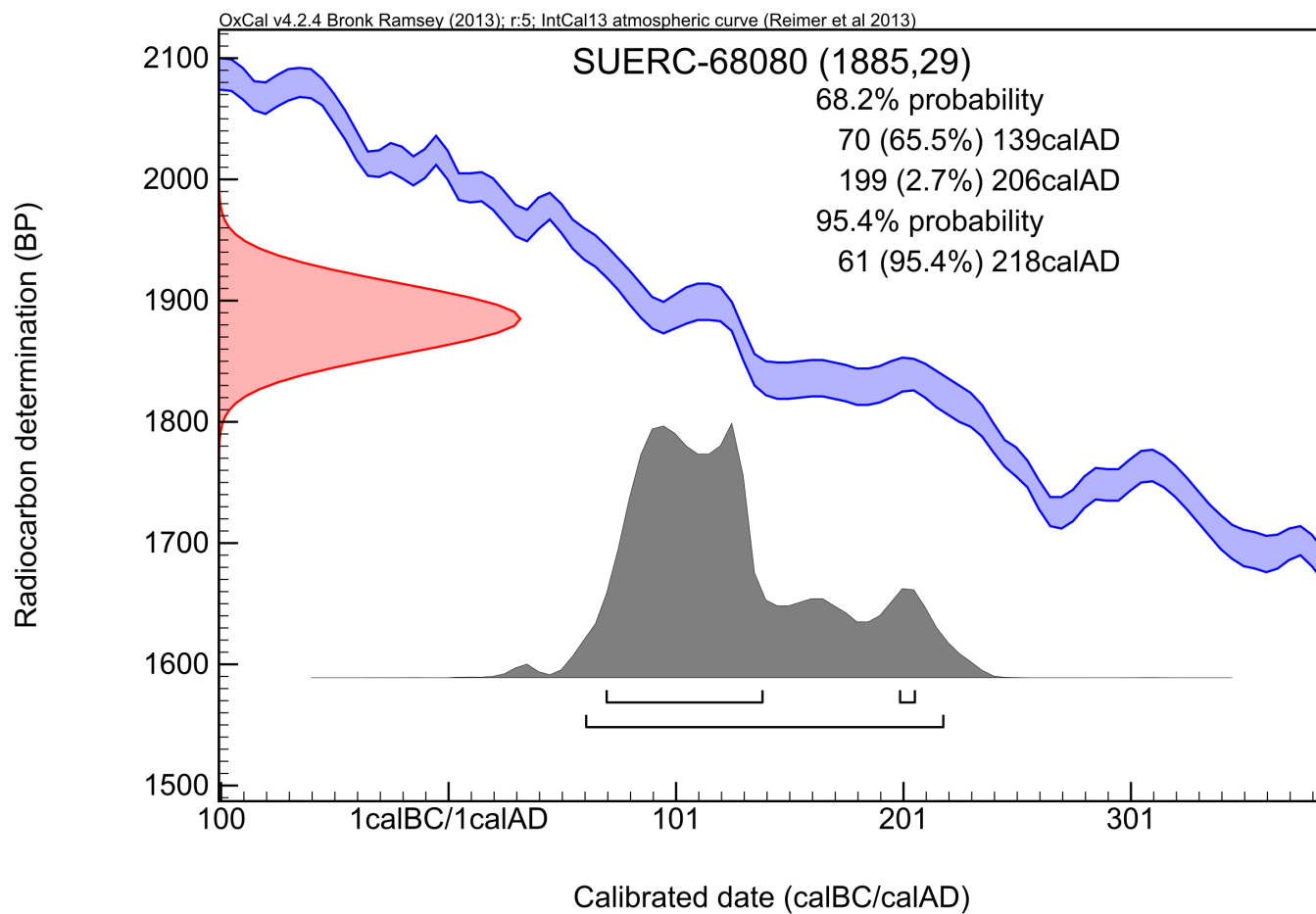
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68081 (GU41225)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven A11

Context Reference 2AB-1080

Sample Reference 2AB-2049

Material Charcoal : Calluna vulgaris


$\delta^{13}\text{C}$ relative to VPDB -27.9 ‰

Radiocarbon Age BP 1818 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

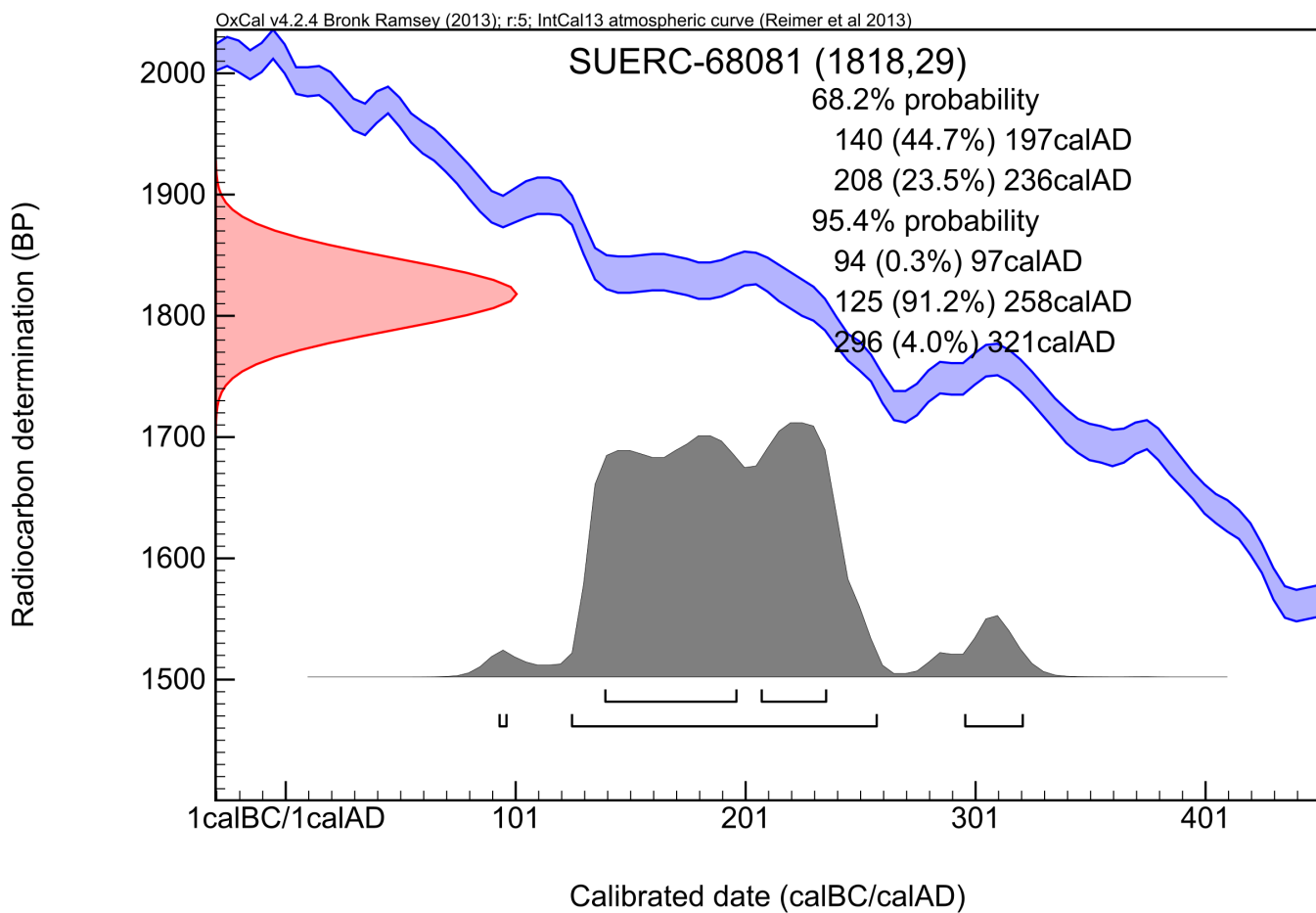
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68082 (GU41226)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002A - Oven B15

Context Reference 2AB-0141

Sample Reference 2AB-1098

Material Charcoal : Calluna vulgaris


$\delta^{13}\text{C}$ relative to VPDB -27.0 ‰

Radiocarbon Age BP 1842 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

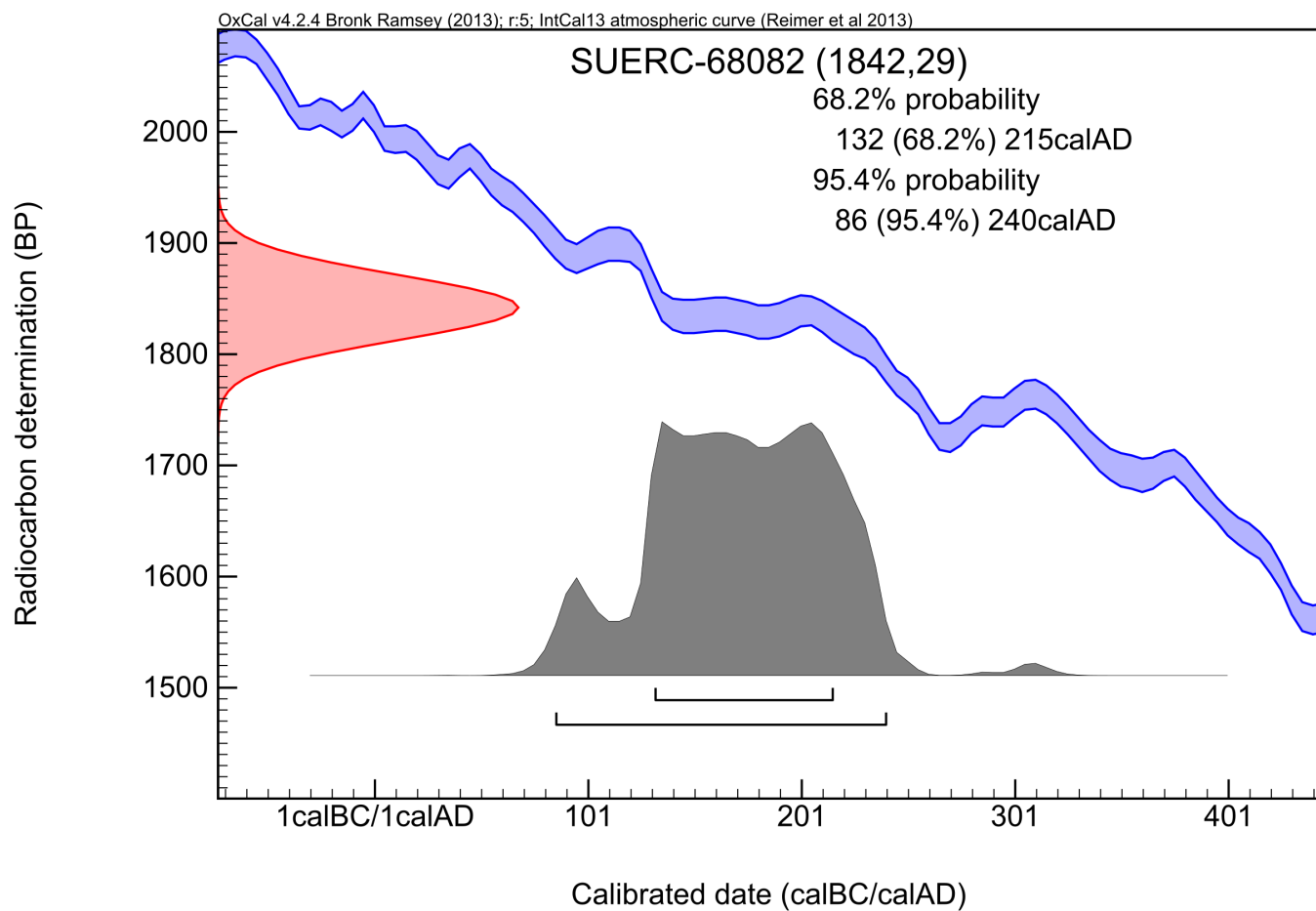
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

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Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68083 (GU41227)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002A - Oven B16

Context Reference 2A-0122

Sample Reference 2A-1111

Material Charcoal : Betula sp.


$\delta^{13}\text{C}$ relative to VPDB -25.8 ‰


Radiocarbon Age BP 1928 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

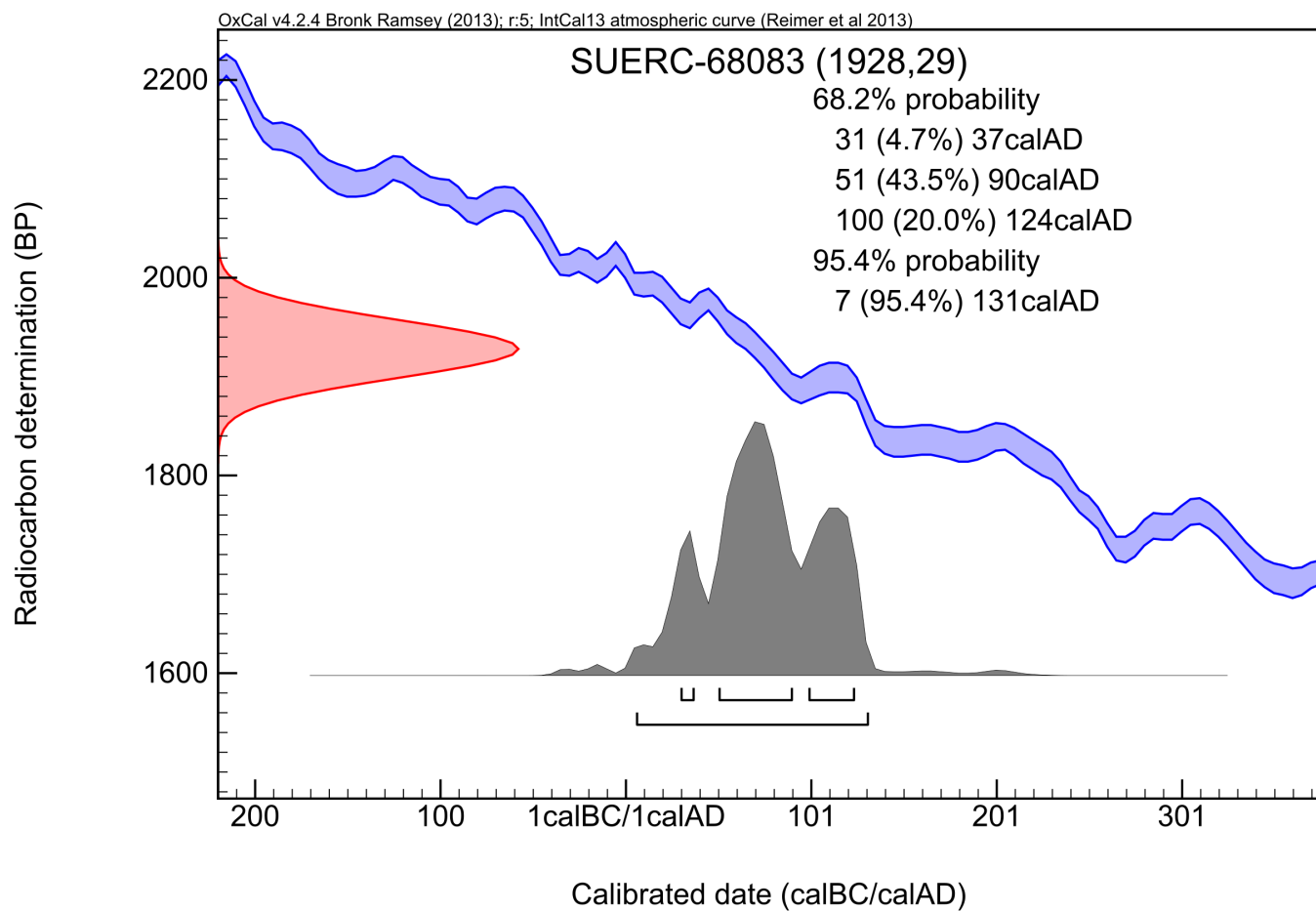
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Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68084 (GU41228)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven F06

Context Reference 2AB-2242

Sample Reference 2AB-1136

Material Charcoal : Calluna vulgaris


$\delta^{13}\text{C}$ relative to VPDB -27.9 ‰

Radiocarbon Age BP 1875 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

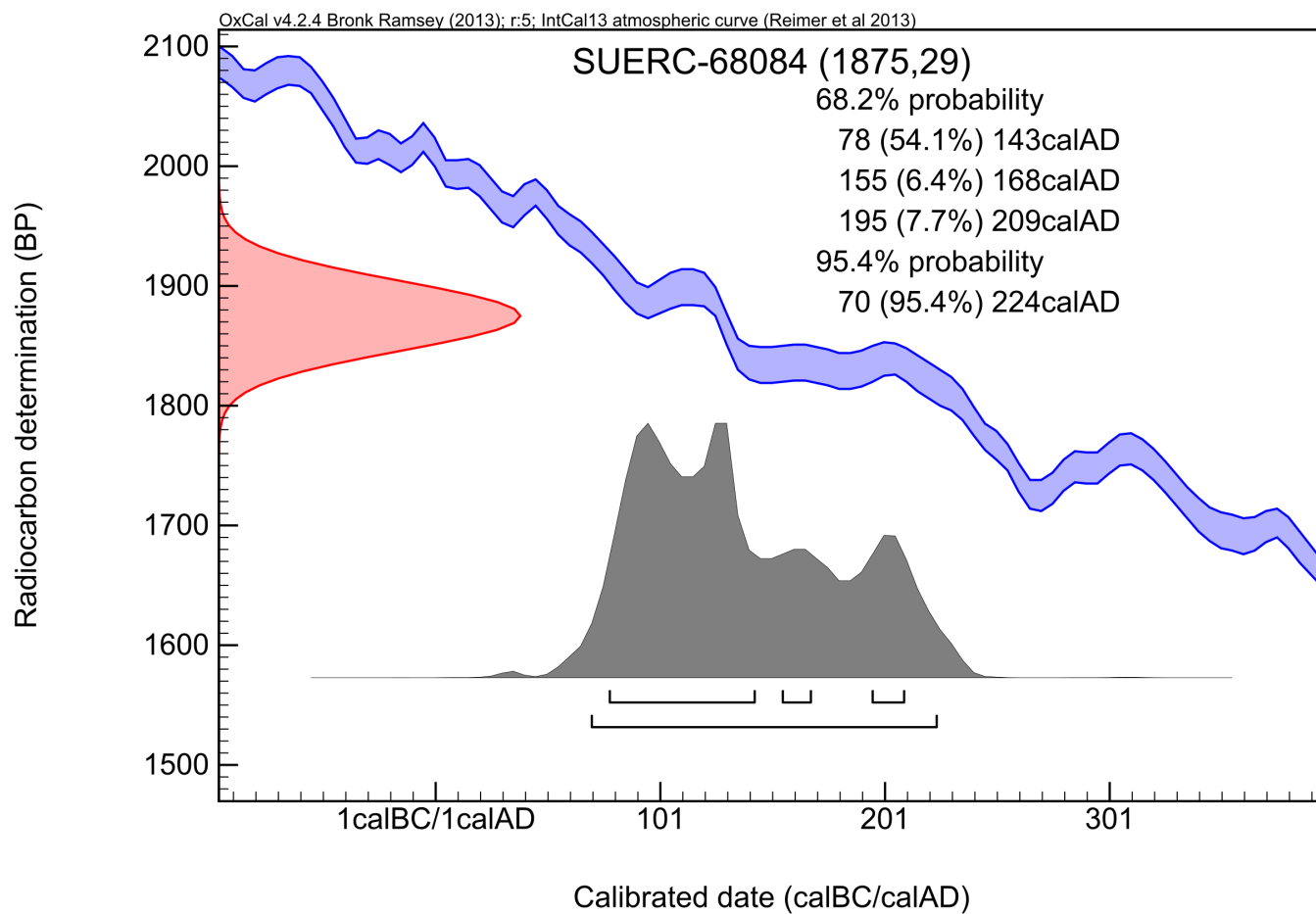
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

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Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68085 (GU41229)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven F08

Context Reference 2AB-2094

Sample Reference 2AB-1096

Material Charcoal : *Alnus glutinosa*


$\delta^{13}\text{C}$ relative to VPDB -27.6 ‰

Radiocarbon Age BP 1894 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

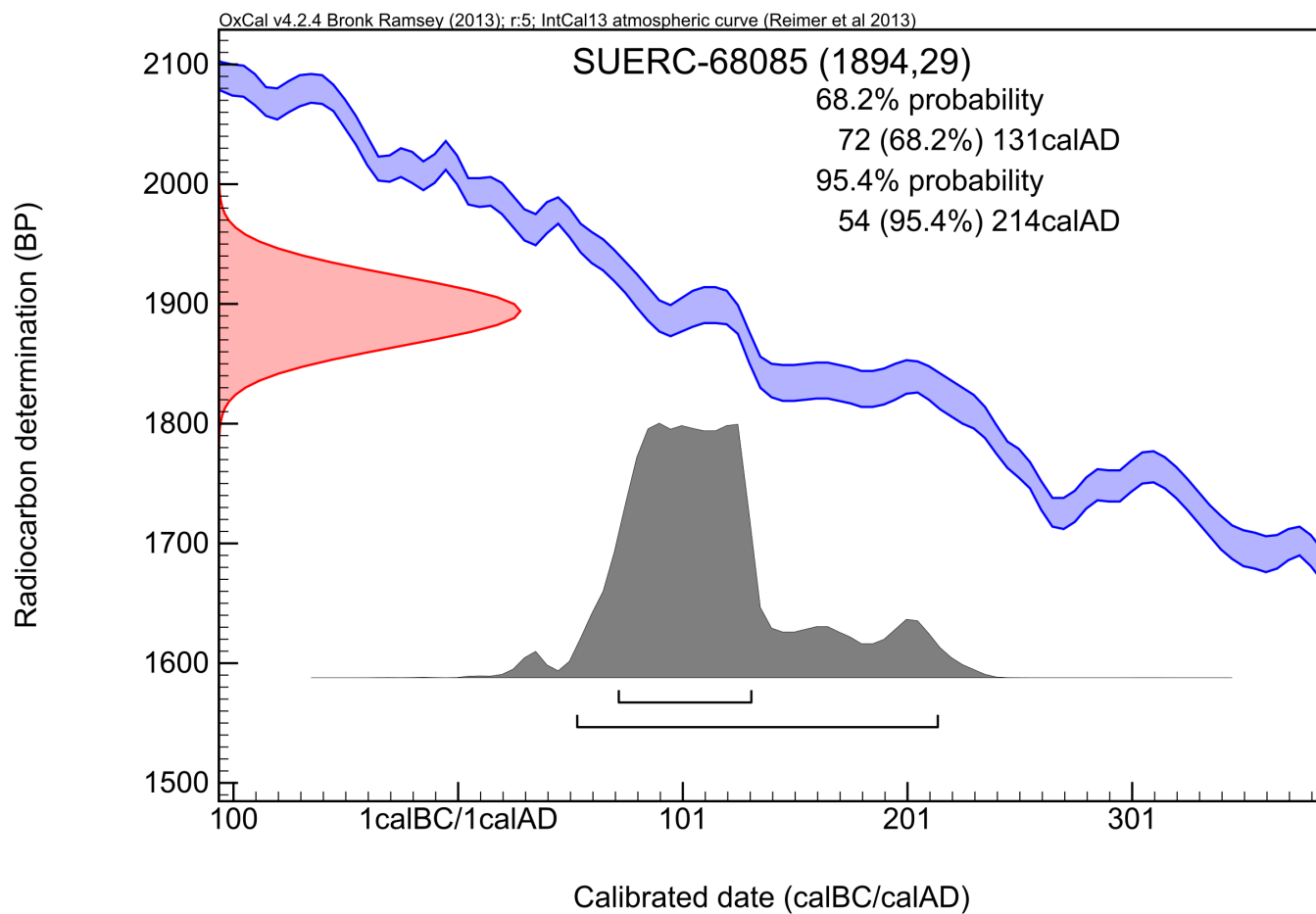
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68086 (GU41230)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven F19

Context Reference 2AB-2180

Sample Reference 2AB-1113

Material Charcoal : Calluna vulgaris


$\delta^{13}\text{C}$ relative to VPDB -23.6 ‰

Radiocarbon Age BP 1873 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

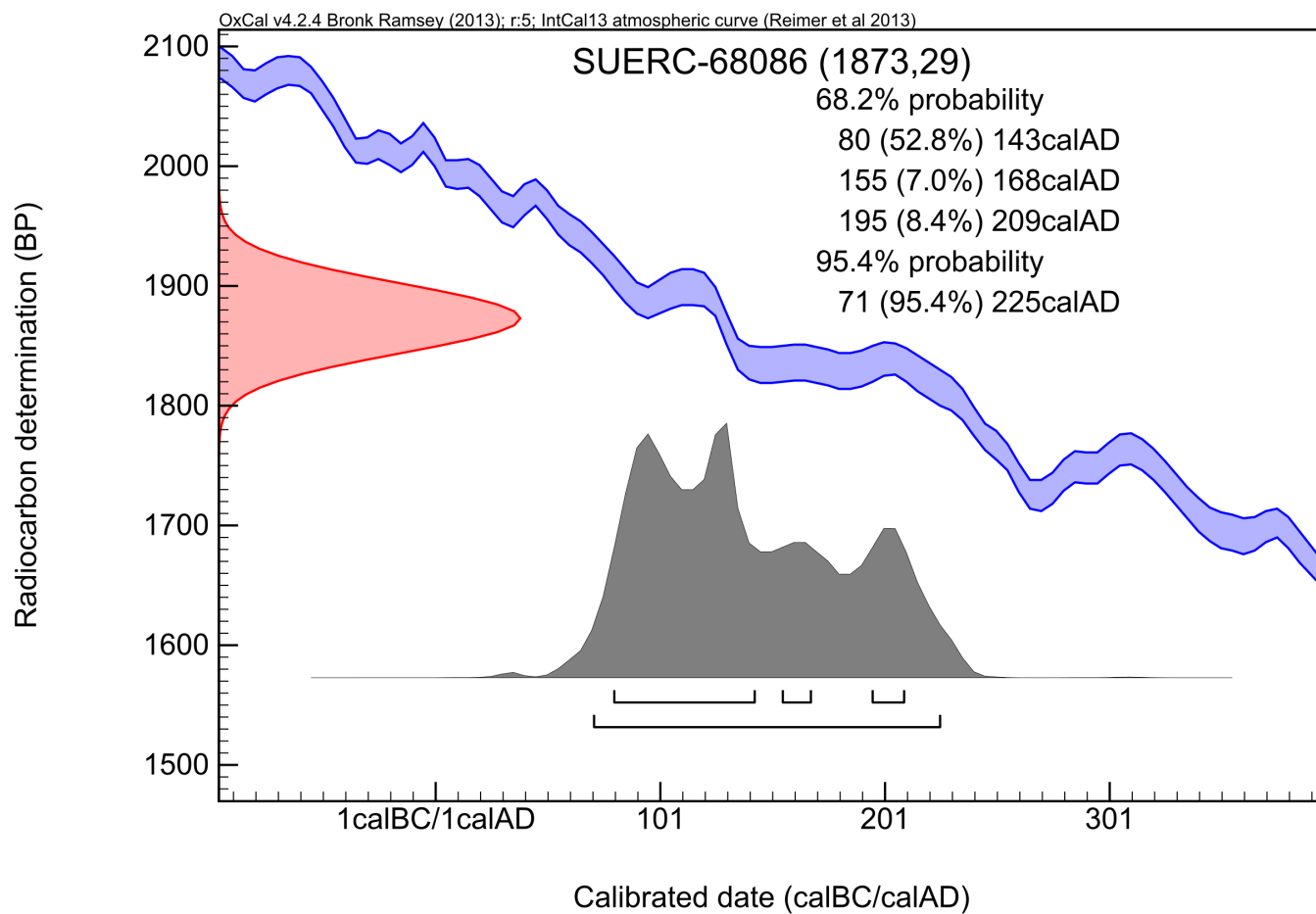
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

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Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68090 (GU41231)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002AB - Oven D02 (Rake-out)

Context Reference 2AB-2200

Sample Reference 2AB-1125

Material Charcoal : Calluna vulgaris


$\delta^{13}\text{C}$ relative to VPDB -25.7 ‰

Radiocarbon Age BP 1877 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

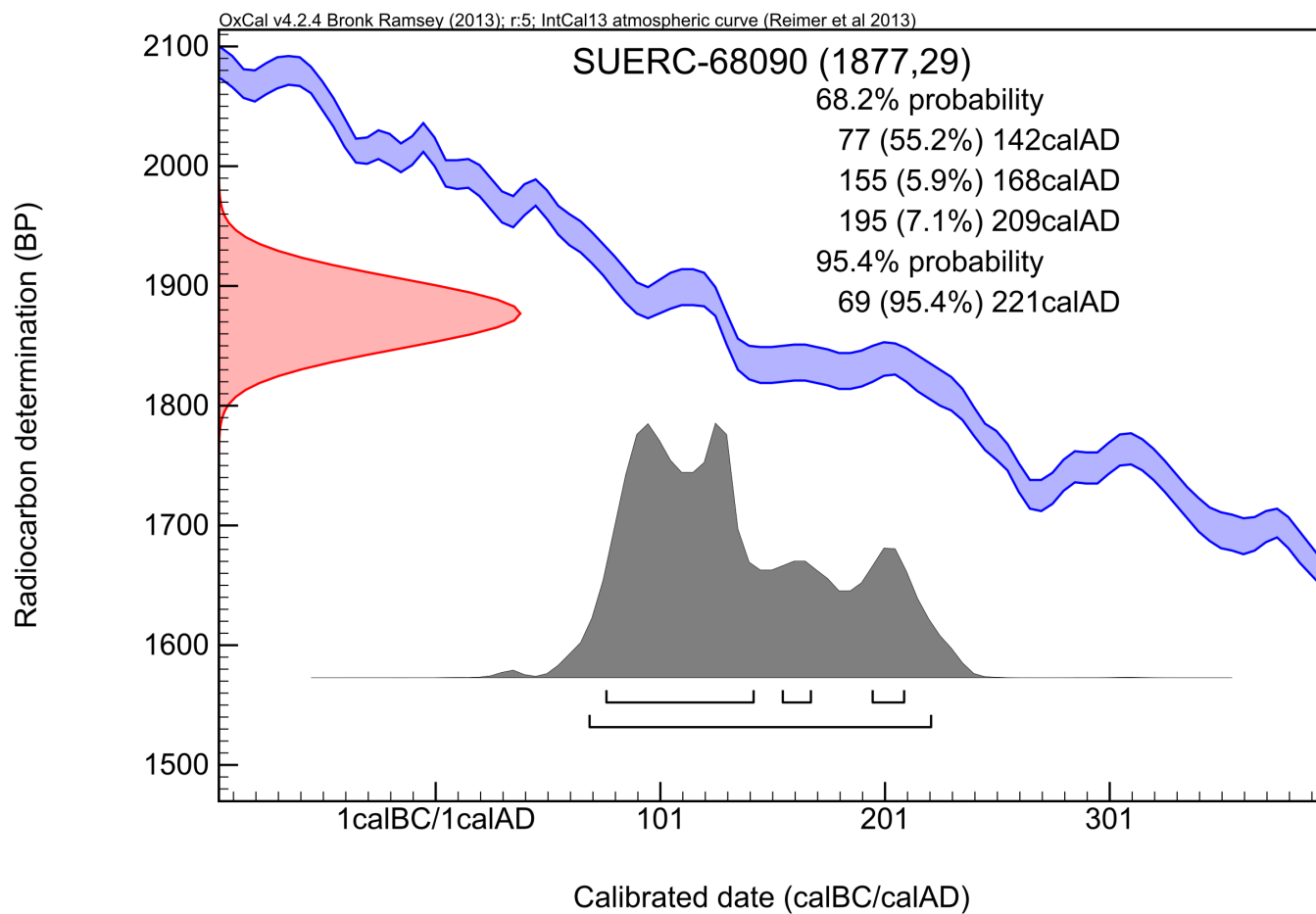
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68091 (GU41232)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002B

Context Reference 2B-0044

Sample Reference 2B-1023

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -28.4 ‰

Radiocarbon Age BP 2951 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

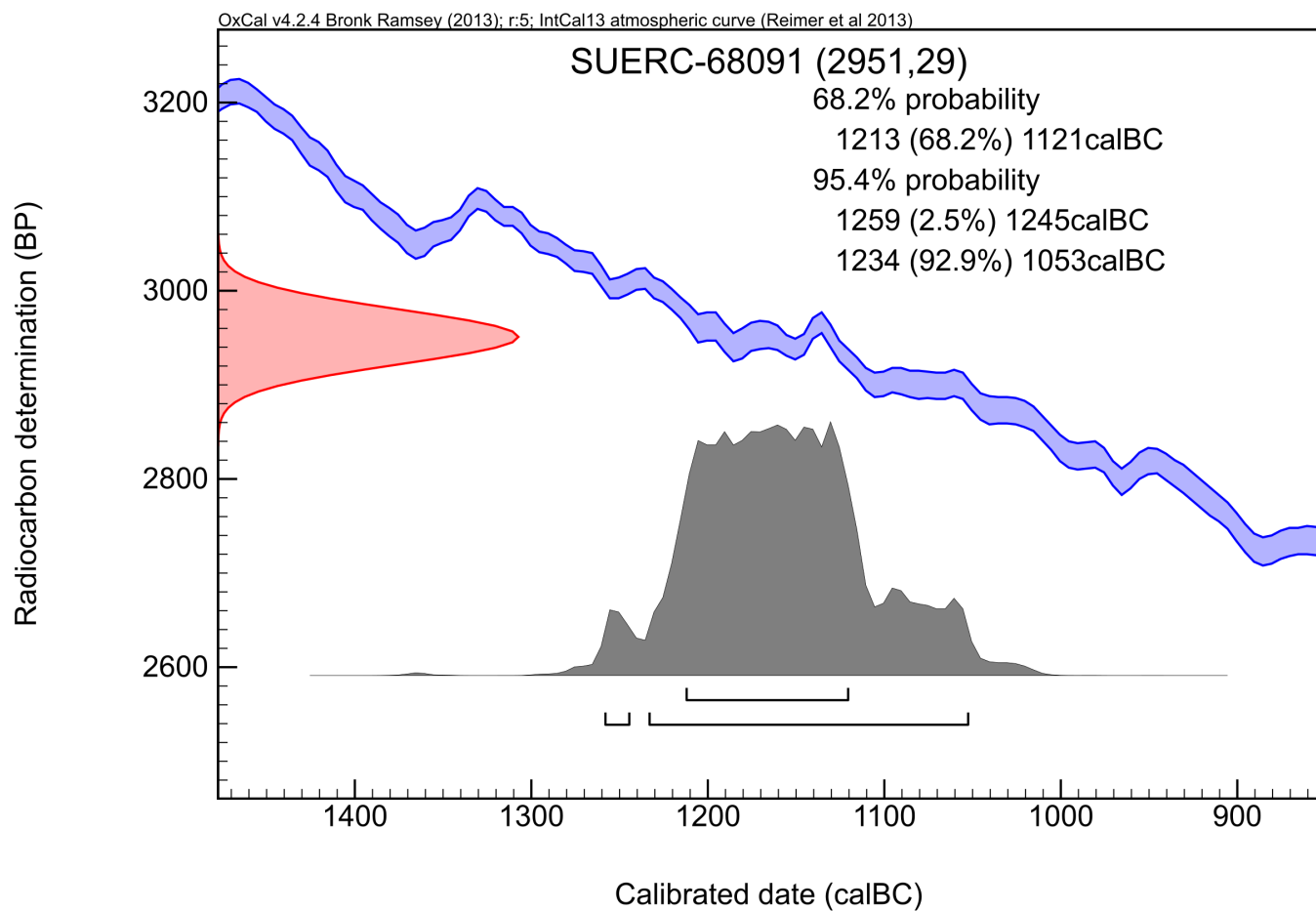
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68092 (GU41233)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002B

Context Reference 2B-0081

Sample Reference 2B-1038

Material Charcoal : *Alnus glutinosa*


$\delta^{13}\text{C}$ relative to VPDB -26.4 ‰

Radiocarbon Age BP 1066 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

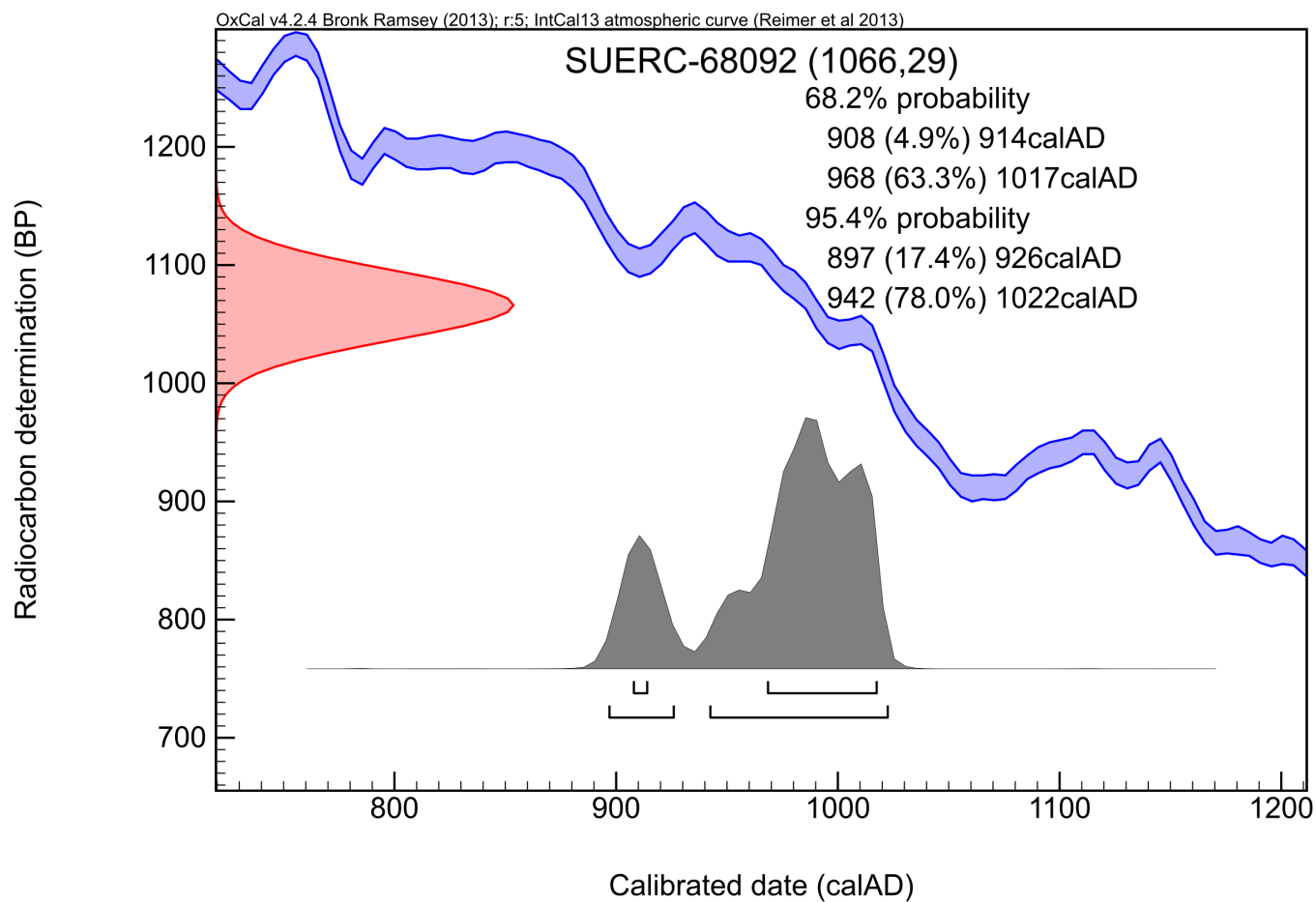
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68093 (GU41234)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002B

Context Reference 2B-0110

Sample Reference 2B-1053

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -26.6 ‰

Radiocarbon Age BP 1112 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

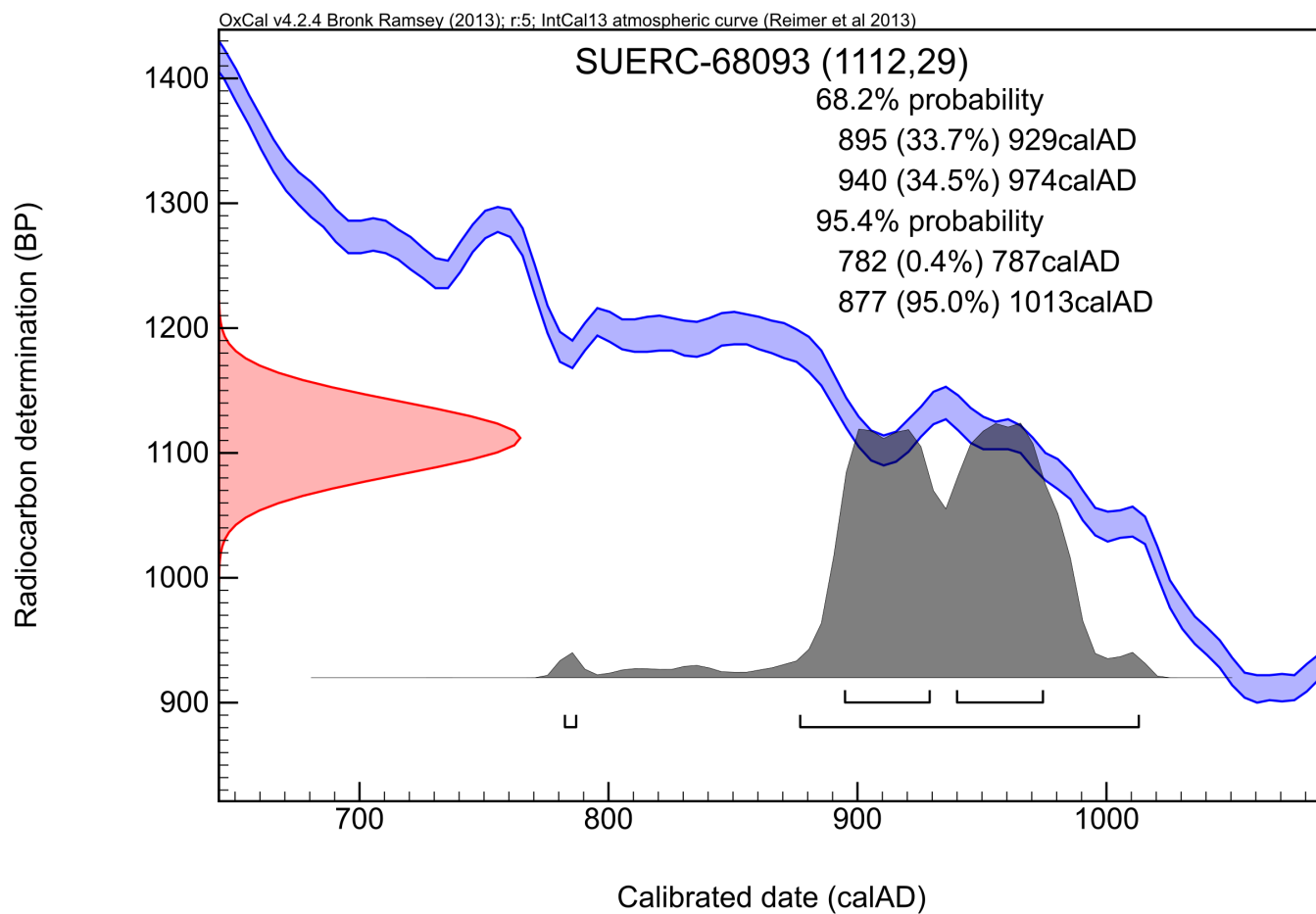
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68094 (GU41236)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002C

Context Reference 2C-0070

Sample Reference 2C-1032

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -25.4 ‰

Radiocarbon Age BP 2990 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

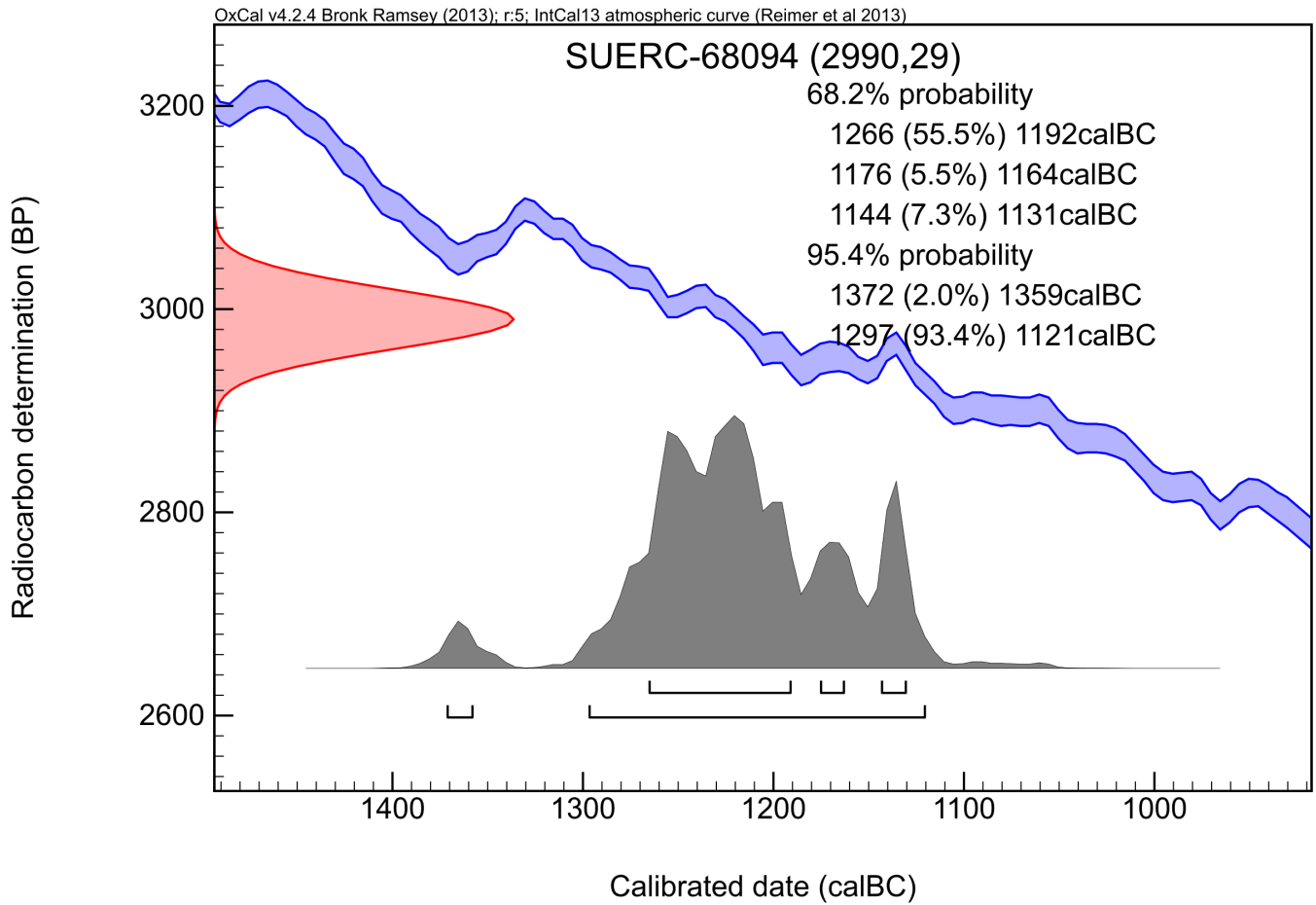
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68095 (GU41237)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1489

Sample Reference 2D-1194

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -25.7 ‰

Radiocarbon Age BP 8142 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

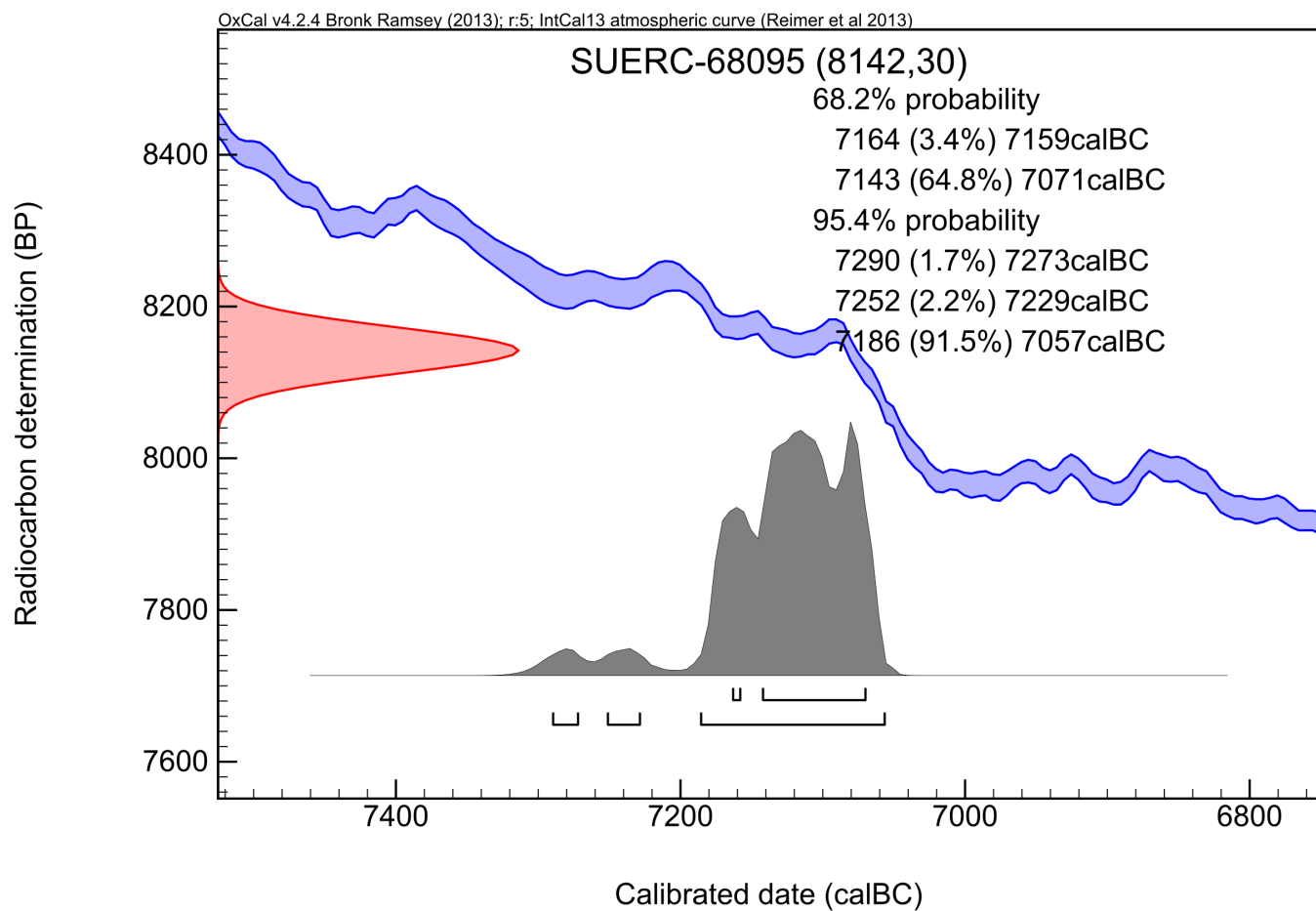
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68096 (GU41238)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1028

Sample Reference 2D-1015

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -26.7 ‰

Radiocarbon Age BP 8620 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

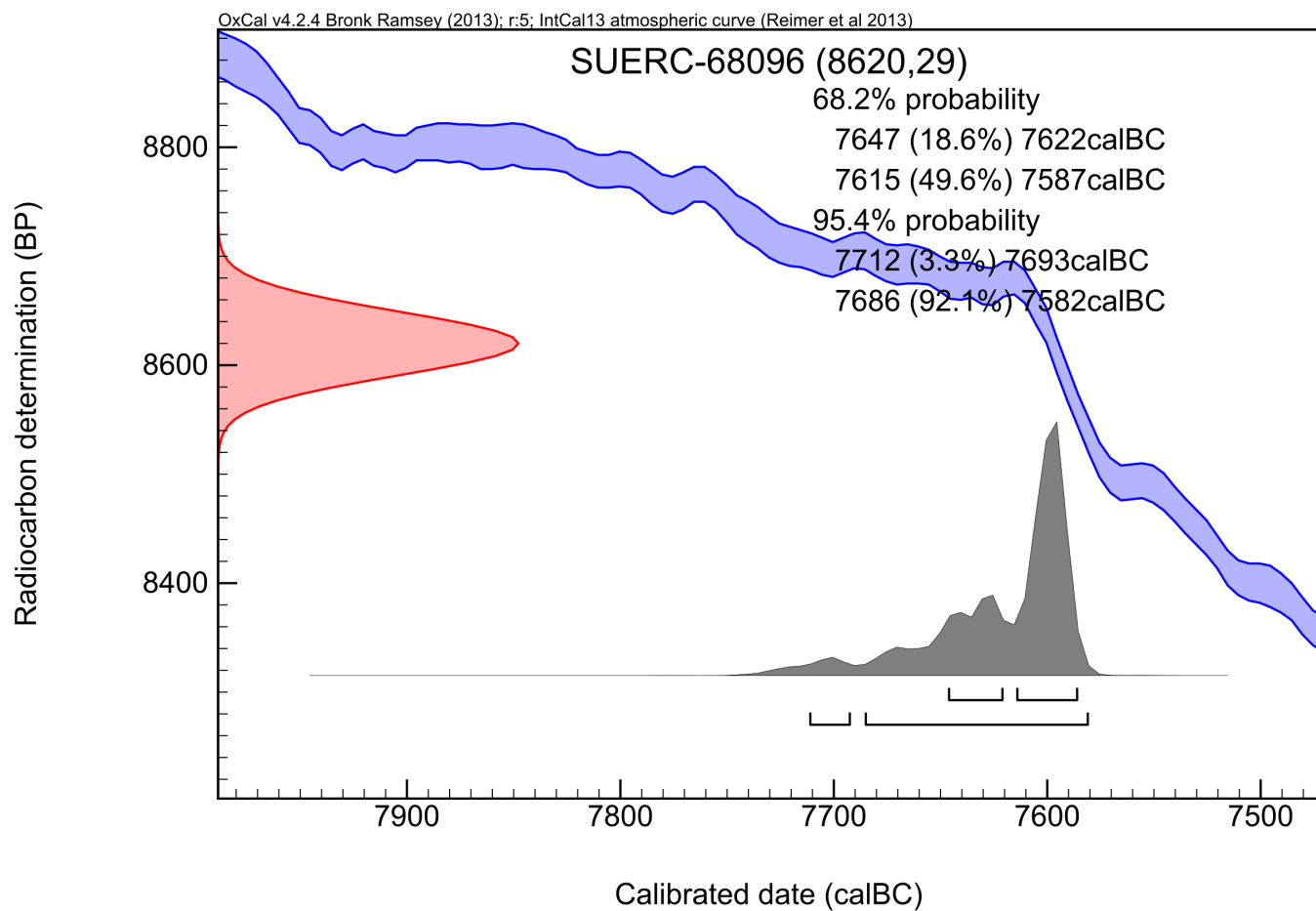
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68100 (GU41239)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1015

Sample Reference 2D-1008

Material Charcoal : Pomoideae sp.


$\delta^{13}\text{C}$ relative to VPDB -25.3 ‰

Radiocarbon Age BP 8313 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

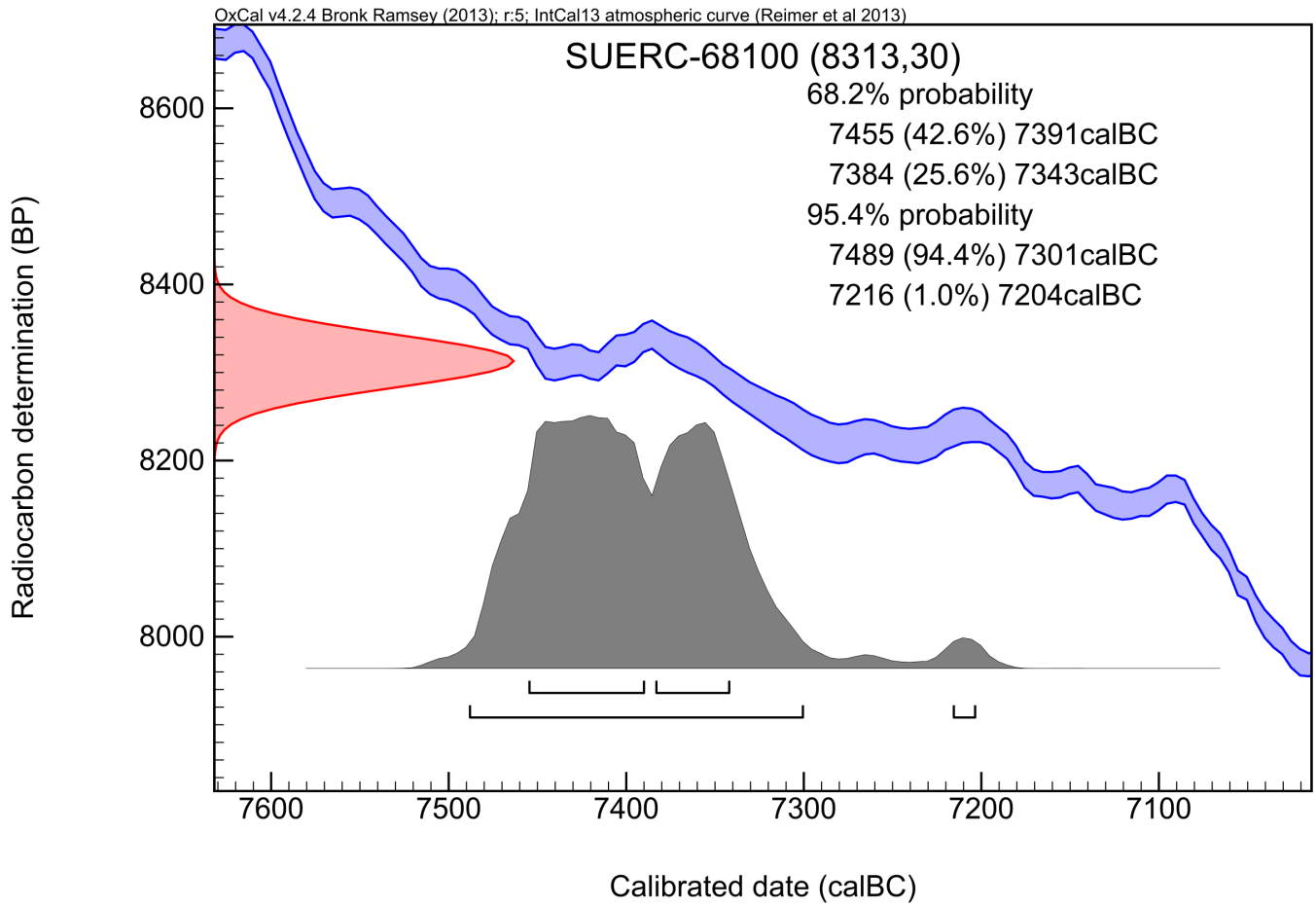
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68101 (GU41240)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1777

Sample Reference 2D-1245

Material Nutshell : *Corylus avellana*


$\delta^{13}\text{C}$ relative to VPDB -25.3 ‰

Radiocarbon Age BP 8897 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot

OxCal v4.2.4 Bronk Ramsey (2013); r:5; IntCal13 atmospheric curve (Reimer et al 2013)

SUERC-68101 (8897,29)

68.2% probability

8207 (15.6%) 8170calBC

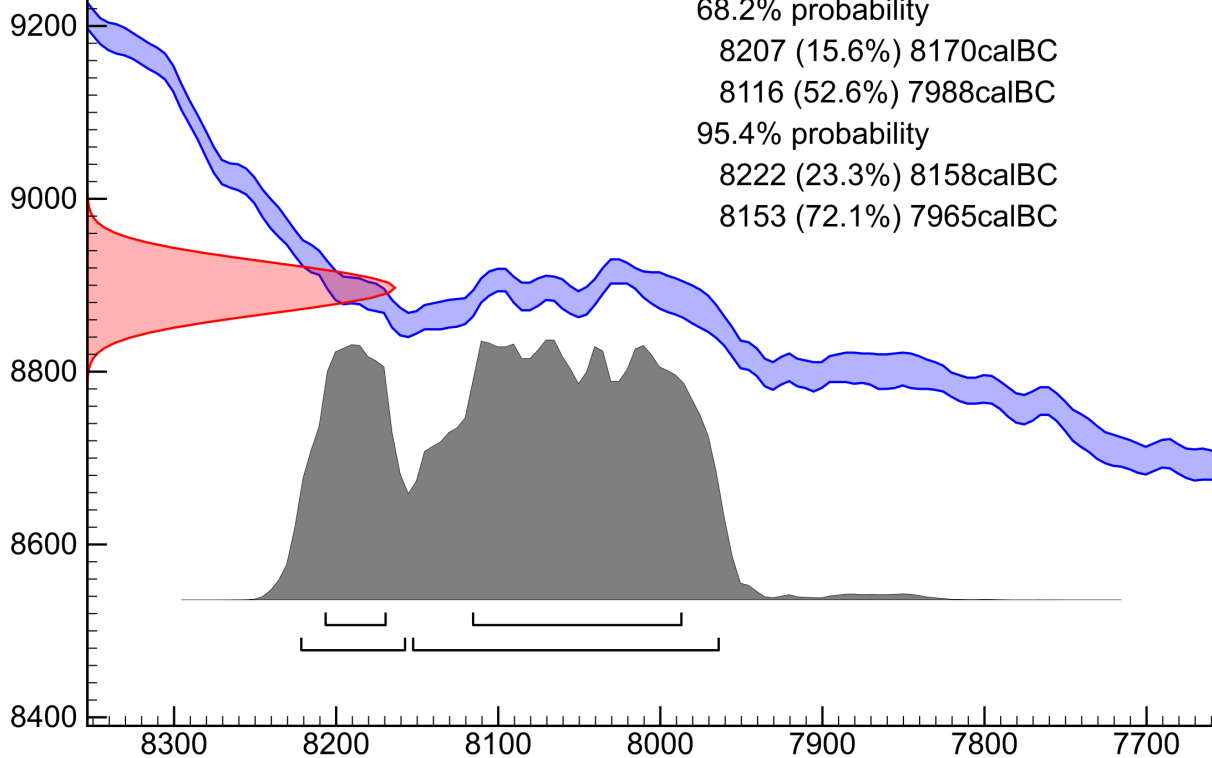
8116 (52.6%) 7988calBC

95.4% probability

8222 (23.3%) 8158calBC

8153 (72.1%) 7965calBC

Radiocarbon determination (BP)



Calibrated date (calBC)



RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68102 (GU41241)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1881

Sample Reference 2D-1255

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -26.9 ‰

Radiocarbon Age BP 5026 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

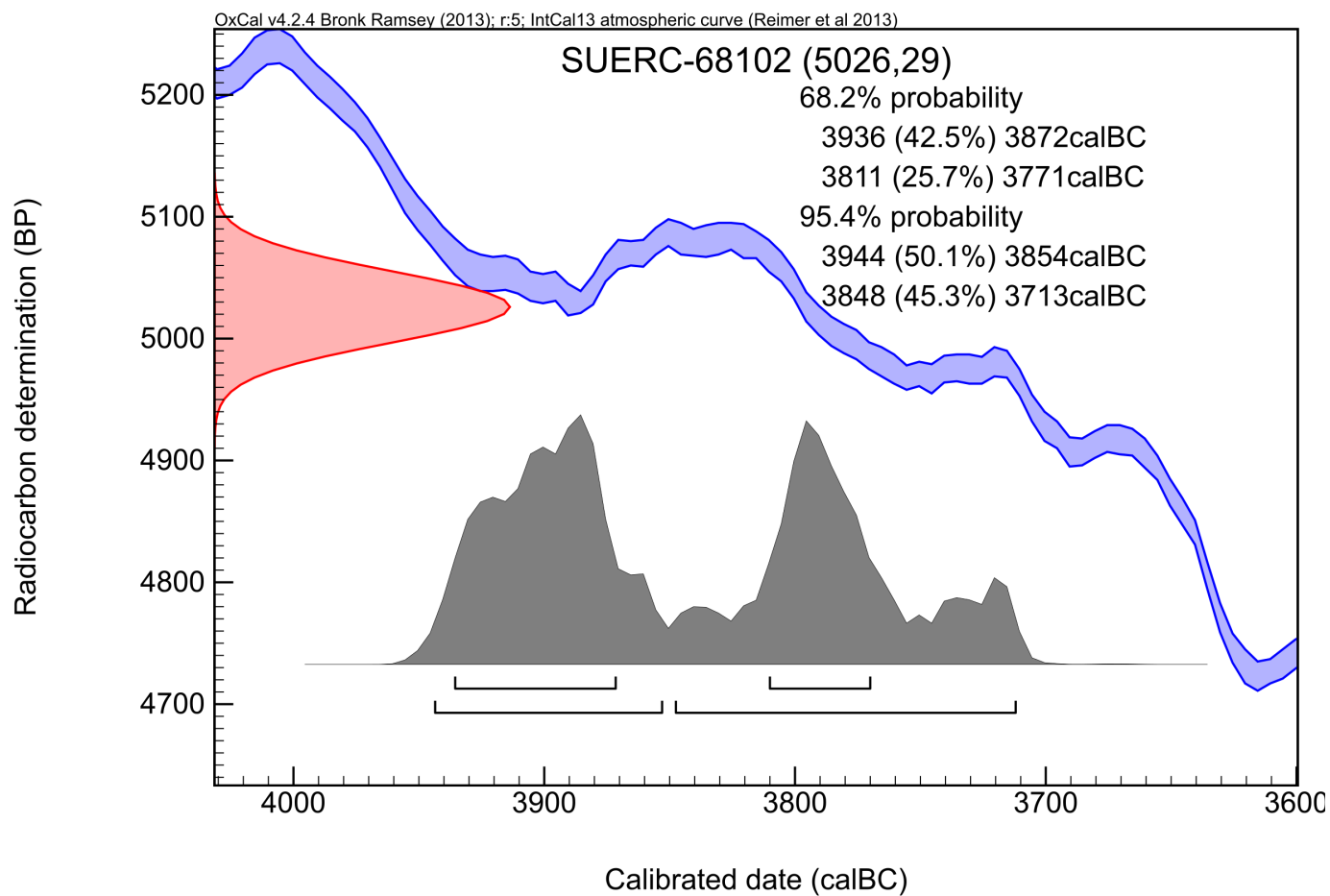
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68103 (GU41242)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1613

Sample Reference 2D-1215

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -24.3 ‰

Radiocarbon Age BP 3154 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

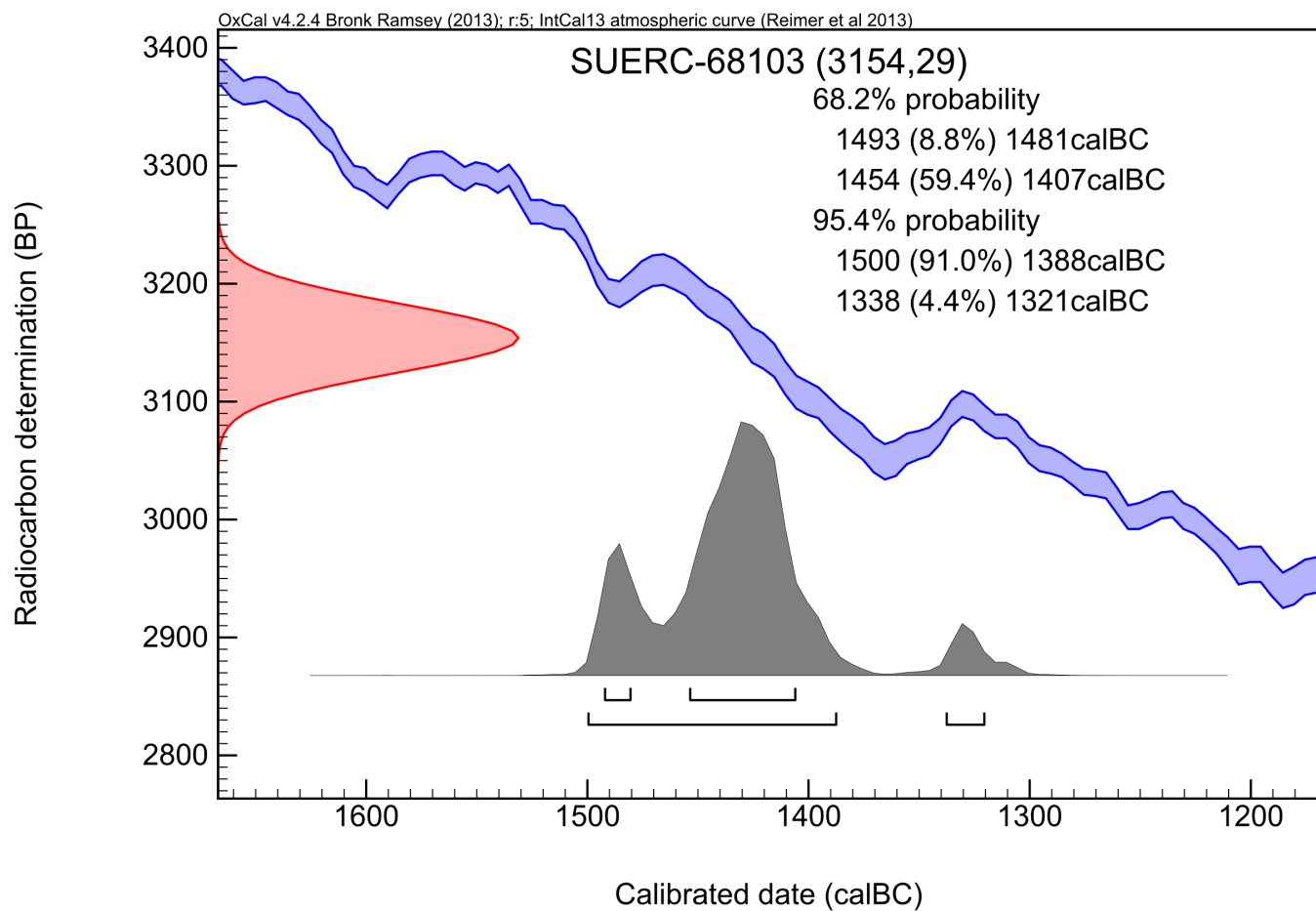
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68104 (GU41243)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1266

Sample Reference 2D-1127

Material Charcoal : Ilex aquifolium


$\delta^{13}\text{C}$ relative to VPDB -26.3 ‰

Radiocarbon Age BP 5036 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

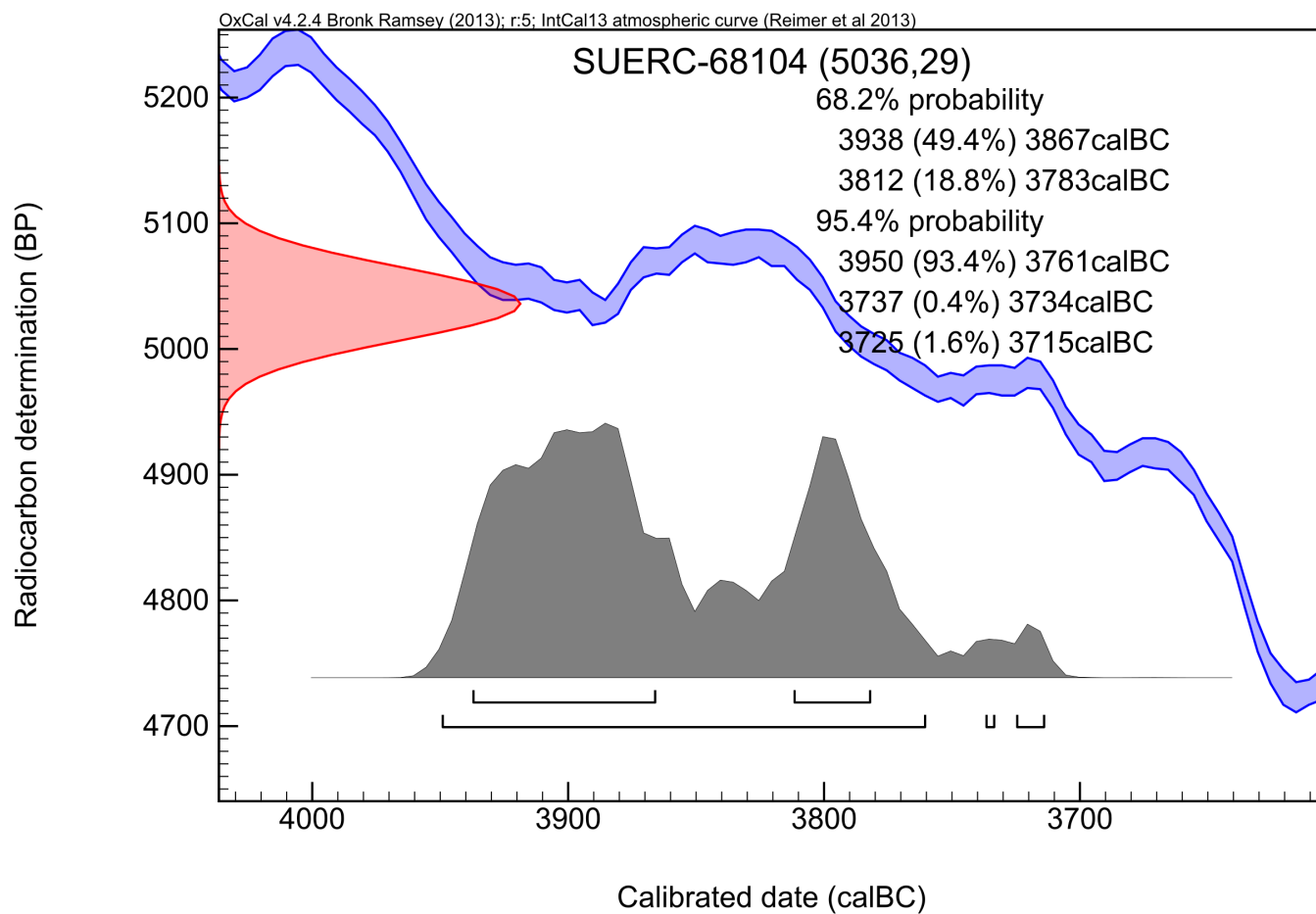
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68105 (GU41244)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1786

Sample Reference 2D-1253

Material Charcoal : Ilex aquifolium


$\delta^{13}\text{C}$ relative to VPDB -25.0 ‰

Radiocarbon Age BP 5024 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

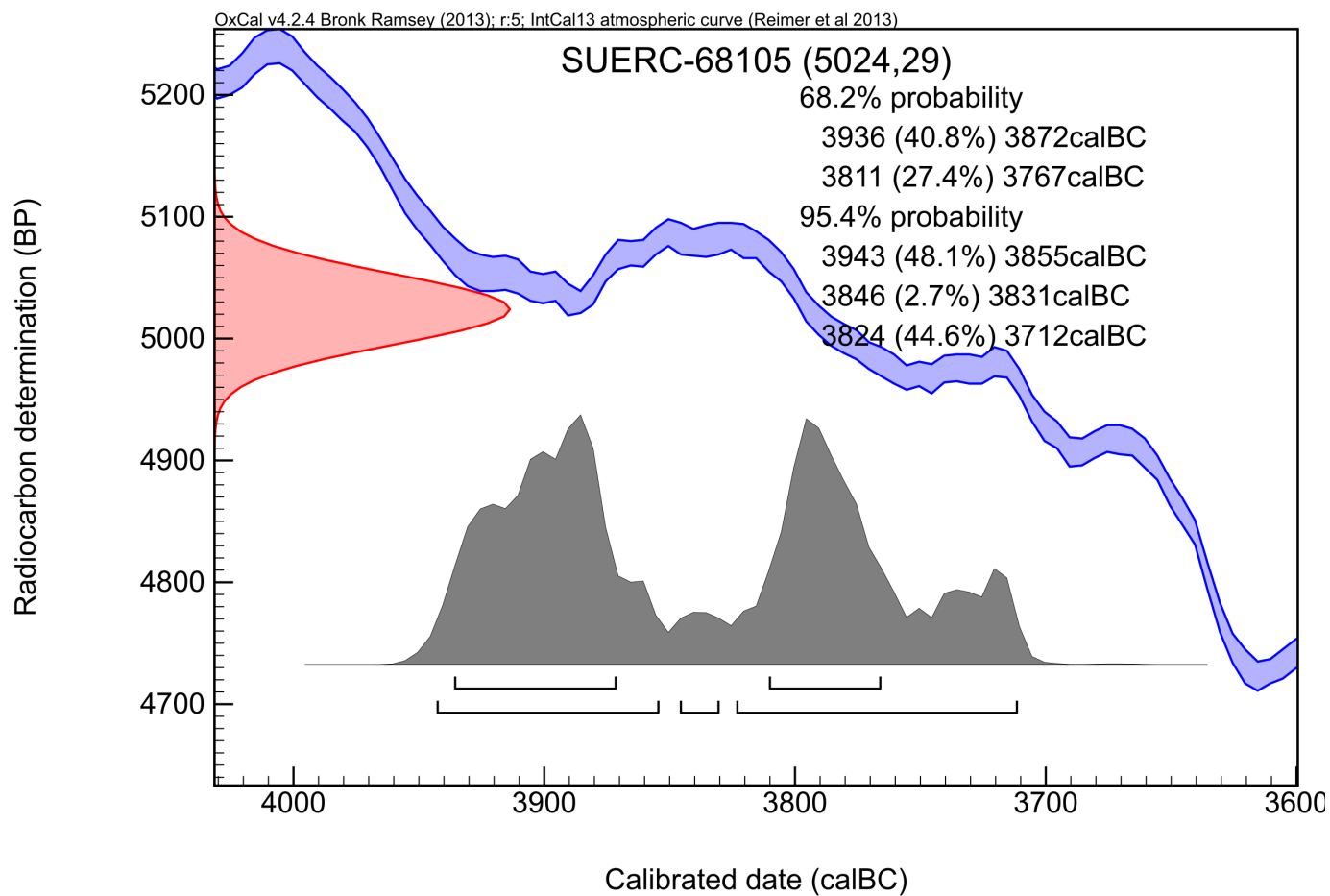
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68106 (GU41245)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1119

Sample Reference 2D-1062

Material Charcoal : Salix sp.


$\delta^{13}\text{C}$ relative to VPDB -27.8 ‰

Radiocarbon Age BP 8848 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

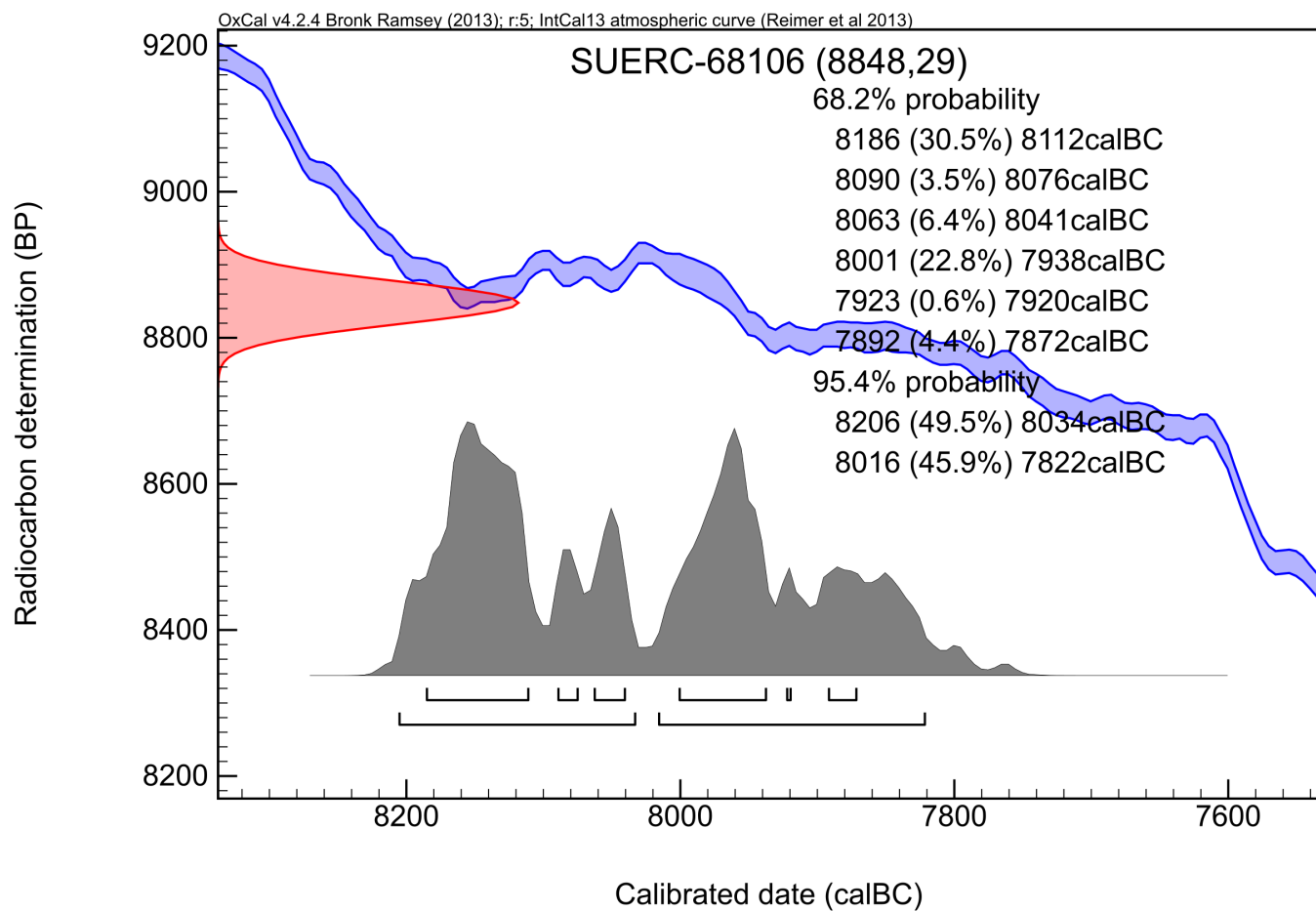
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68110 (GU41246)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1128

Sample Reference 2D-1076

Material Nutshell : *Corylus avellana*


$\delta^{13}\text{C}$ relative to VPDB -25.0 ‰

Radiocarbon Age BP 5737 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

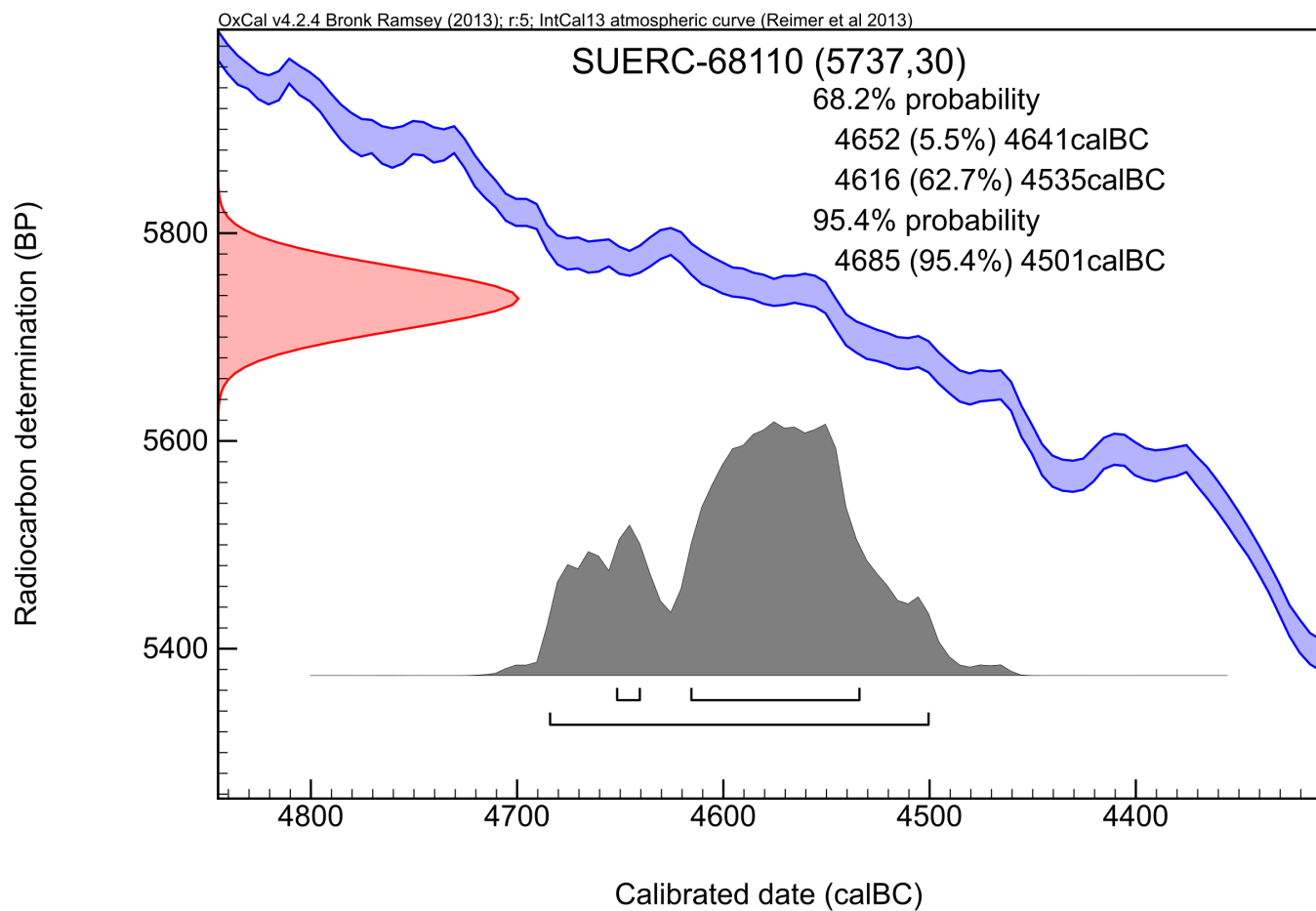
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68111 (GU41247)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1576

Sample Reference 2D-1226

Material Charcoal : Betula sp.


$\delta^{13}\text{C}$ relative to VPDB -27.3 ‰

Radiocarbon Age BP 2948 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

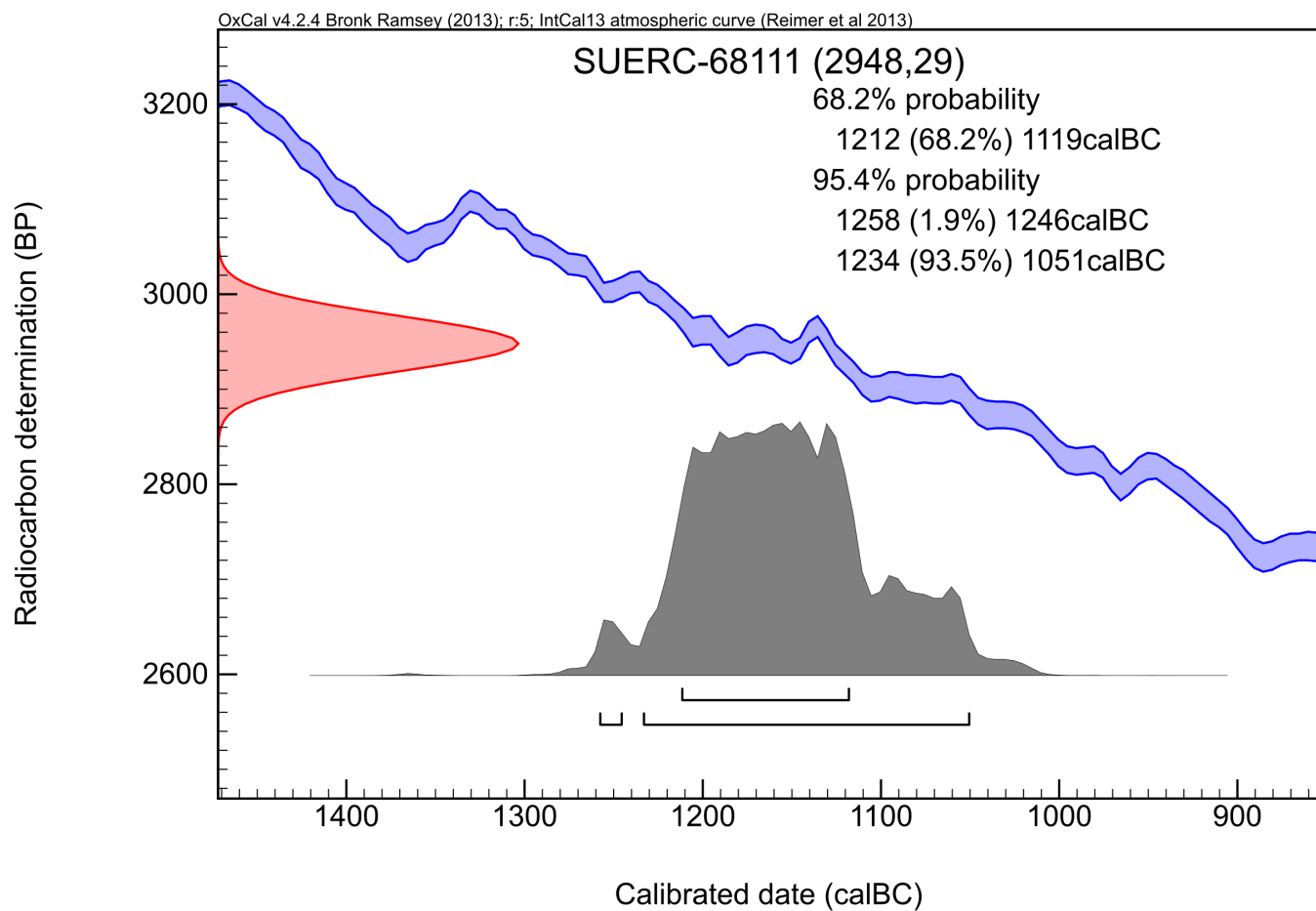
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68112 (GU41248)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1259

Sample Reference 2D-1124

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -26.3 ‰

Radiocarbon Age BP 5076 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

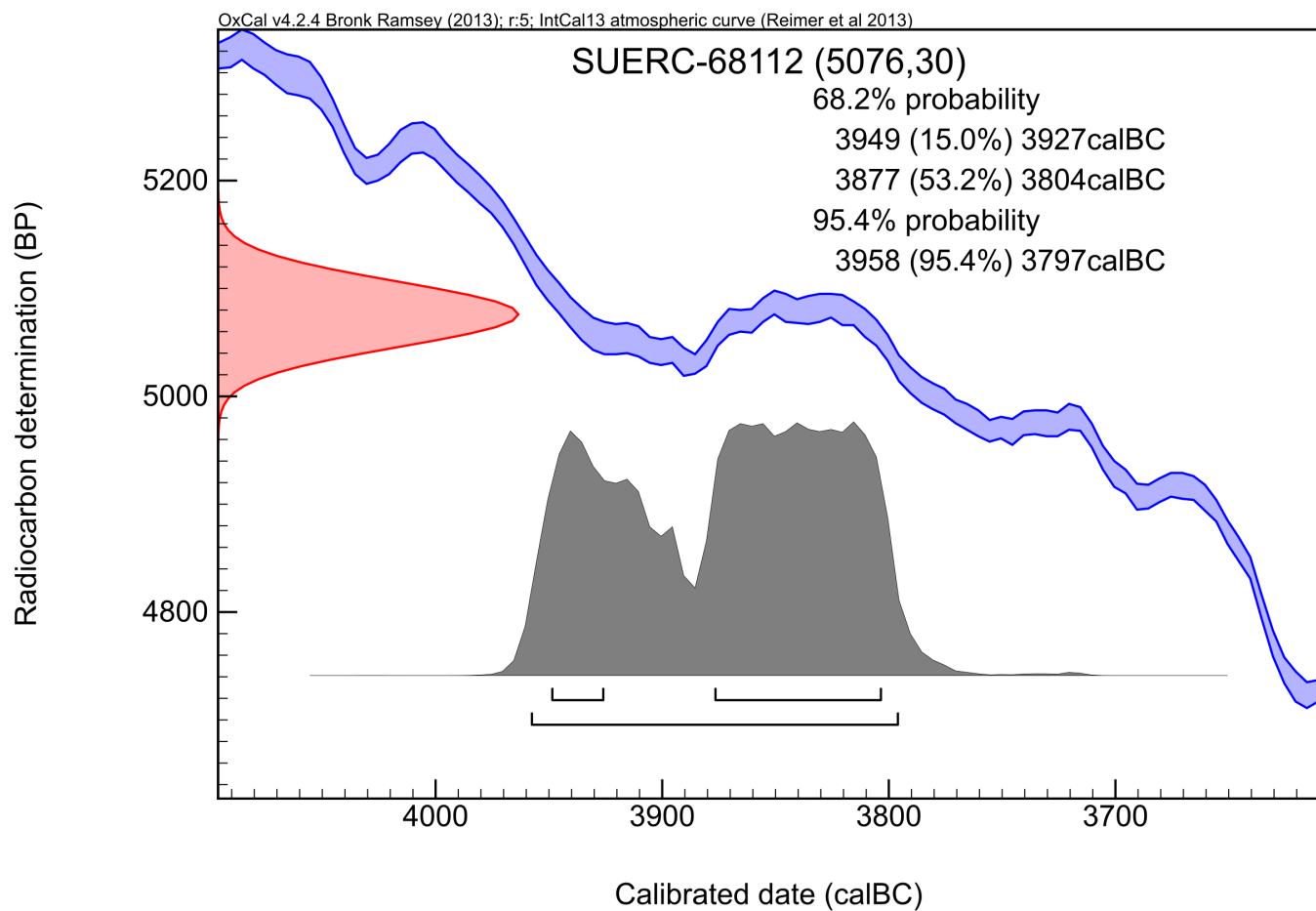
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68113 (GU41249)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1144

Sample Reference 2D-1229

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -26.3 ‰

Radiocarbon Age BP 6251 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

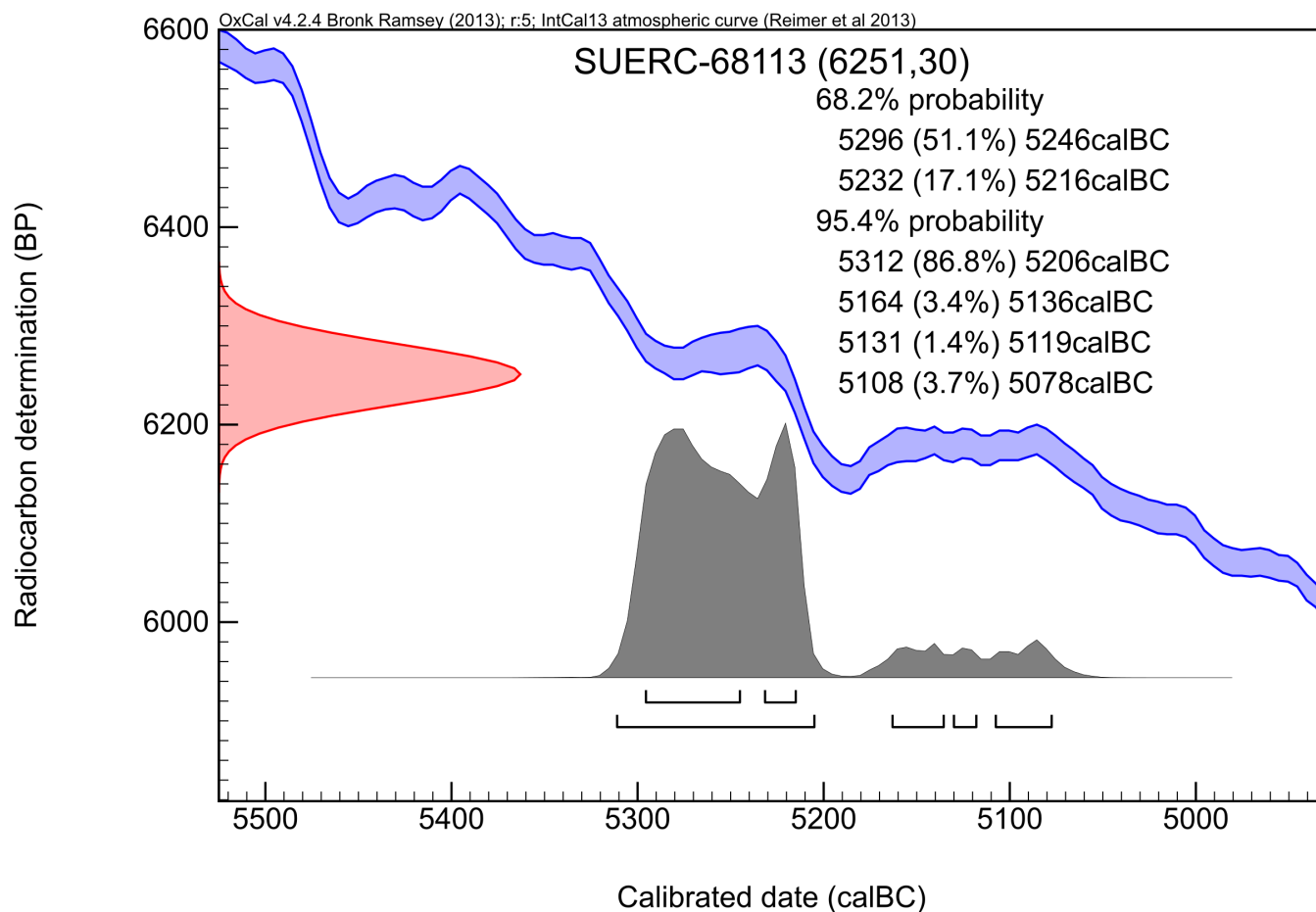
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68114 (GU41250)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1824

Sample Reference 2D-1251

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -27.3 ‰

Radiocarbon Age BP 5030 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

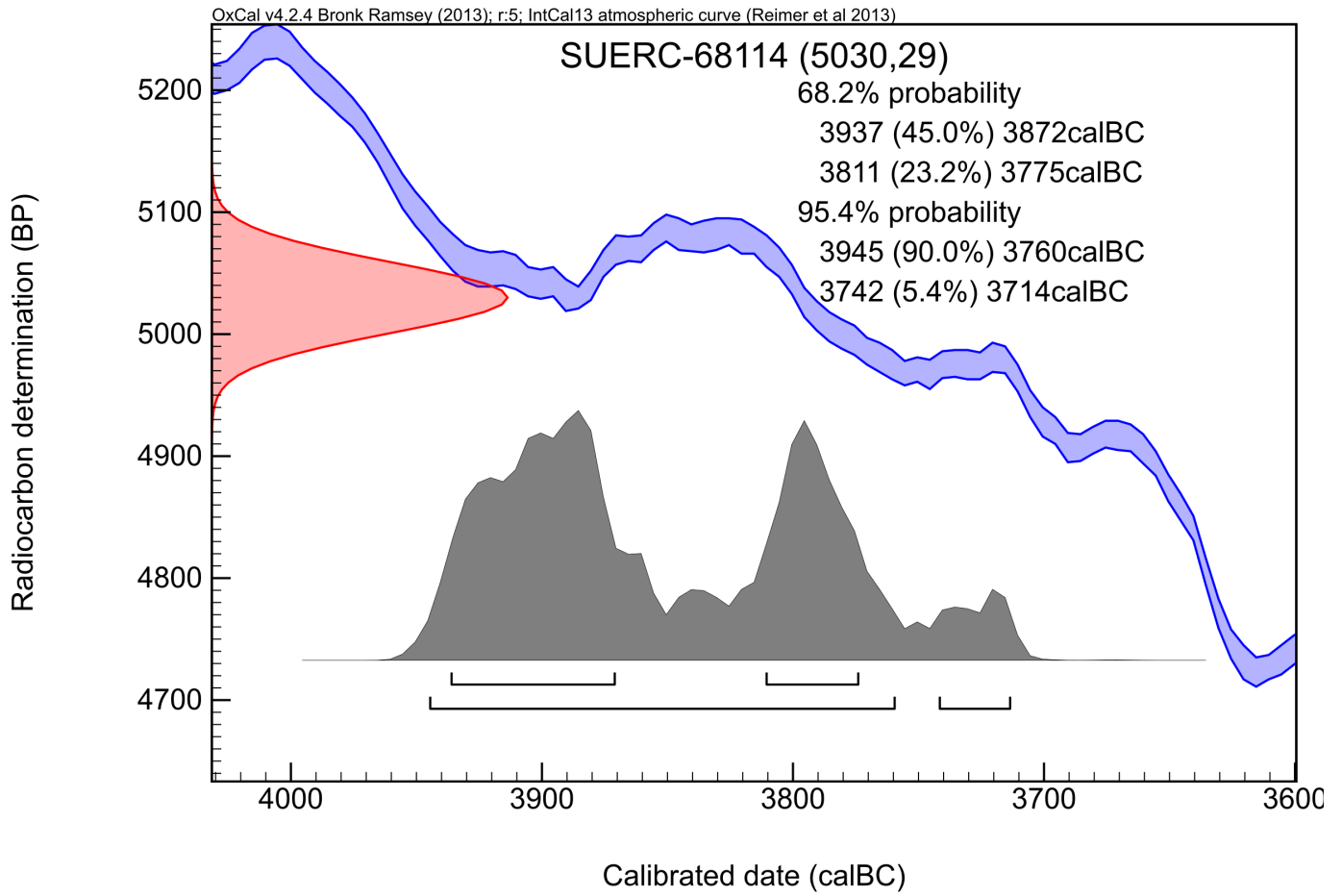
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68115 (GU41251)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1274

Sample Reference 2D-1132

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -25.7 ‰

Radiocarbon Age BP 5962 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

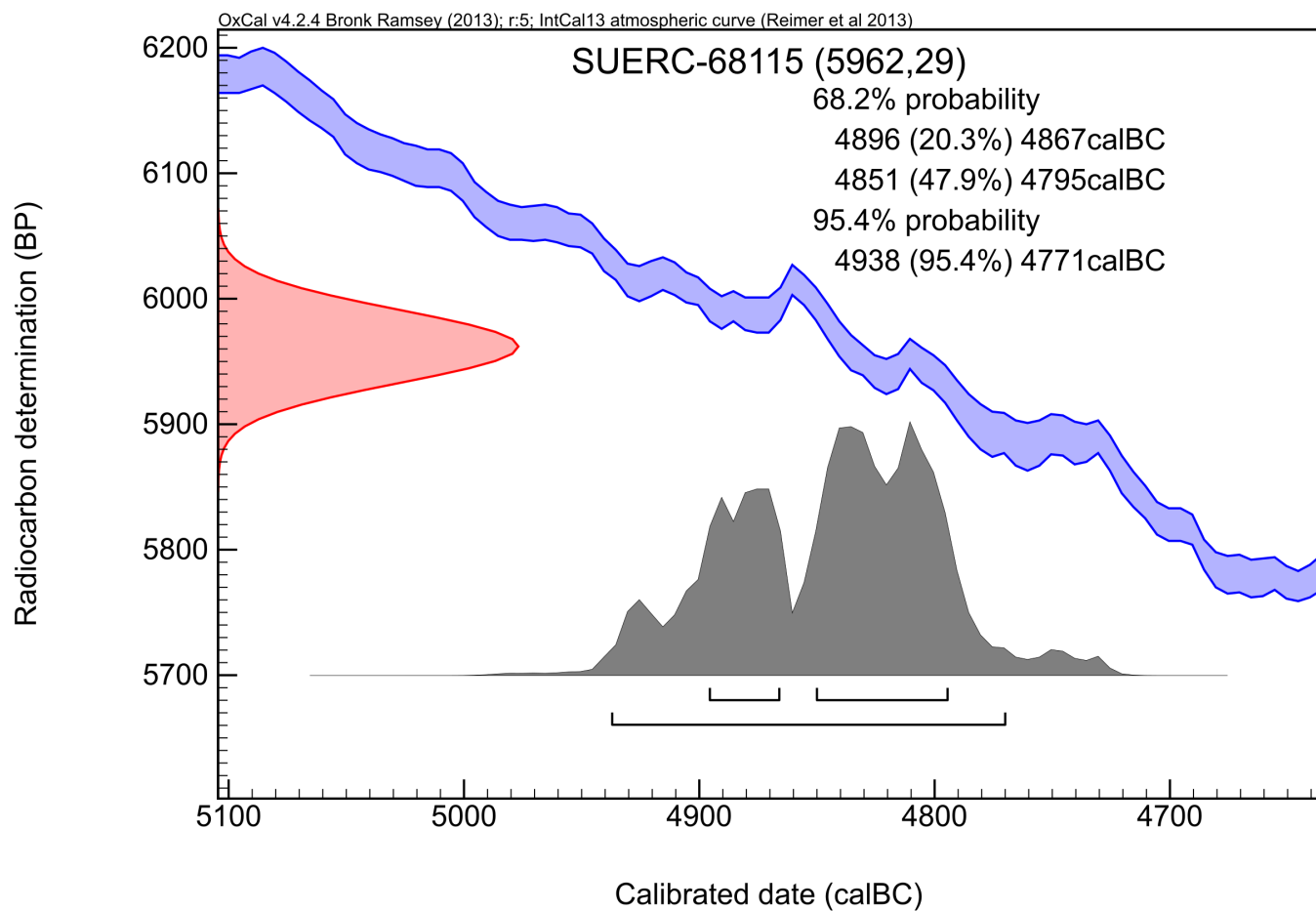
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68116 (GU41252)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1226

Sample Reference 2D-1099

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -27.9 ‰

Radiocarbon Age BP 5780 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

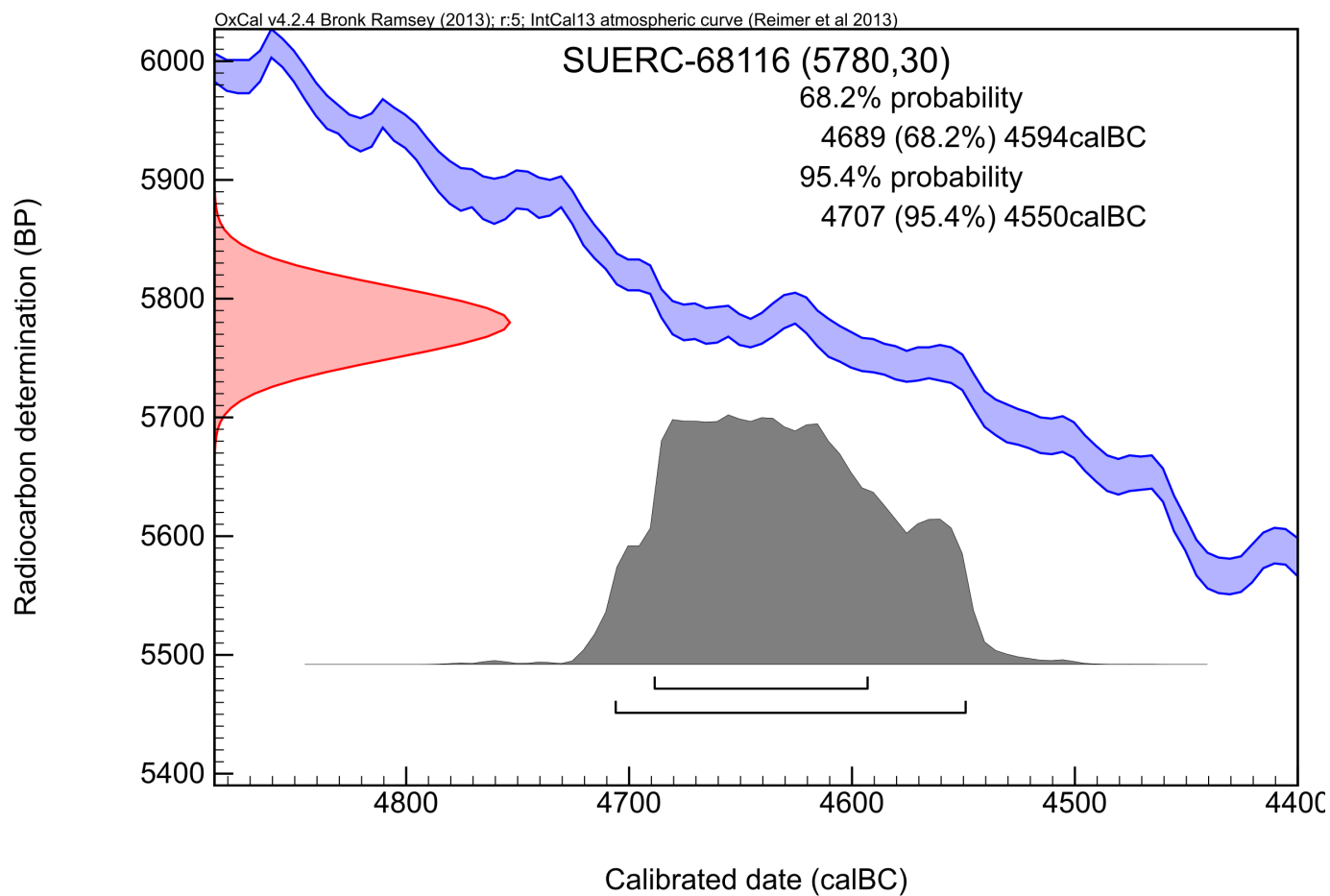
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68120 (GU41253)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002D

Context Reference 2D-1408

Sample Reference 2D-1177

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -28.1 ‰

Radiocarbon Age BP 5014 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

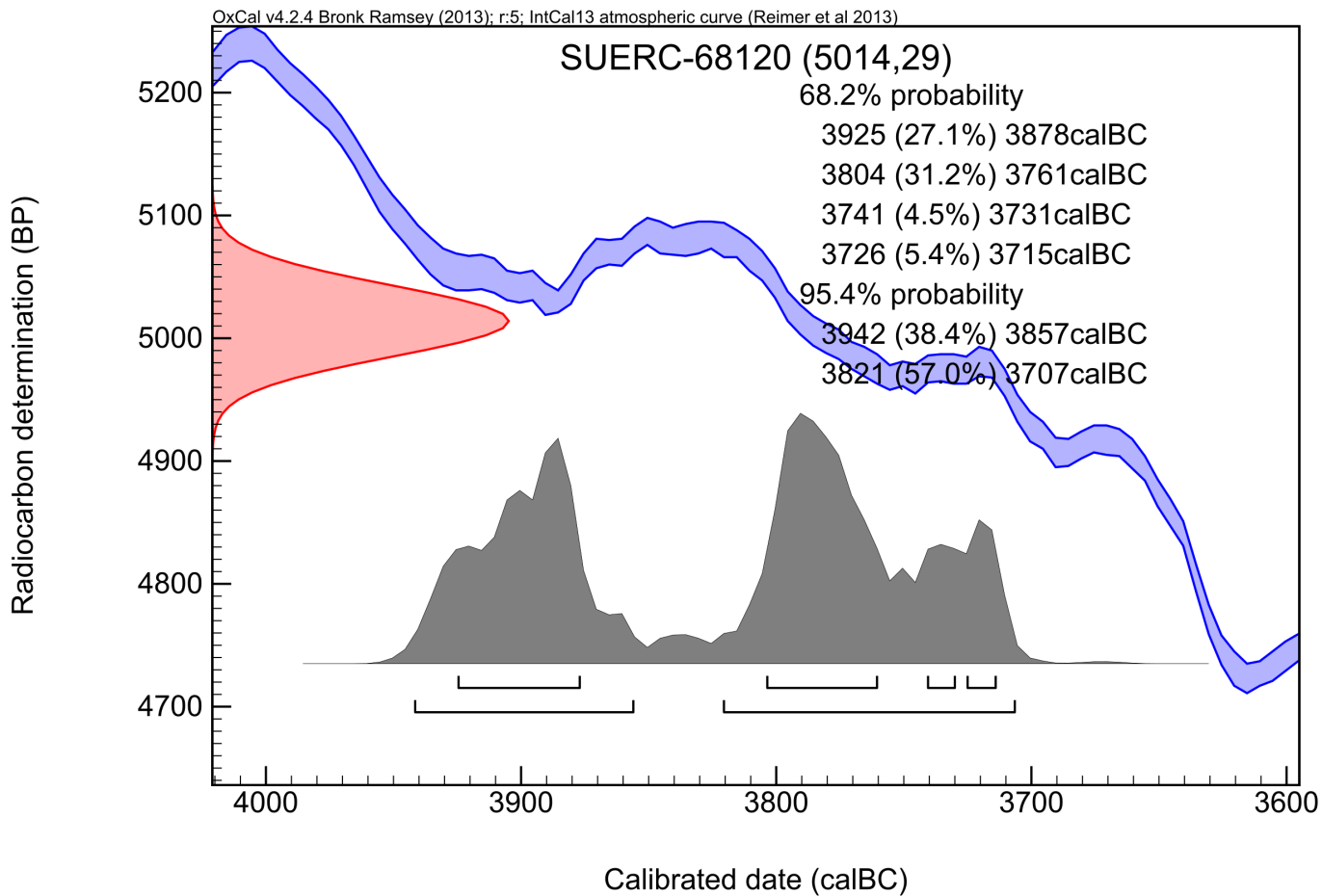
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68121 (GU41254)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL13- NL013

Context Reference 13-0012

Sample Reference 13-0005

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -26.0 ‰

Radiocarbon Age BP 3744 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

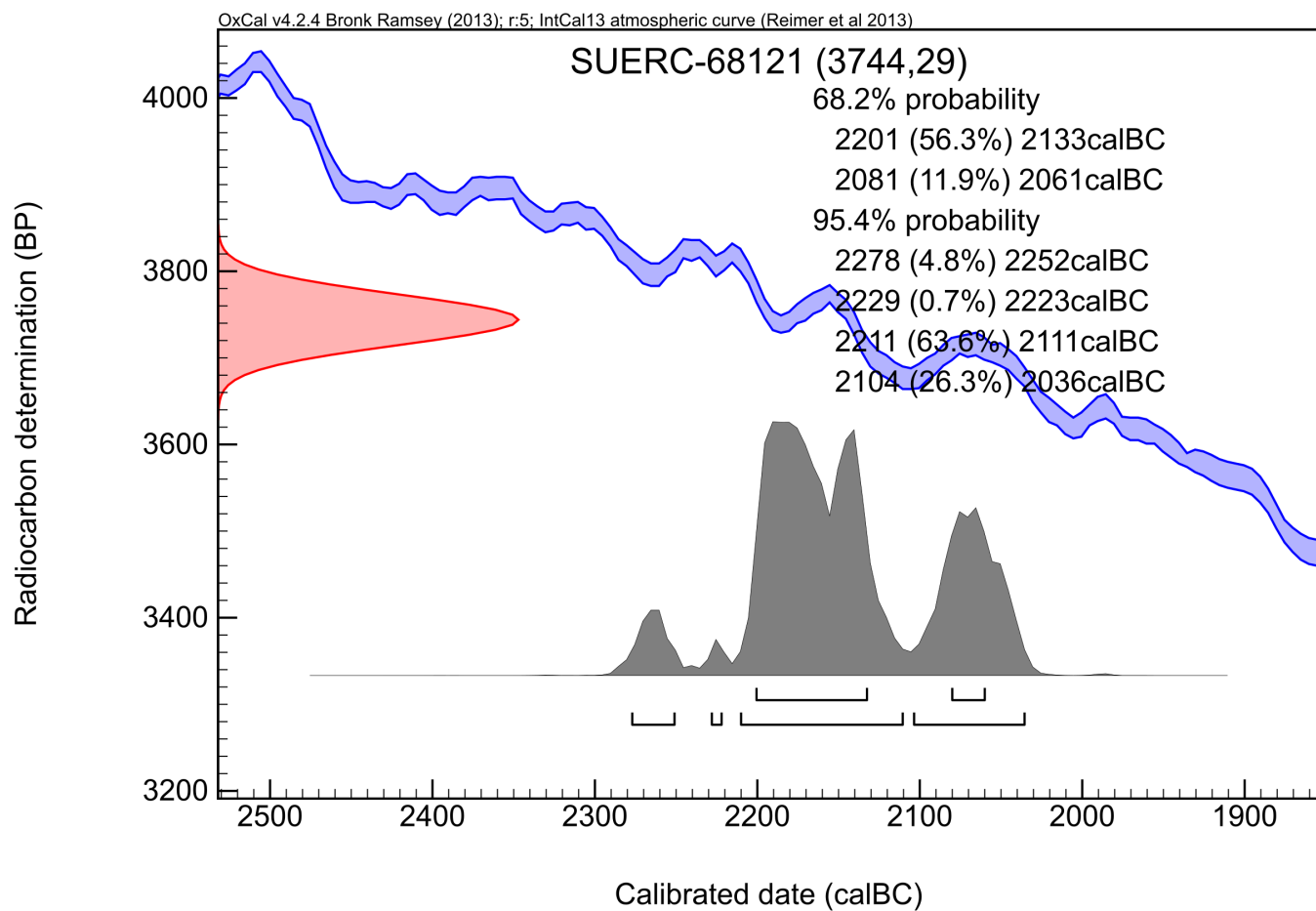
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68122 (GU41255)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL13- NL012

Context Reference 12-0019

Sample Reference 12-0009

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -26.8 ‰

Radiocarbon Age BP 4996 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

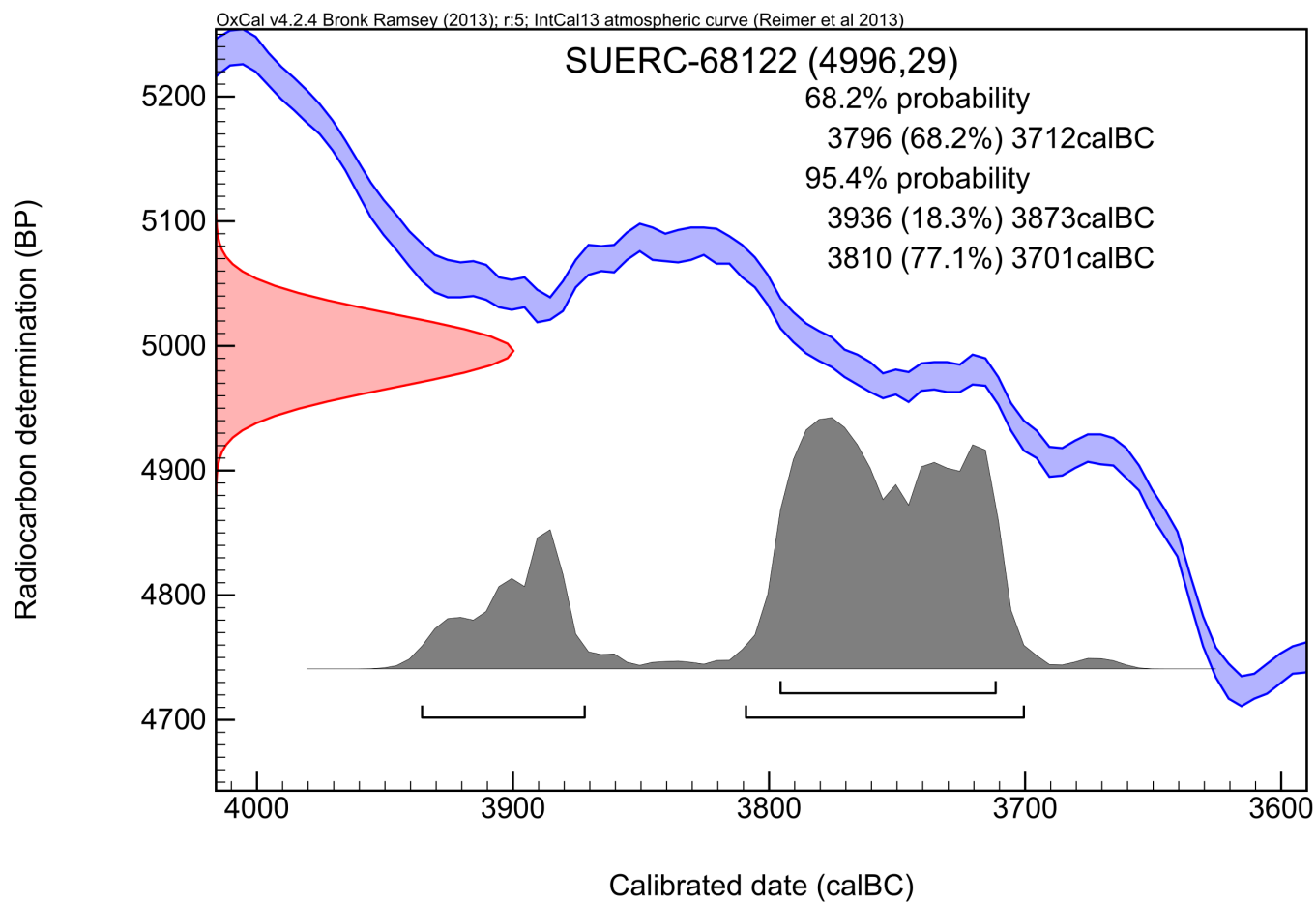
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68123 (GU41256)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL13- NL012

Context Reference 12-0007

Sample Reference 12-0018

Material Nutshell : *Corylus avellana*


$\delta^{13}\text{C}$ relative to VPDB -25.9 ‰

Radiocarbon Age BP 5373 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

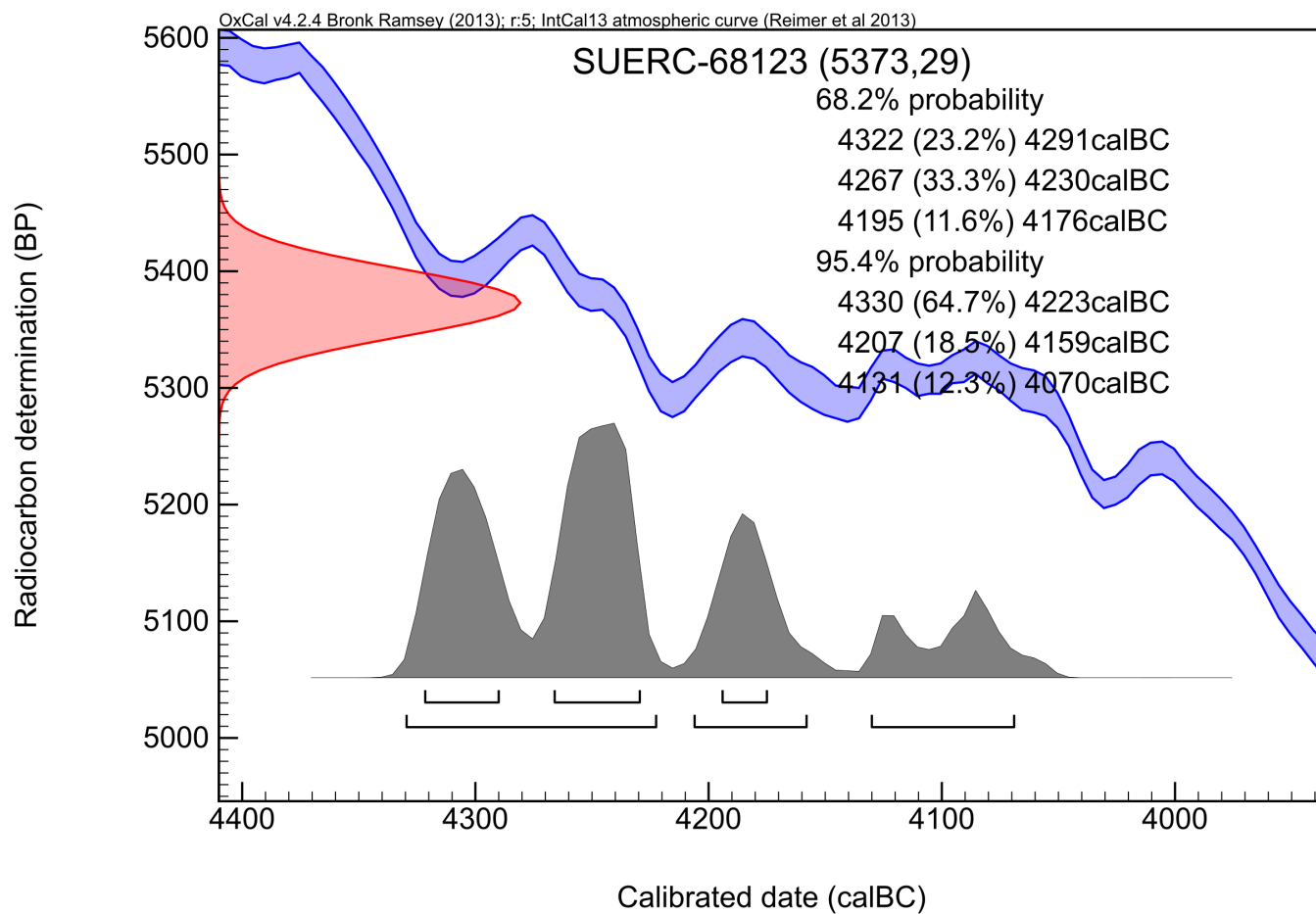
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68124 (GU41258)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL13-003B

Context Reference 3B-0019

Sample Reference 3B-0019

Material Nutshell : *Corylus avellana*


$\delta^{13}\text{C}$ relative to VPDB -26.0 ‰

Radiocarbon Age BP 7960 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

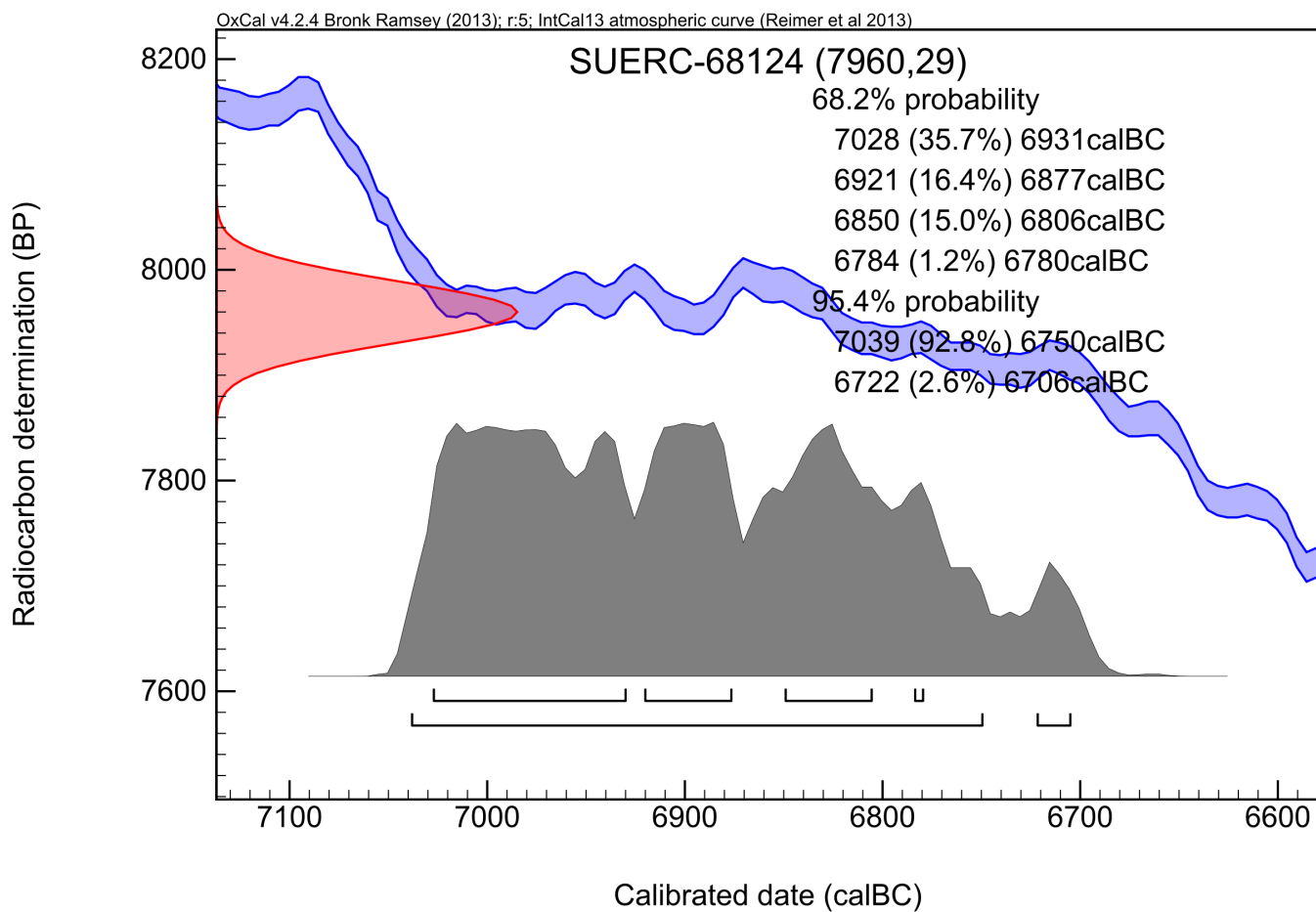
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68125 (GU41259)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL13-003B

Context Reference 3B-0017

Sample Reference 3B-0015

Material Nutshell : *Corylus avellana*


$\delta^{13}\text{C}$ relative to VPDB -25.5 ‰

Radiocarbon Age BP 7988 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

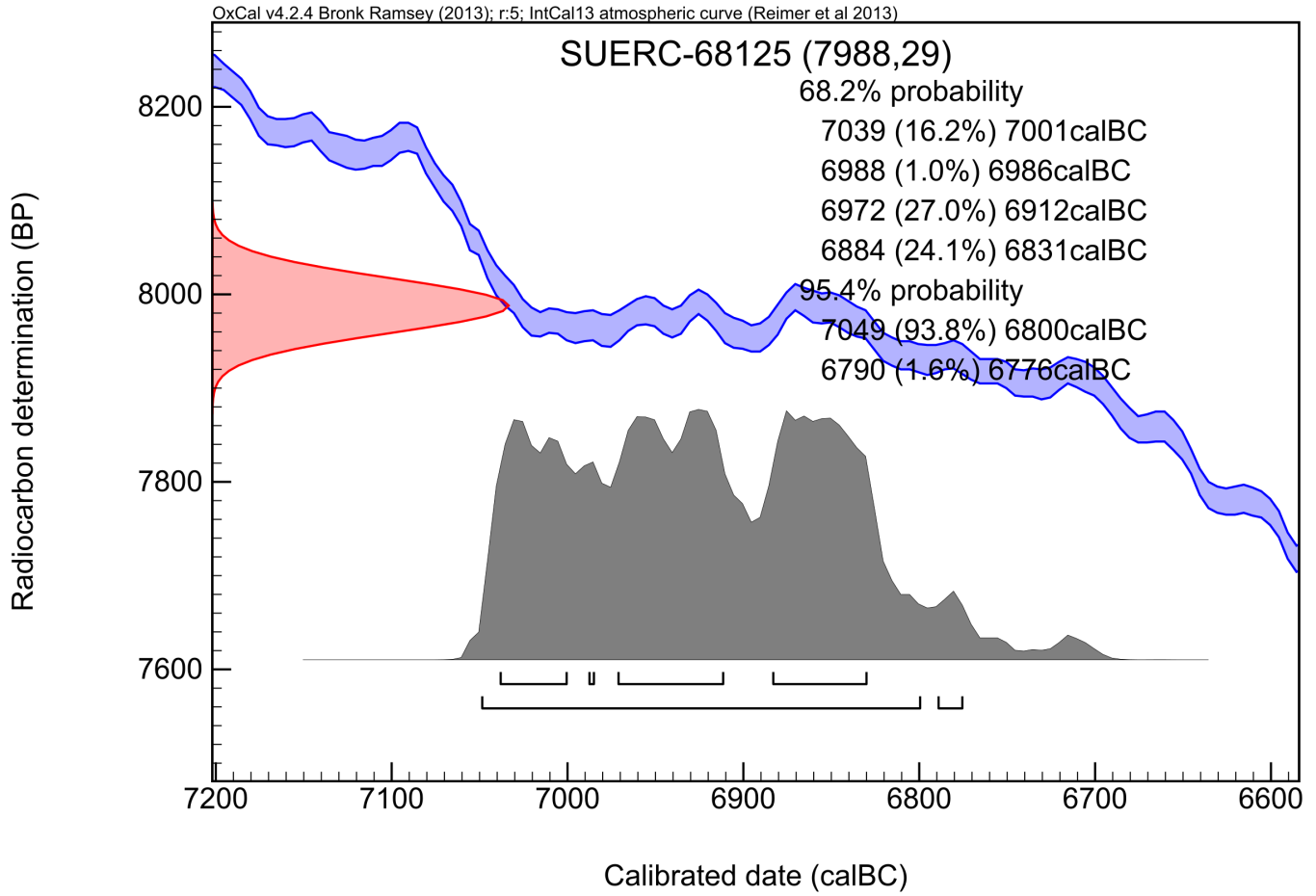
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68126 (GU41260)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL13-003B

Context Reference 3B-0026

Sample Reference 3B-0017

Material Nutshell : *Corylus avellana*


$\delta^{13}\text{C}$ relative to VPDB -26.5 ‰

Radiocarbon Age BP 7967 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

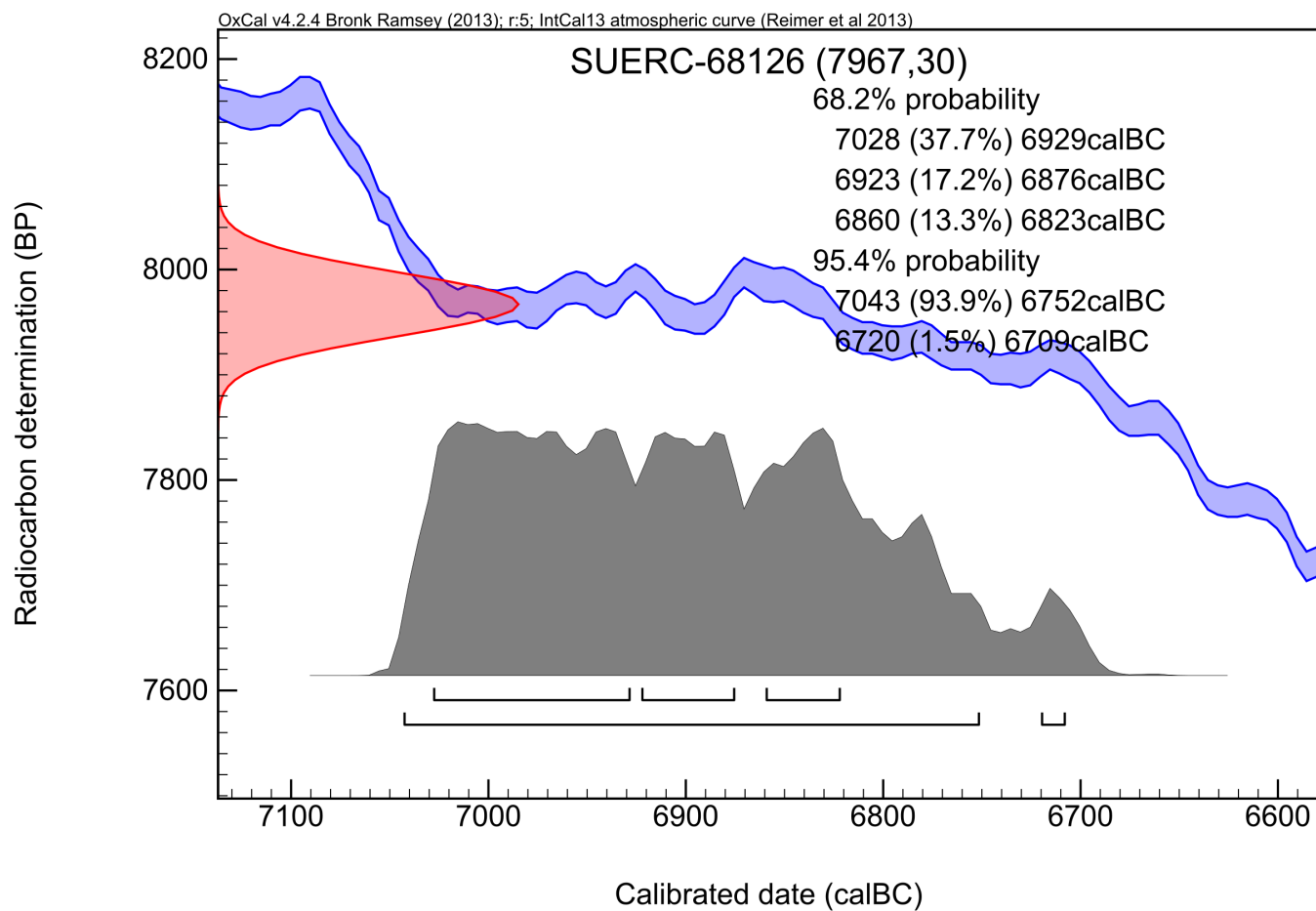
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68130 (GU41261)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL 006A

Context Reference 6A-0177

Sample Reference 6A-0092

Material Nutshell : *Corylus avellana*


$\delta^{13}\text{C}$ relative to VPDB -26.7 ‰

Radiocarbon Age BP 1885 ± 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

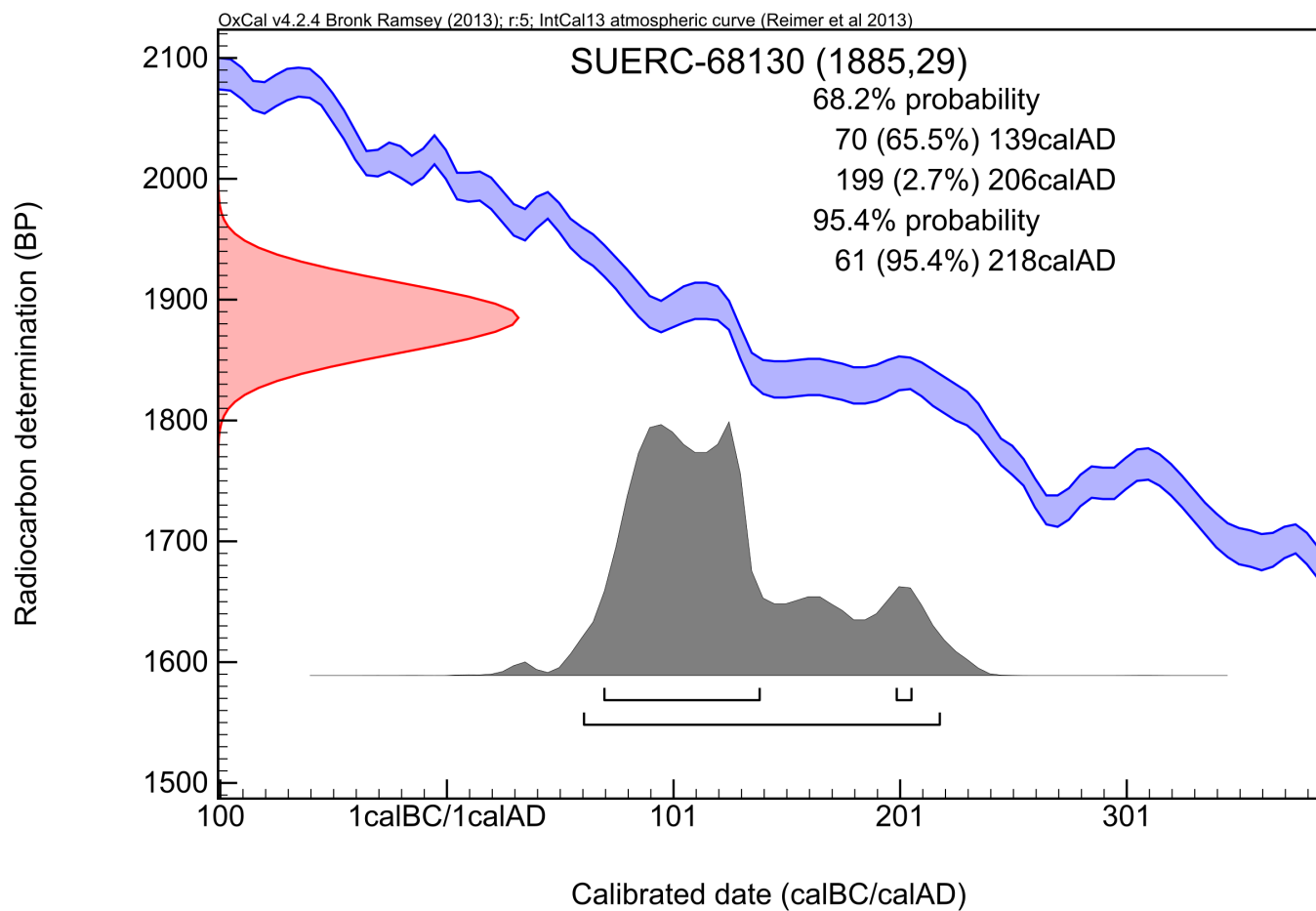
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68131 (GU41262)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL 006A

Context Reference 6A-0157

Sample Reference 6A-0081

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -26.3 ‰

Radiocarbon Age BP 1894 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

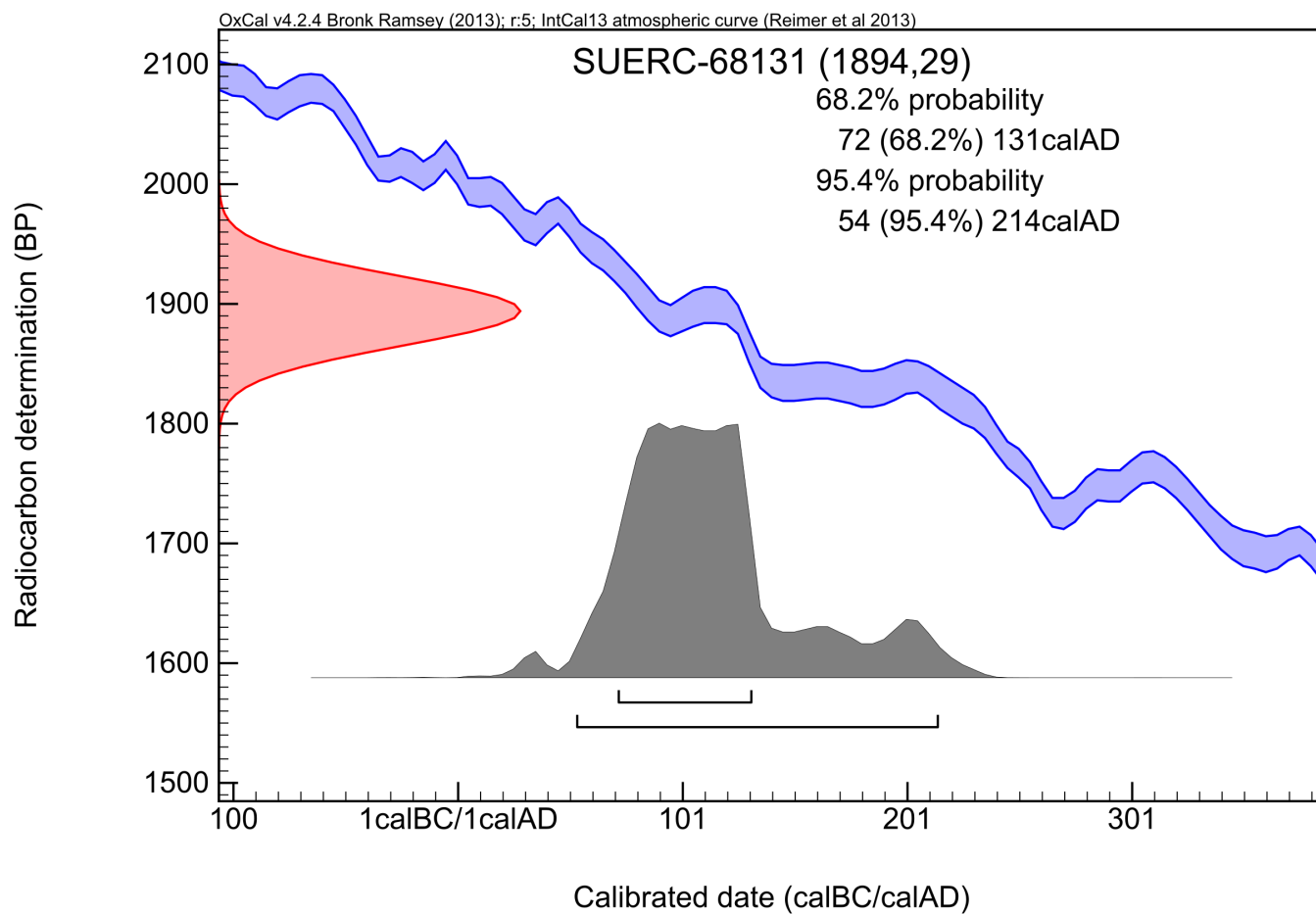
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68132 (GU41263)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL 006A

Context Reference 6A-0101

Sample Reference 6A-0050

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -26.5 ‰

Radiocarbon Age BP 1725 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

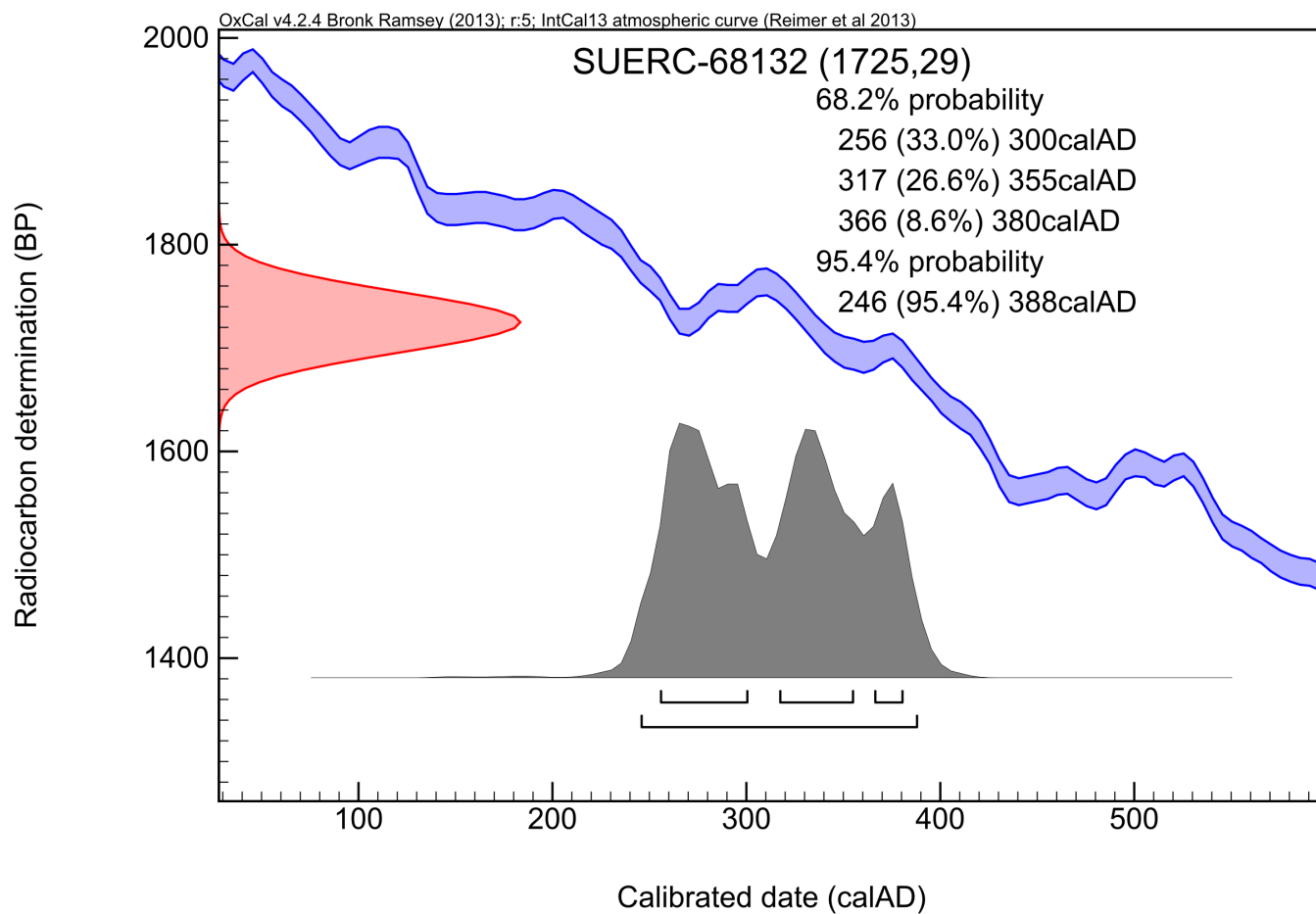
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68133 (GU41264)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL 006A
Context Reference 6A-0042

Material Pottery residue


$\delta^{13}\text{C}$ relative to VPDB -26.6 ‰

Radiocarbon Age BP 4619 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

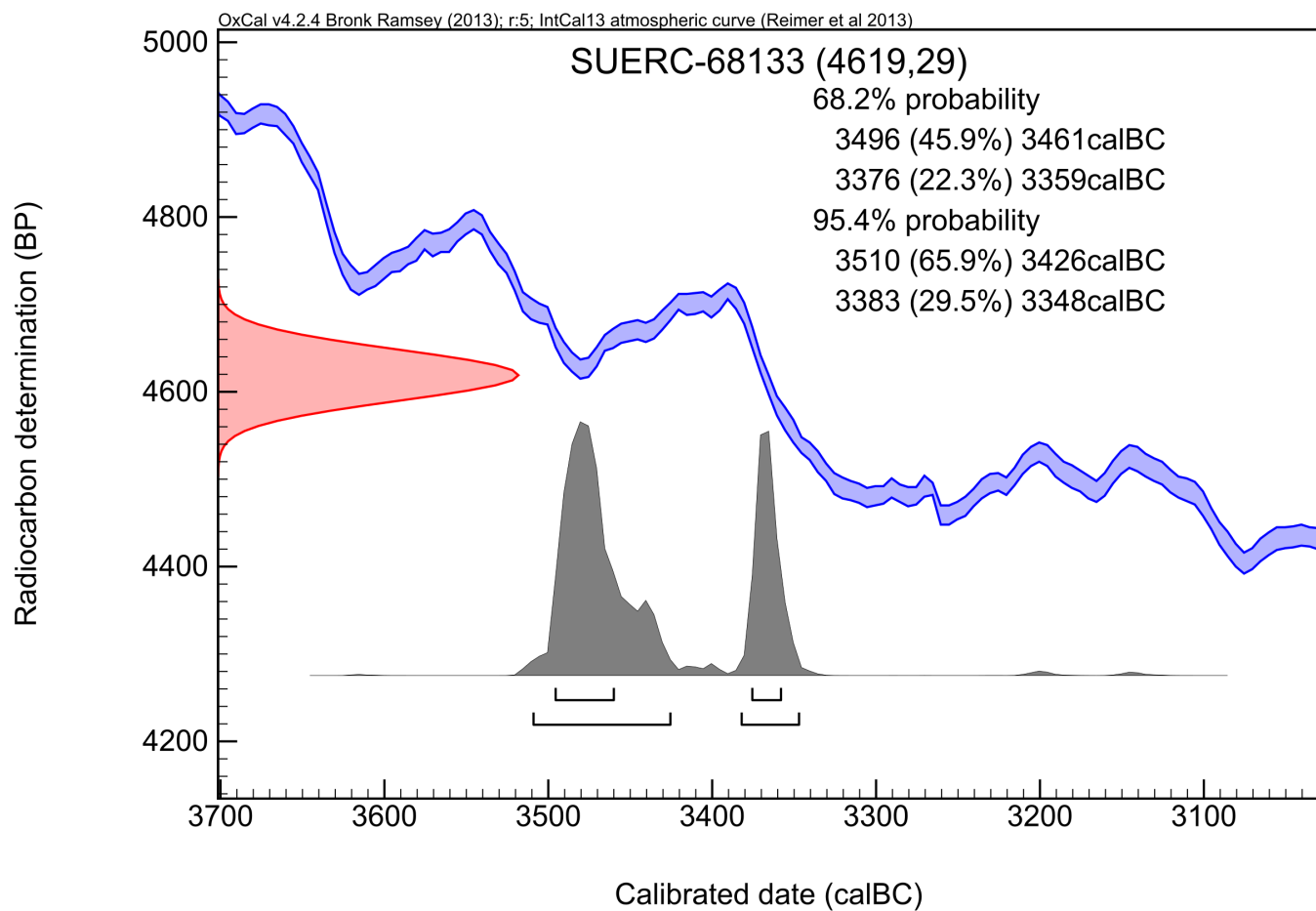
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68134 (GU41265)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 004D

Context Reference 4D-0050

Sample Reference 4D-0020

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -27.5 ‰

Radiocarbon Age BP 2857 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

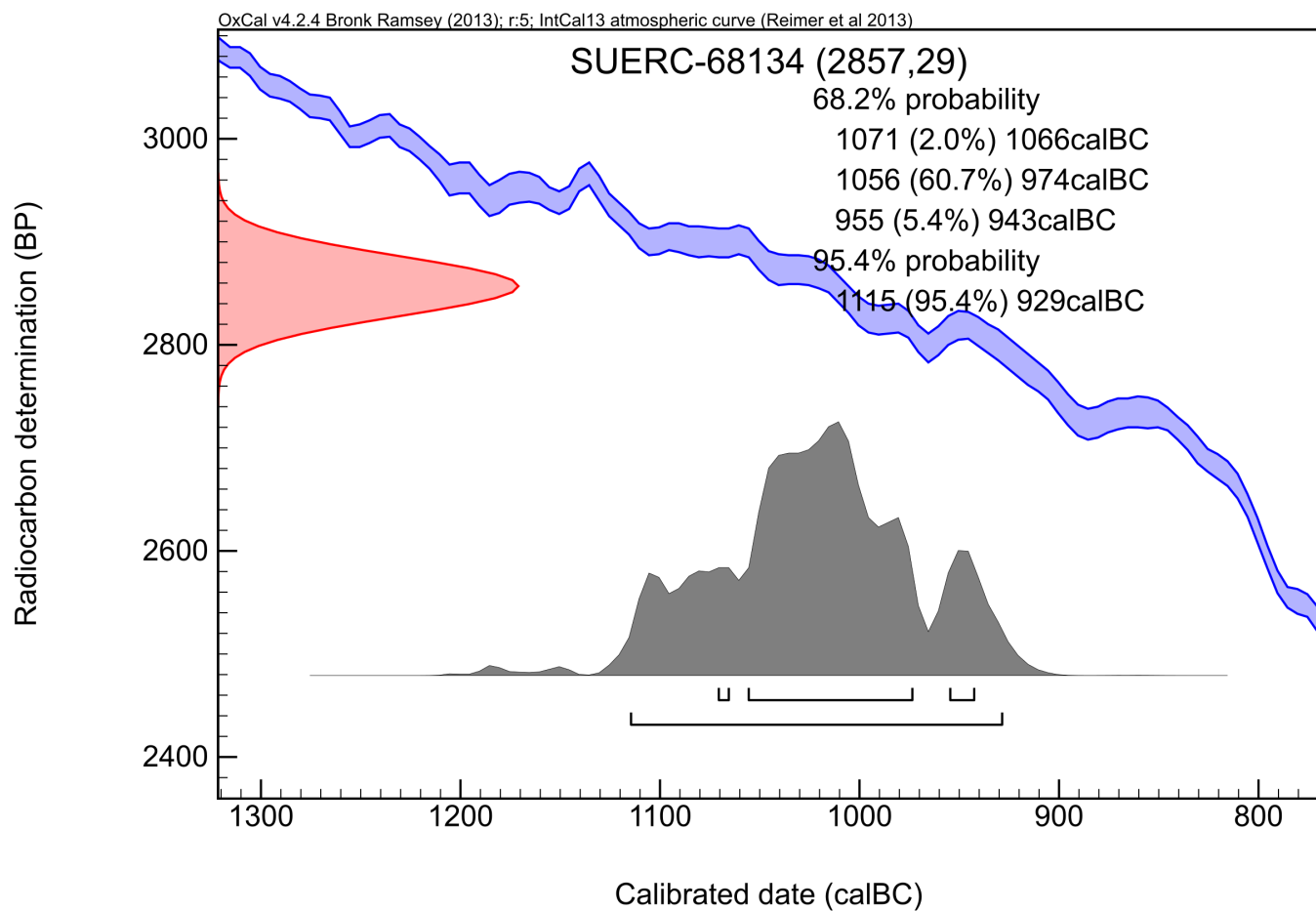
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68135 (GU41266)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 004D

Context Reference 4D-0103

Sample Reference 4D-0045

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -26.4 ‰

Radiocarbon Age BP 2792 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

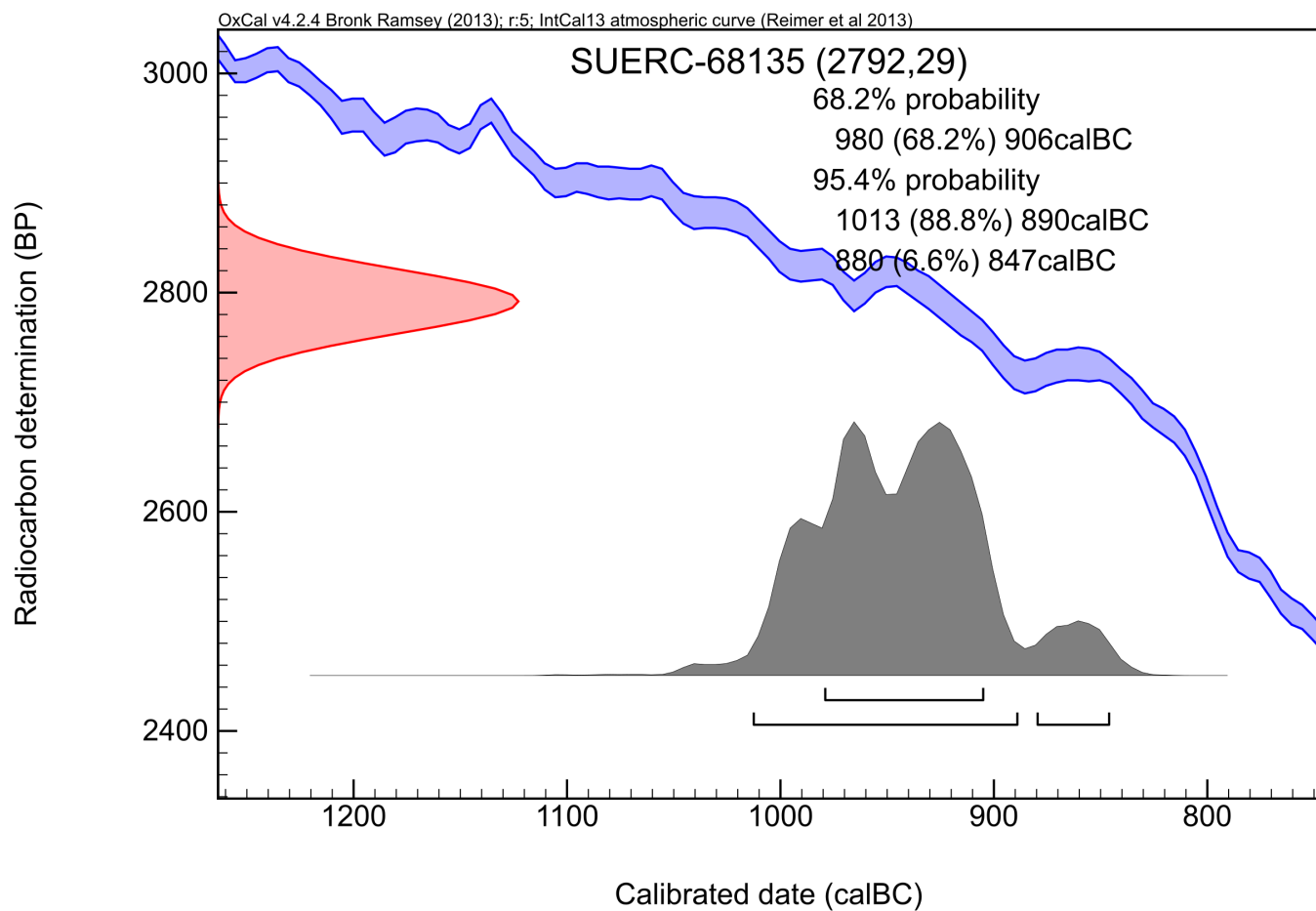
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68136 (GU41267)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 004D

Context Reference 4D-0067

Sample Reference 4D-0027

Material Charcoal : Corylus avellana


$\delta^{13}\text{C}$ relative to VPDB -26.1 ‰

Radiocarbon Age BP 2841 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

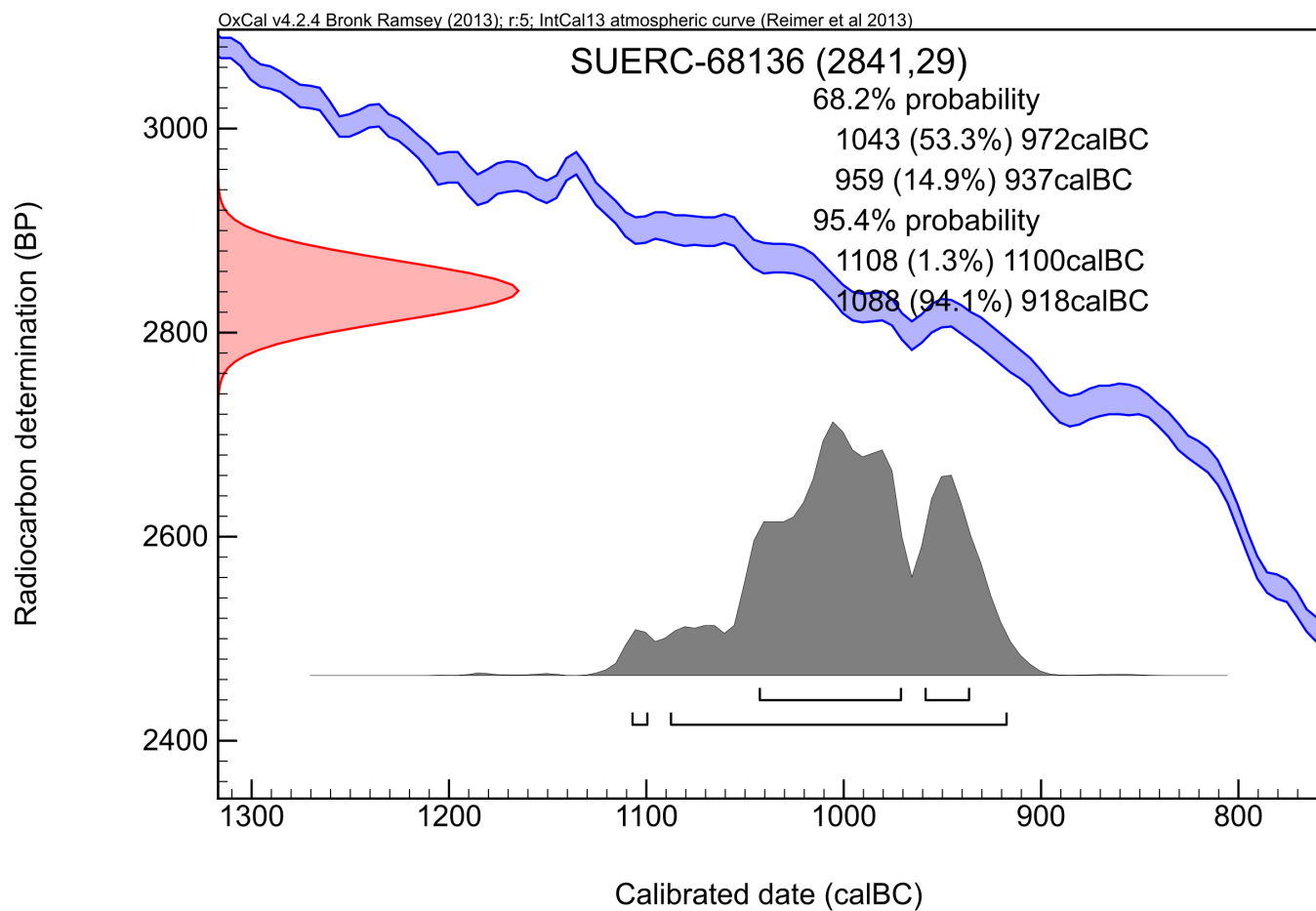
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68140 (GU41268)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 004D

Context Reference 4D-0018

Sample Reference 4D-0012

Material Charcoal : Betula sp.


$\delta^{13}\text{C}$ relative to VPDB -24.6 ‰

Radiocarbon Age BP 2760 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

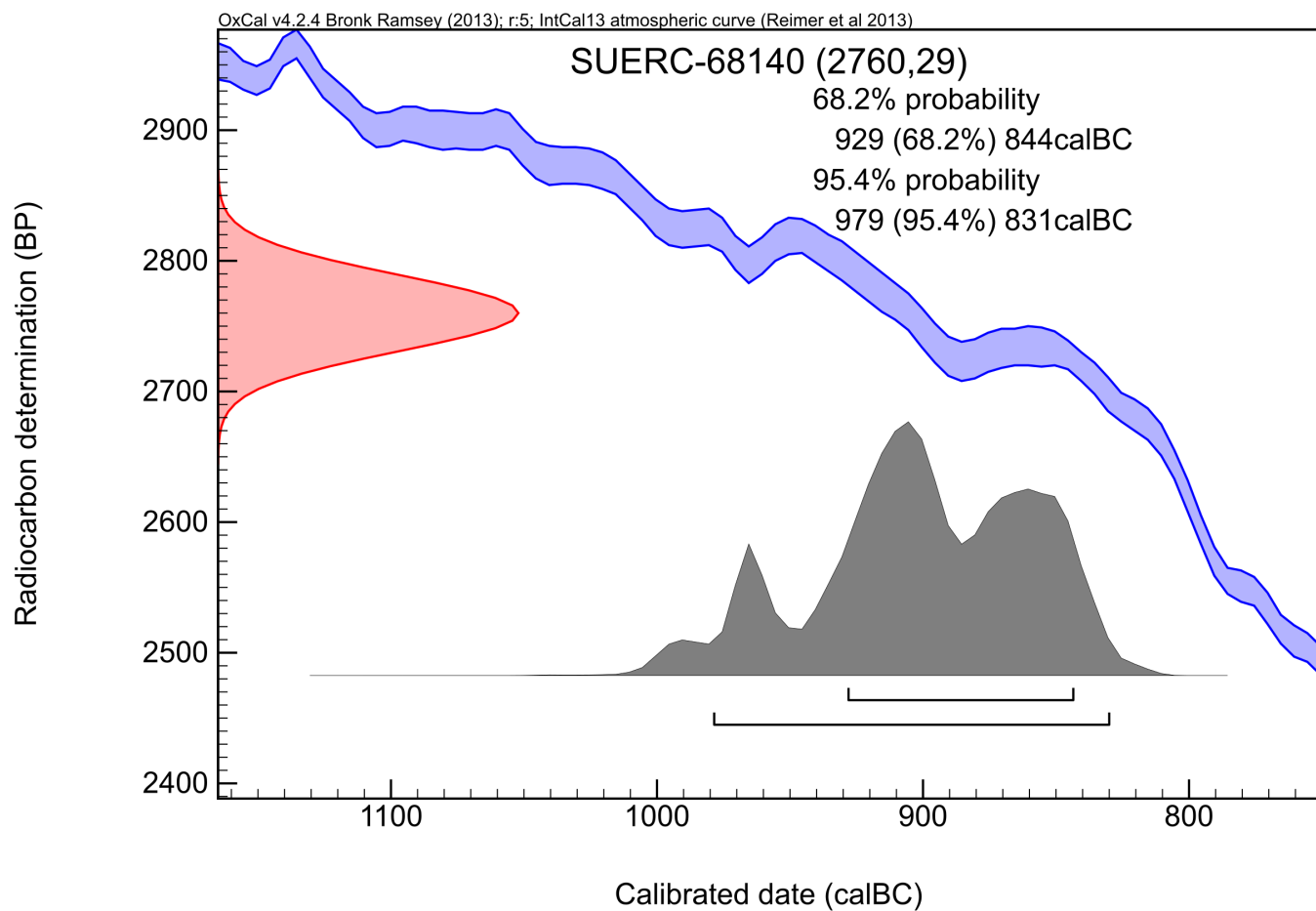
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68141 (GU41269)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 004D

Context Reference 4D-0538

Sample Reference 4D-0257

Material Charcoal : Betula sp.


$\delta^{13}\text{C}$ relative to VPDB -27.0 ‰

Radiocarbon Age BP 2864 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

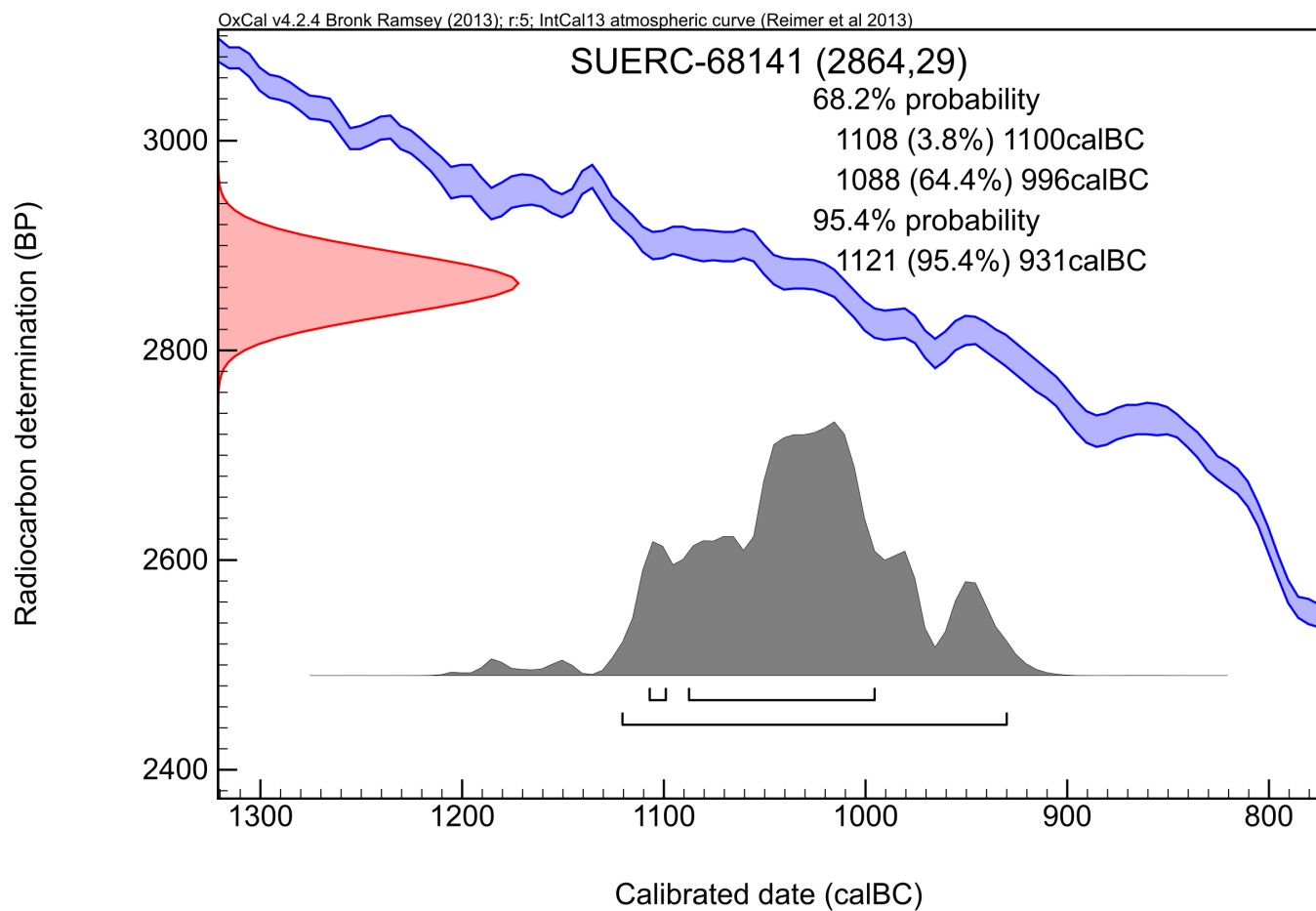
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code SUERC-68142 (GU41270)

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 004D

Context Reference 4D-0361

Sample Reference 4D-0131

Material Charcoal : Alnus glutinosa


$\delta^{13}\text{C}$ relative to VPDB -27.7 ‰

Radiocarbon Age BP 2746 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

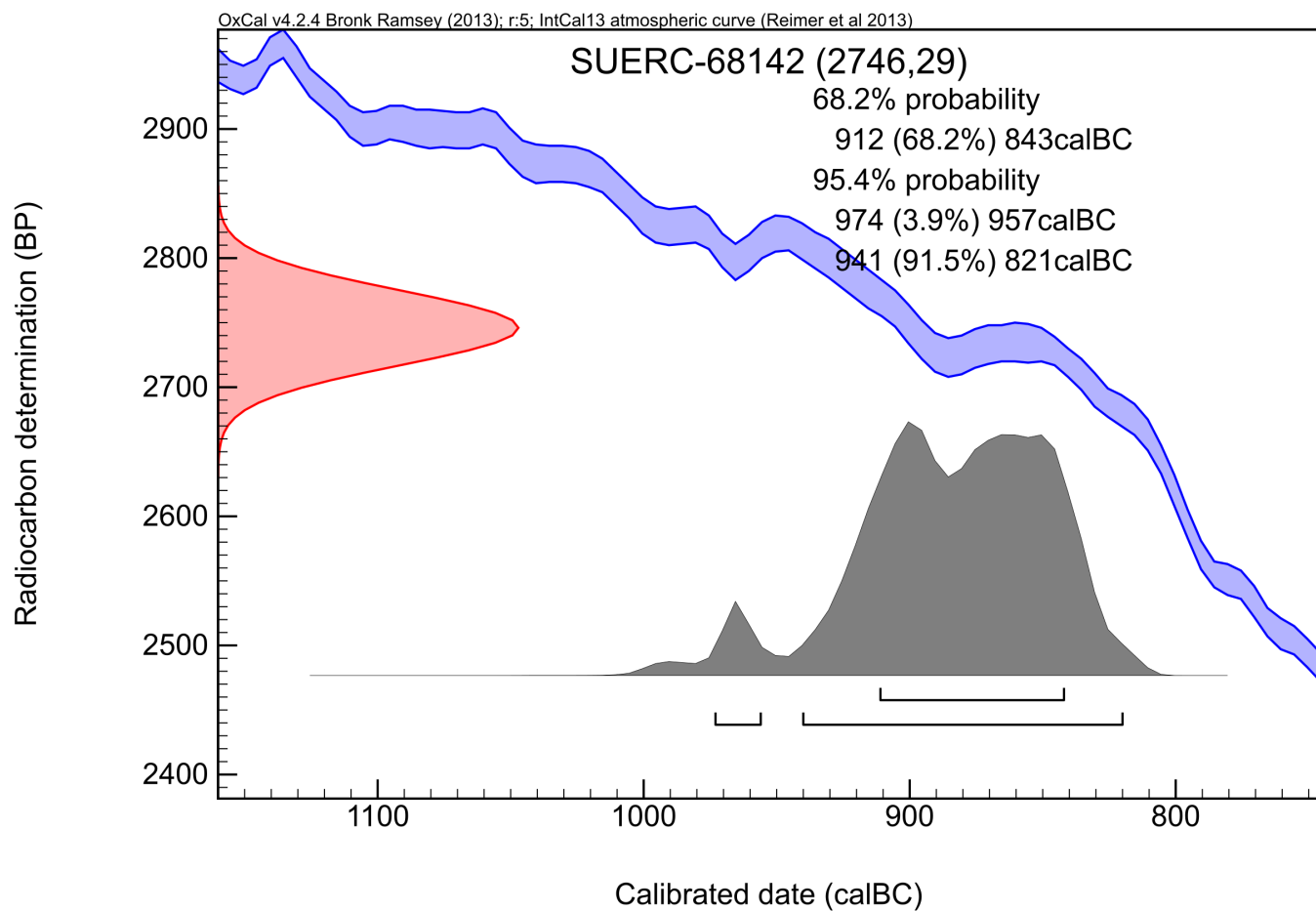
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-  Date :- 15/07/2016

Checked and signed off by :-  Date :- 15/07/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

08 June 2017

Laboratory Code SUERC-73583 (GU44046)

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP
Context Reference 6239

Material pottery residue

$\delta^{13}\text{C}$ relative to VPDB -26.4 ‰

Radiocarbon Age BP 3372 \pm 31

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

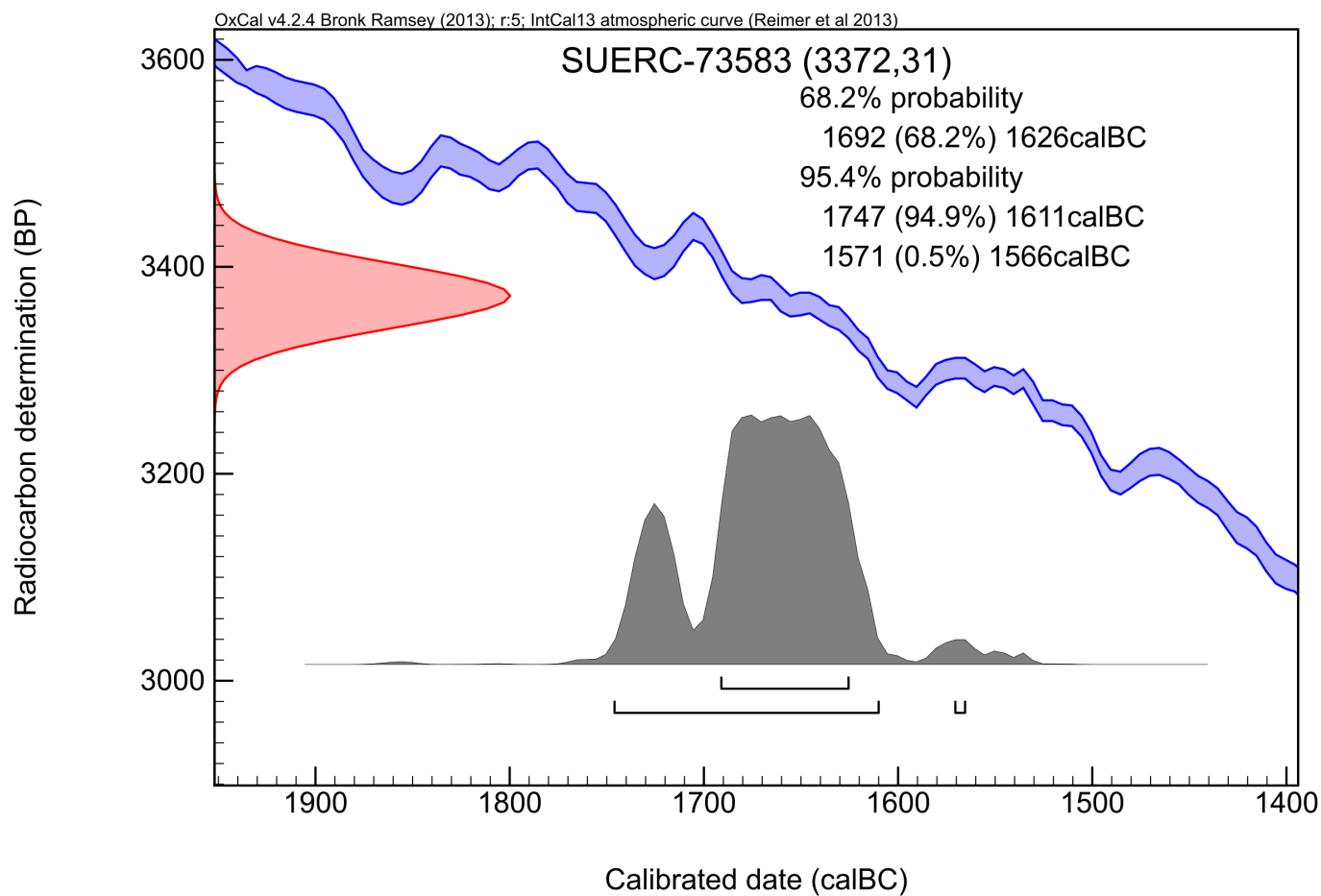
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 08/06/2017

Checked and signed off by :- *B. Tuzney*

Date :- 08/06/2017

Calibration Plot





RADIOCARBON DATING CERTIFICATE

08 June 2017

Laboratory Code SUERC-73584 (GU44048)

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP

Context Reference 6181

Sample Reference 6560

Material cereal grain

$\delta^{13}\text{C}$ relative to VPDB -25.0 ‰ assumed

Radiocarbon Age BP 2995 \pm 31

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

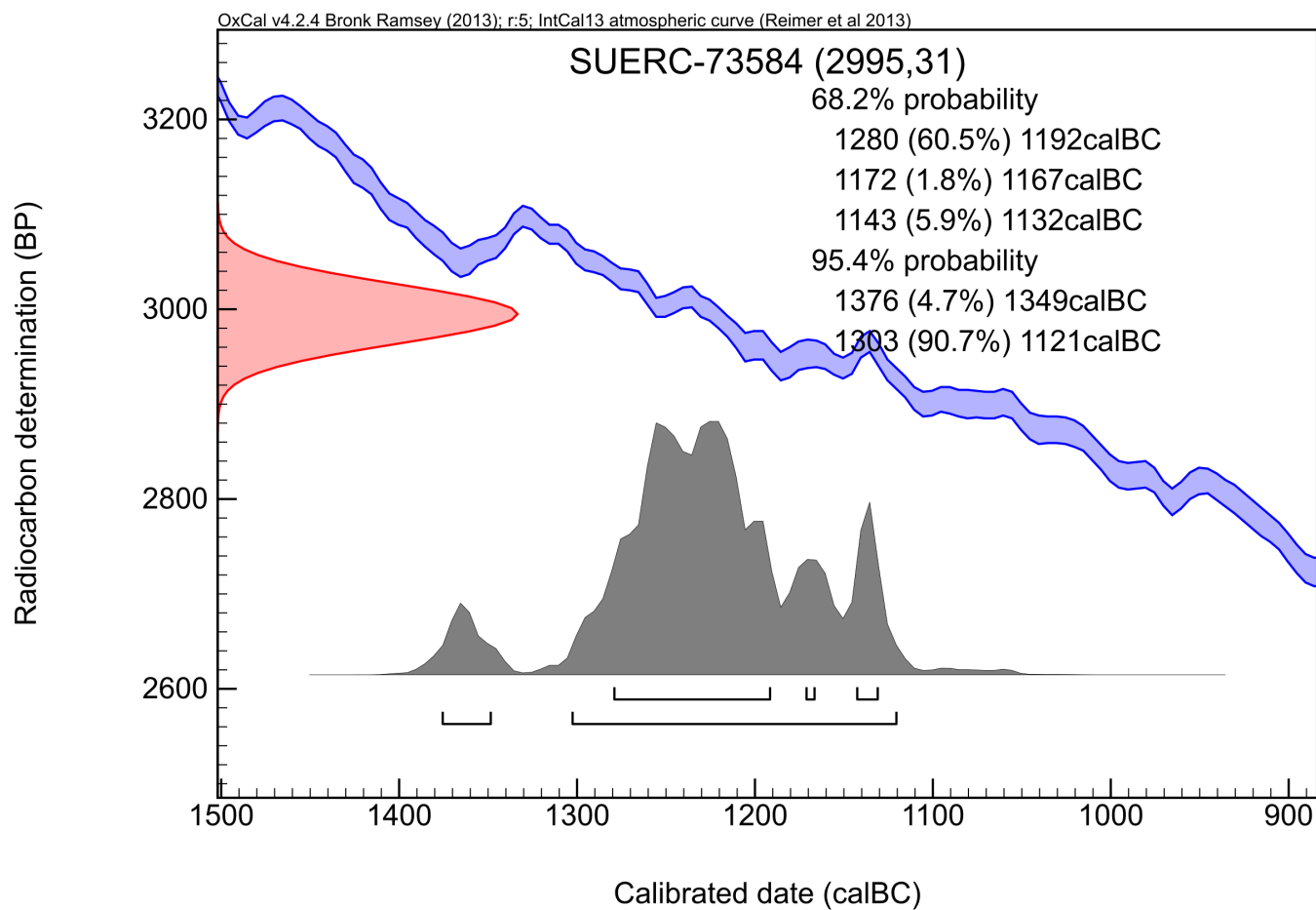
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 08/06/2017

Checked and signed off by :- *B. Tuzney*

Date :- 08/06/2017

Calibration Plot





RADIOCARBON DATING CERTIFICATE

08 June 2017

Laboratory Code SUERC-73585 (GU44049)

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP
Context Reference 6025

Material pottery residue

$\delta^{13}\text{C}$ relative to VPDB -27.4 ‰

Radiocarbon Age BP 2916 ± 31

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

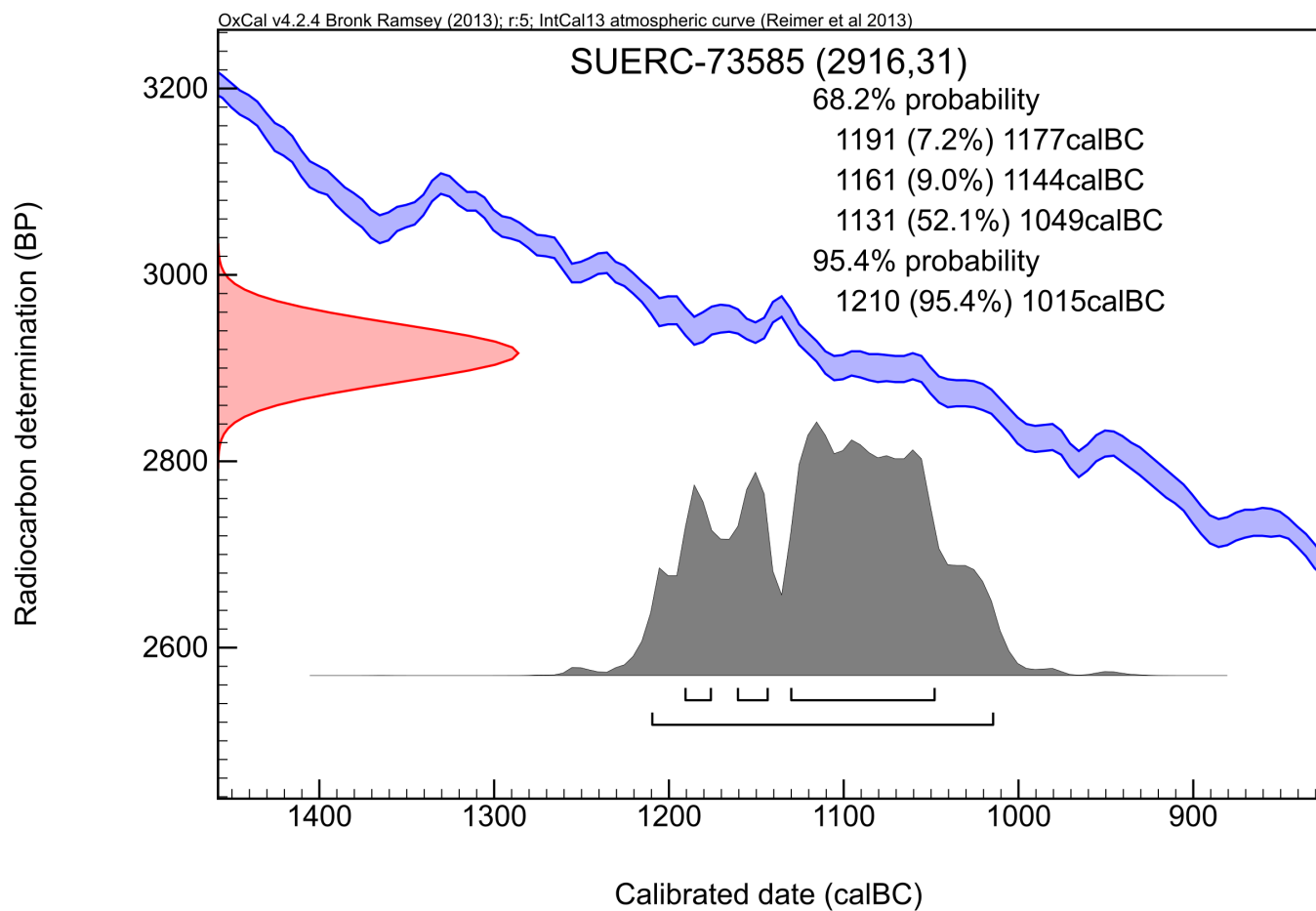
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 08/06/2017

Checked and signed off by :- *B. Tuzney*

Date :- 08/06/2017

Calibration Plot





RADIOCARBON DATING CERTIFICATE

08 June 2017

Laboratory Code SUERC-73586 (GU44050)

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP
Context Reference 6028

Material pottery residue

$\delta^{13}\text{C}$ relative to VPDB -27.0 ‰

Radiocarbon Age BP 2946 ± 31

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

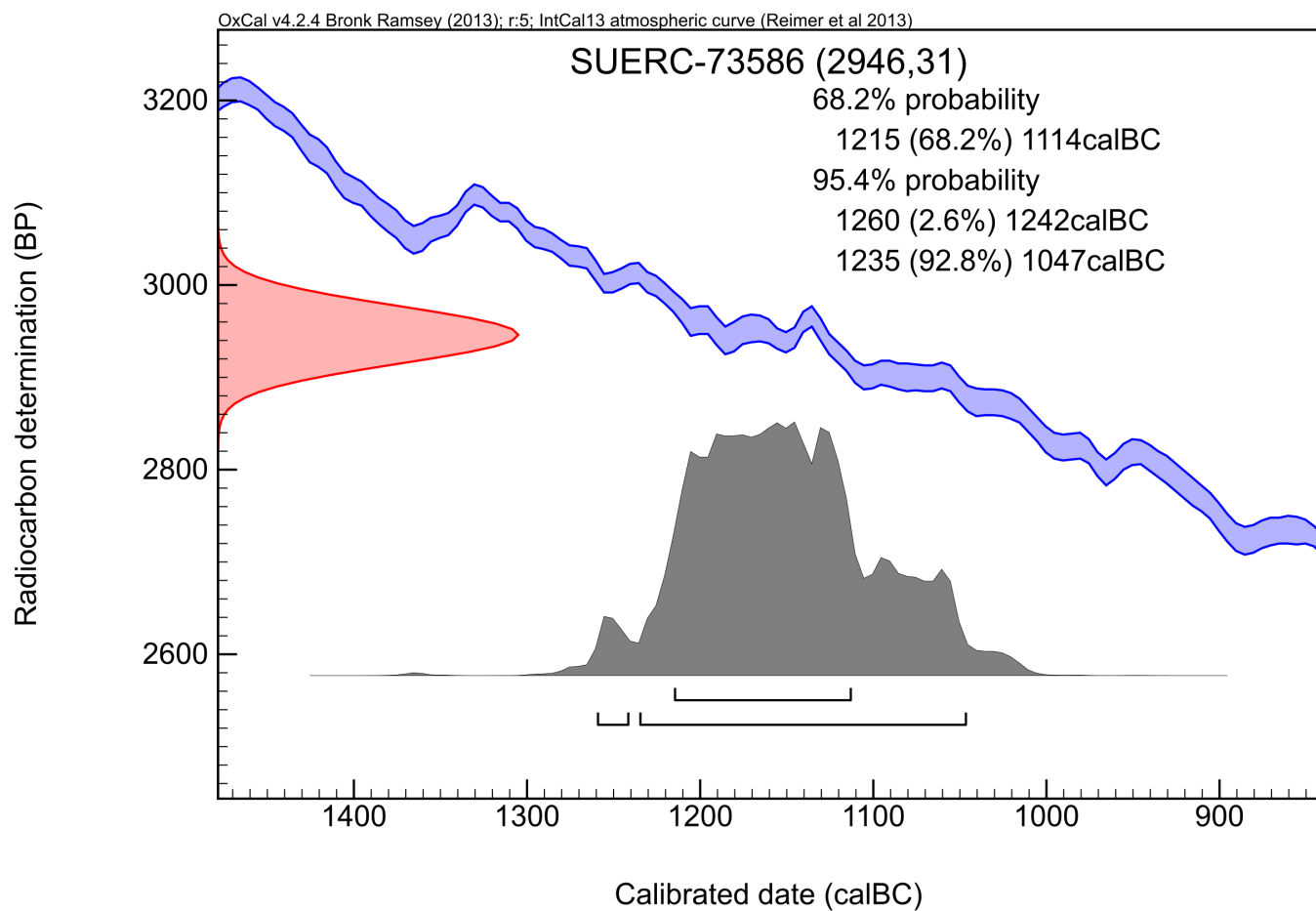
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 08/06/2017

Checked and signed off by :- *B. Tuzney*

Date :- 08/06/2017

Calibration Plot





RADIOCARBON DATING CERTIFICATE

08 June 2017

Laboratory Code SUERC-73587 (GU44051)

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP

Context Reference 6119

Sample Reference 6541

Material charcoal

$\delta^{13}\text{C}$ relative to VPDB -25.1 ‰

Radiocarbon Age BP 2851 \pm 31

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

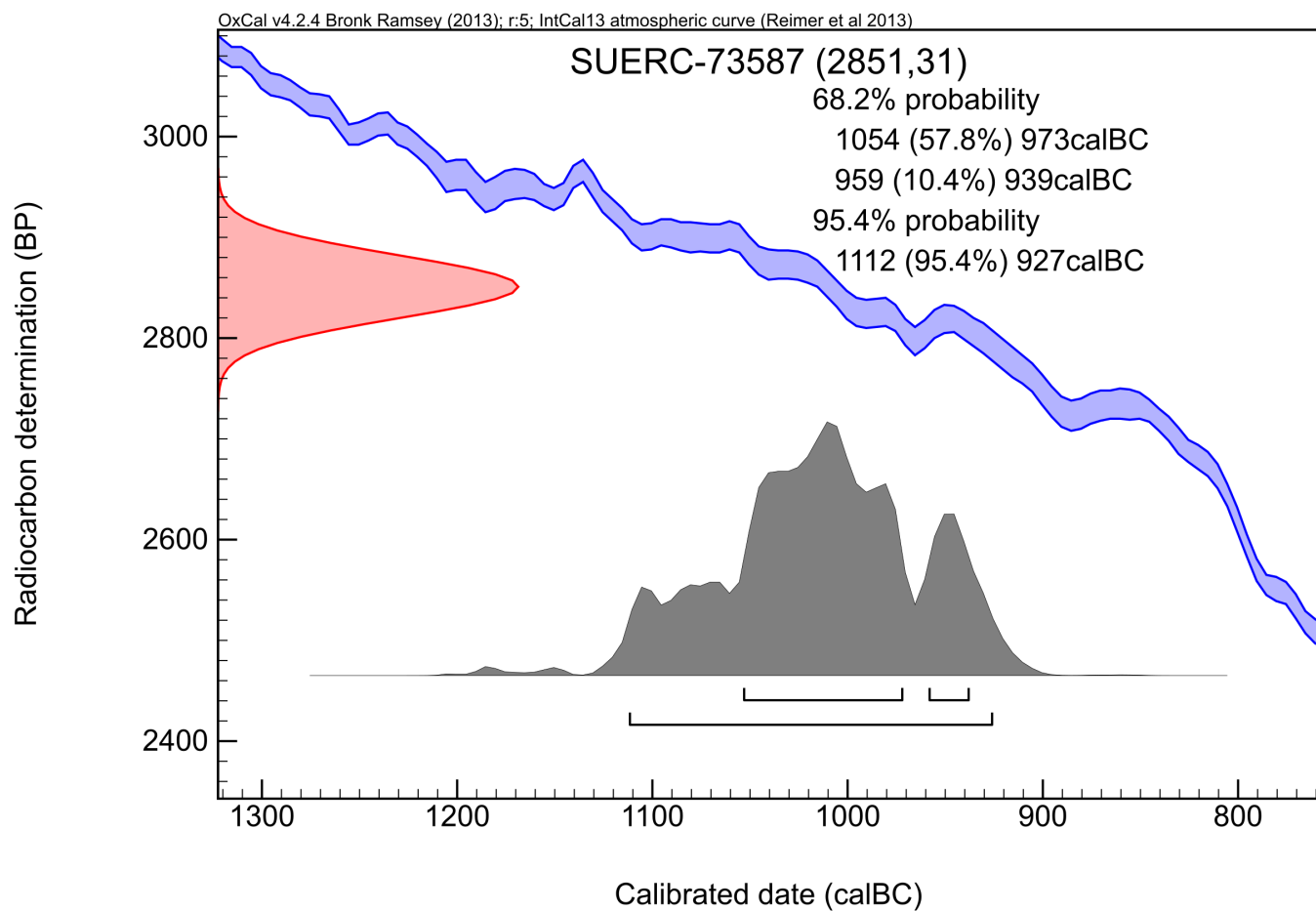
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 08/06/2017

Checked and signed off by :- *B. Tuzney*

Date :- 08/06/2017

Calibration Plot





RADIOCARBON DATING CERTIFICATE

08 June 2017

Laboratory Code SUERC-73591 (GU44054)

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP

Context Reference 6166

Sample Reference 6558

Material cereal grain

$\delta^{13}\text{C}$ relative to VPDB -25.0 ‰ assumed

Radiocarbon Age BP 3037 \pm 31

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

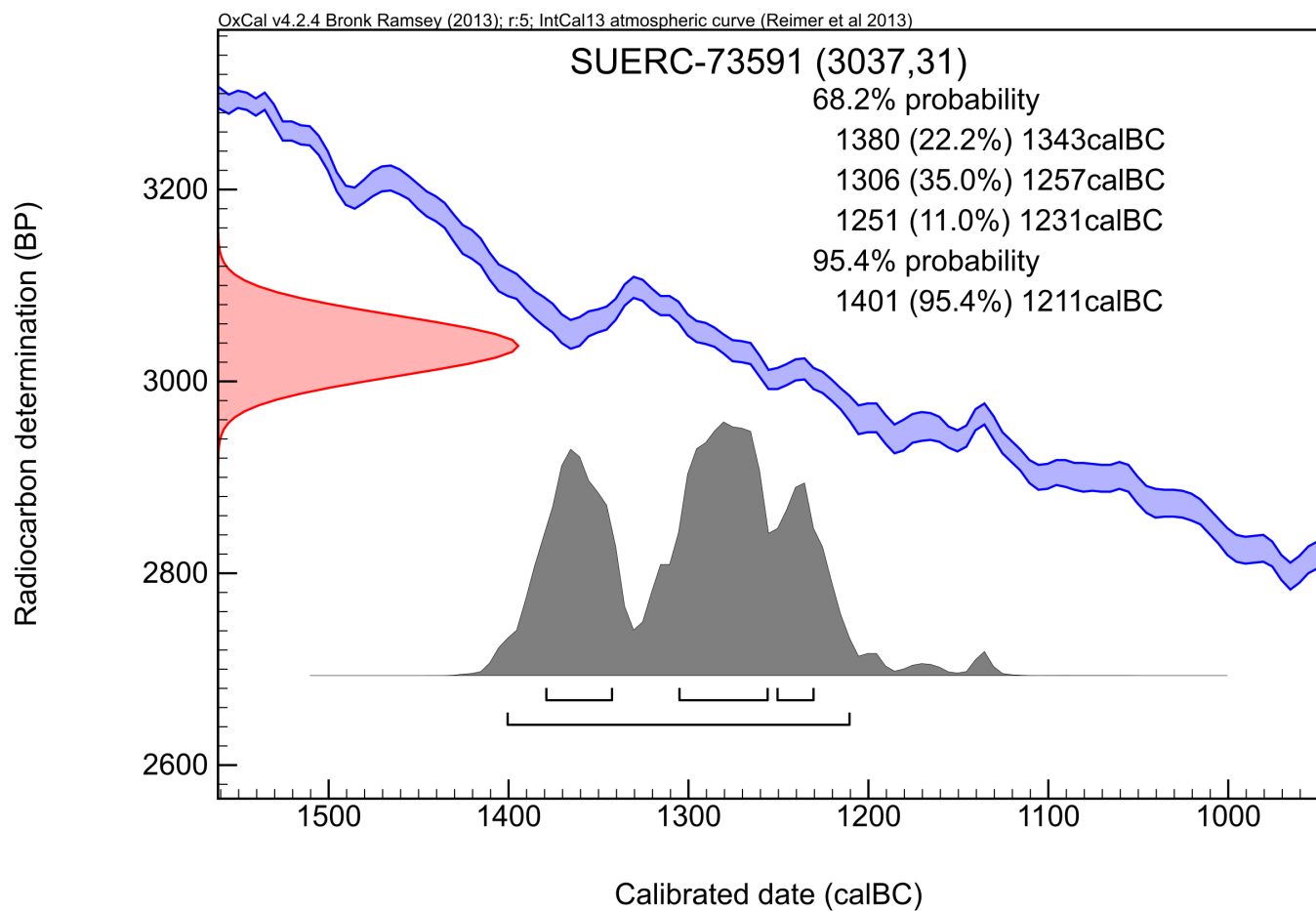
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 08/06/2017

Checked and signed off by :- *B. Tuzney*

Date :- 08/06/2017

Calibration Plot





RADIOCARBON DATING CERTIFICATE

08 June 2017

Laboratory Code SUERC-73592 (GU44055)

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP

Context Reference 2244

Sample Reference 2073

Material hazel nutshell

$\delta^{13}\text{C}$ relative to VPDB -27.0 ‰

Radiocarbon Age BP 5280 \pm 31

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

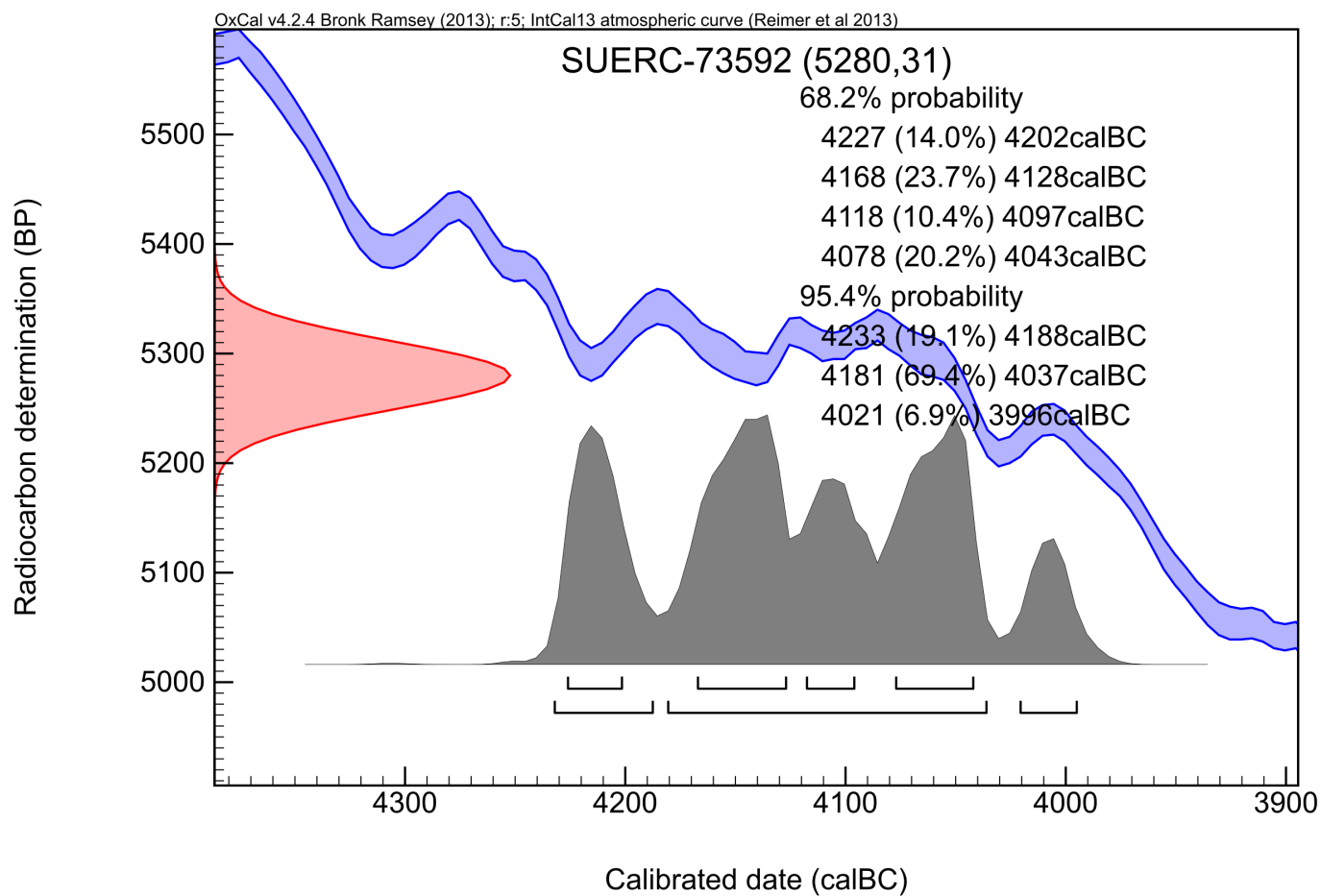
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 08/06/2017

Checked and signed off by :- *B. Taylor*

Date :- 08/06/2017

Calibration Plot





RADIOCARBON DATING CERTIFICATE

08 June 2017

Laboratory Code SUERC-73593 (GU44057)

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP

Context Reference 2014

Sample Reference 2006

Material charcoal

$\delta^{13}\text{C}$ relative to VPDB -25.3 ‰

Radiocarbon Age BP 3664 ± 31

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

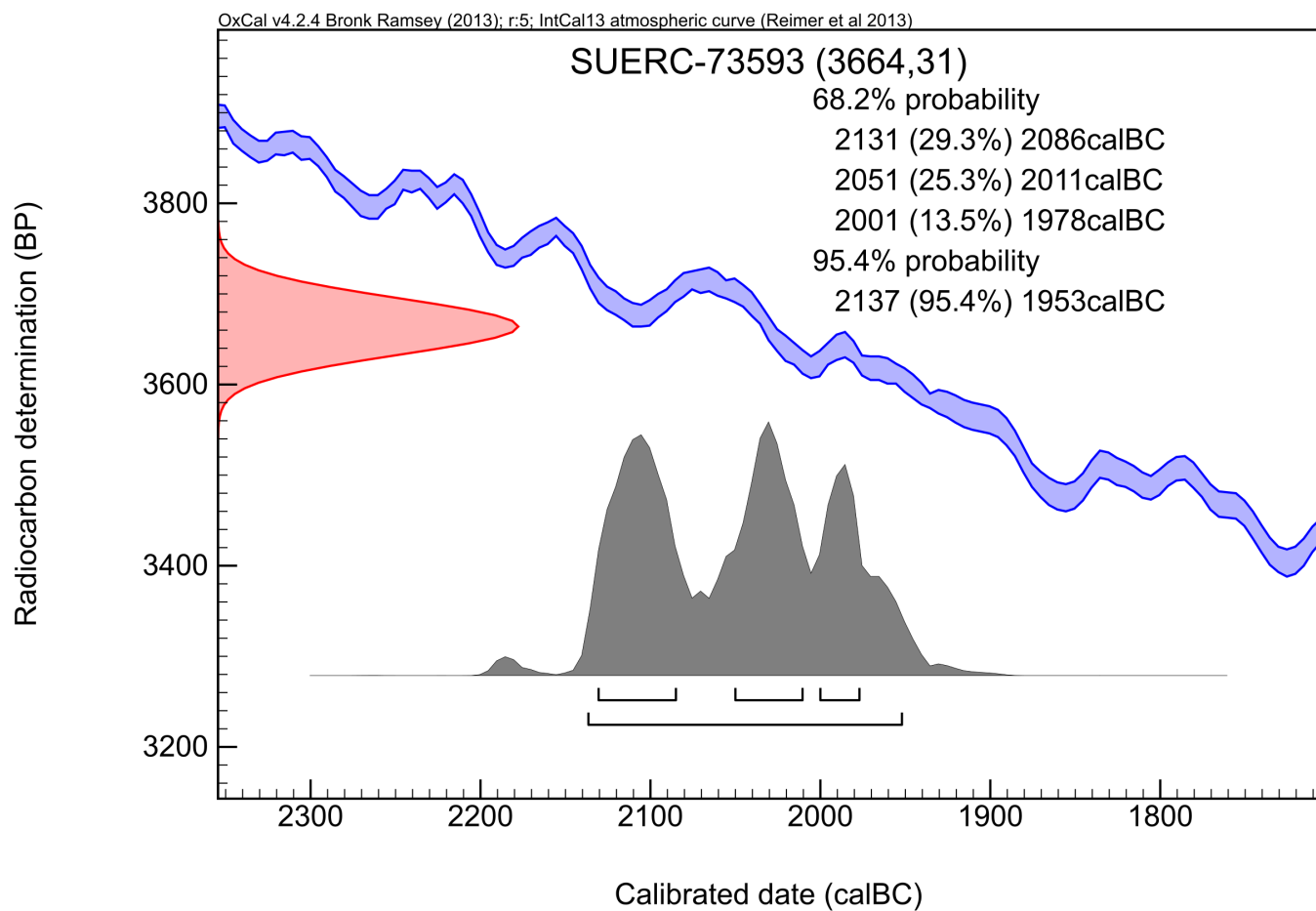
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 08/06/2017

Checked and signed off by :- *B. Tuzney*

Date :- 08/06/2017

Calibration Plot





RADIOCARBON DATING CERTIFICATE

08 June 2017

Laboratory Code SUERC-73594 (GU44058)

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP

Context Reference 2217

Sample Reference 2056

Material hazel nutshell

$\delta^{13}\text{C}$ relative to VPDB -26.3 ‰

Radiocarbon Age BP 8176 \pm 31

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

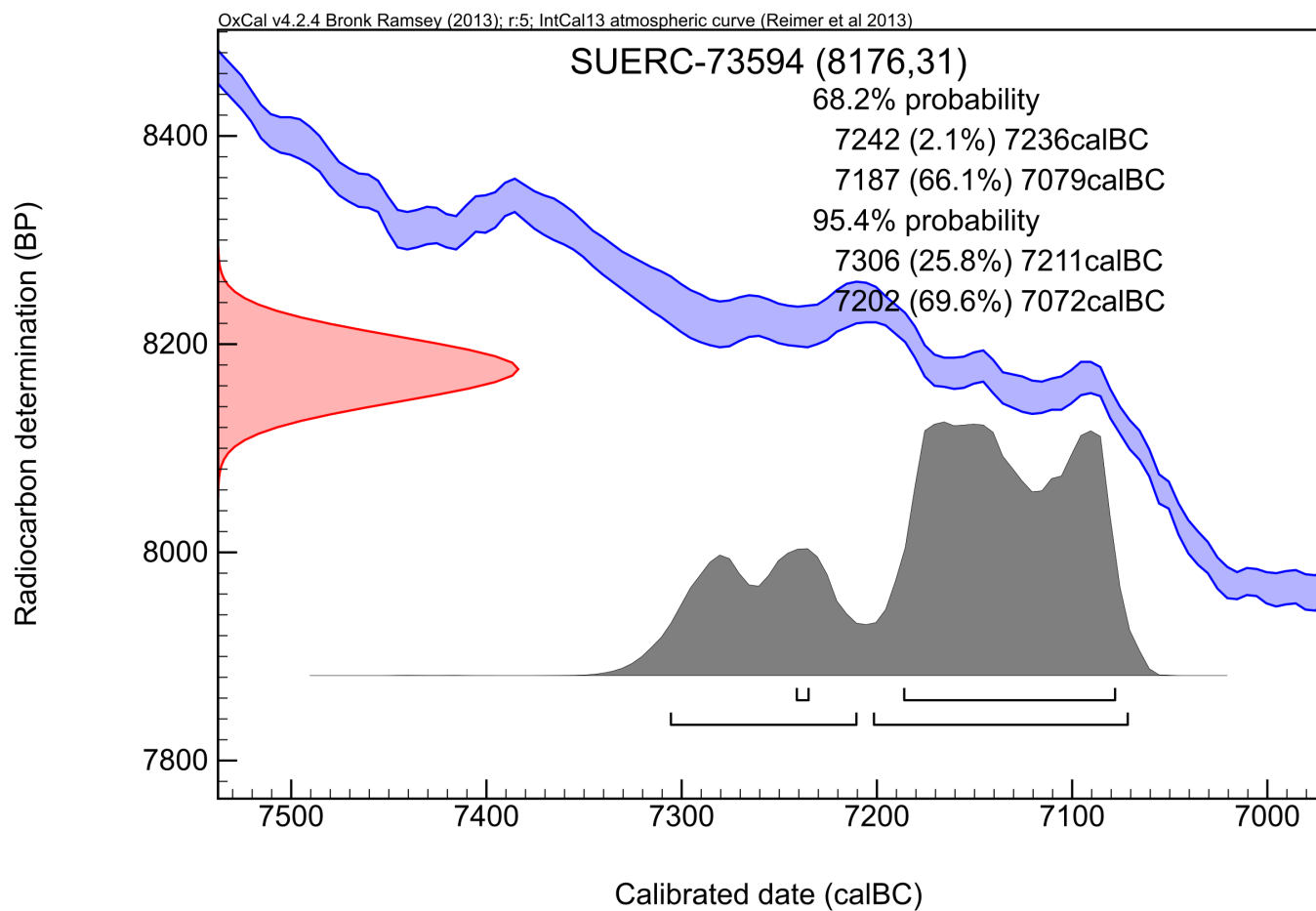
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 08/06/2017

Checked and signed off by :- *B. Tuzney*

Date :- 08/06/2017

Calibration Plot





RADIOCARBON DATING CERTIFICATE

16 August 2017

Laboratory Code SUERC-74399 (GU44840)

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP
Context Reference 9271
Sample Reference 6594

Material charred hazelnut shell fragment

$\delta^{13}\text{C}$ relative to VPDB -24.5 ‰

Radiocarbon Age BP 4416 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon* 58(1) pp.9-23.

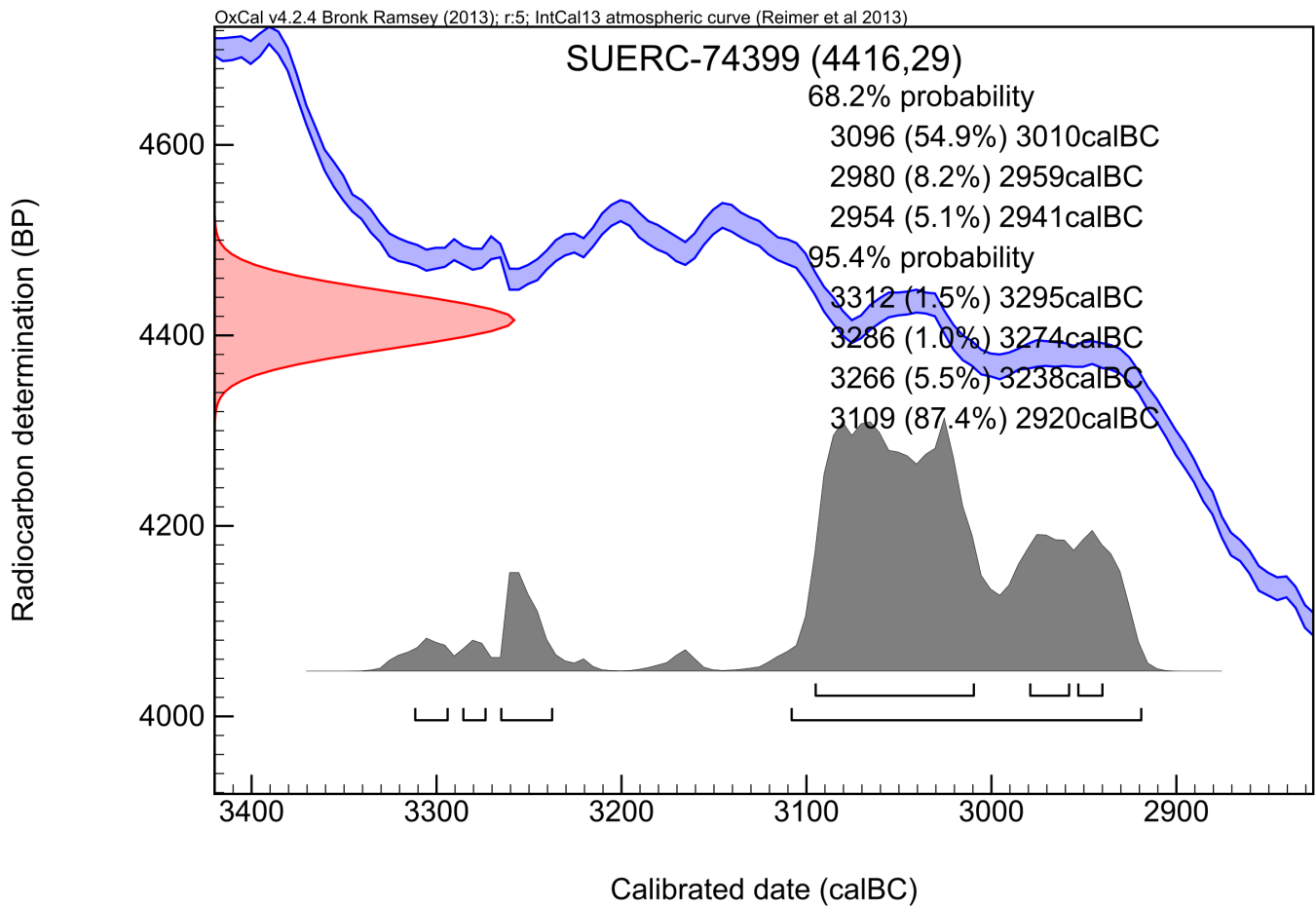
For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by :

E. Dunbar

Checked and signed off by :

P. Naynab



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal13 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon* 51(1) pp.337-60

† Reimer et al. (2013) *Radiocarbon* 55(4) pp.1869-87



RADIOCARBON DATING CERTIFICATE

16 August 2017

Laboratory Code SUERC-74400 (GU44841)
Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE
Site Reference ABYP
Context Reference 6052
Sample Reference 6500
Material charred hazelnut shell fragment
 $\delta^{13}\text{C}$ relative to VPDB -25.6 ‰

Radiocarbon Age BP 4492 \pm 27

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon* 58(1) pp.9-23.

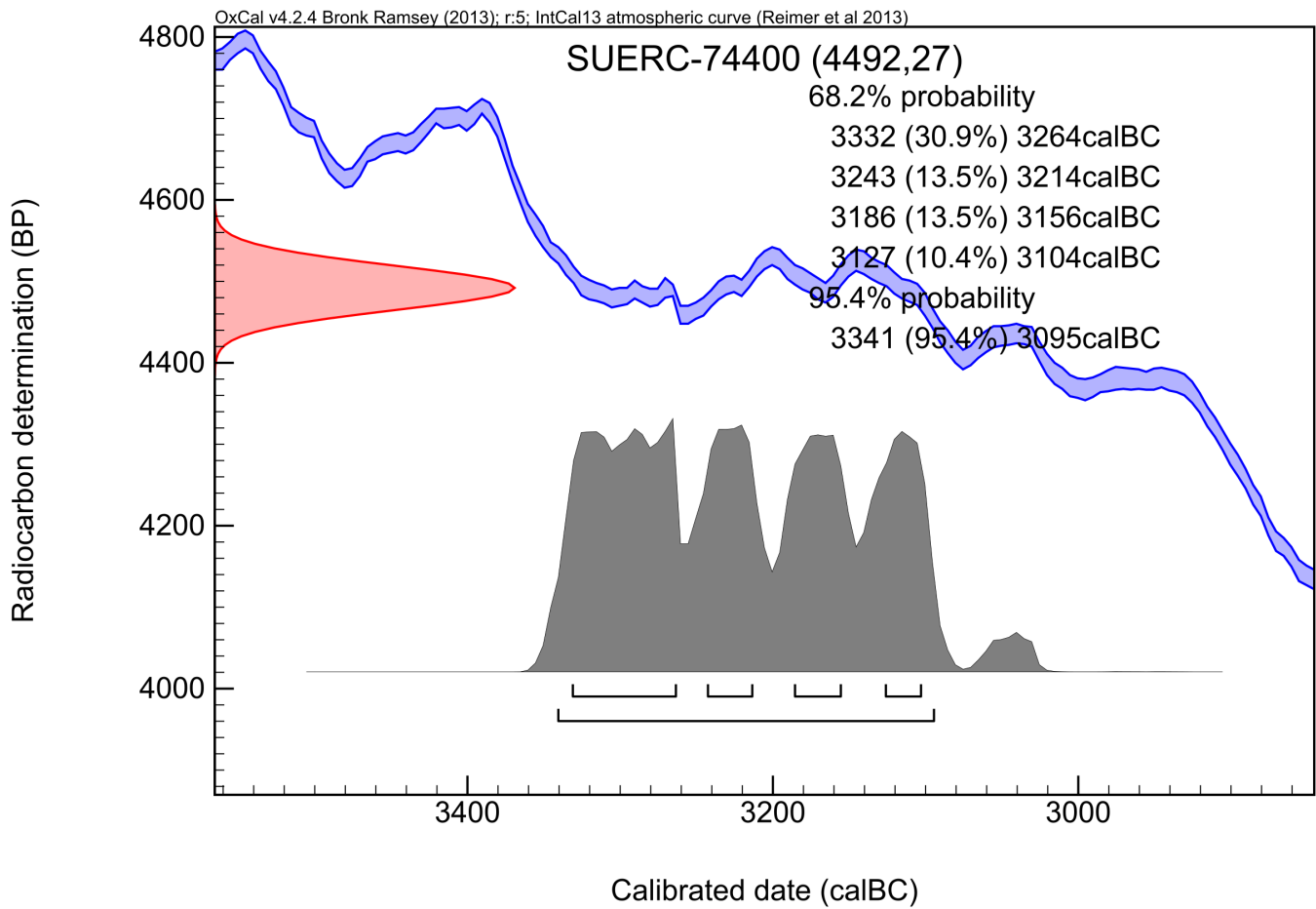
For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by :

E. Dunbar

Checked and signed off by :

P. Nayantub



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal13 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon* 51(1) pp.337-60

† Reimer et al. (2013) *Radiocarbon* 55(4) pp.1869-87

RADIOCARBON DATING CERTIFICATE

16 August 2017

Laboratory Code SUERC-74401 (GU44842)

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP

Context Reference 6187

Sample Reference 6566

Material charred barley grain

$\delta^{13}\text{C}$ relative to VPDB -23.1 ‰

Radiocarbon Age BP 3203 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon* 58(1) pp.9-23.

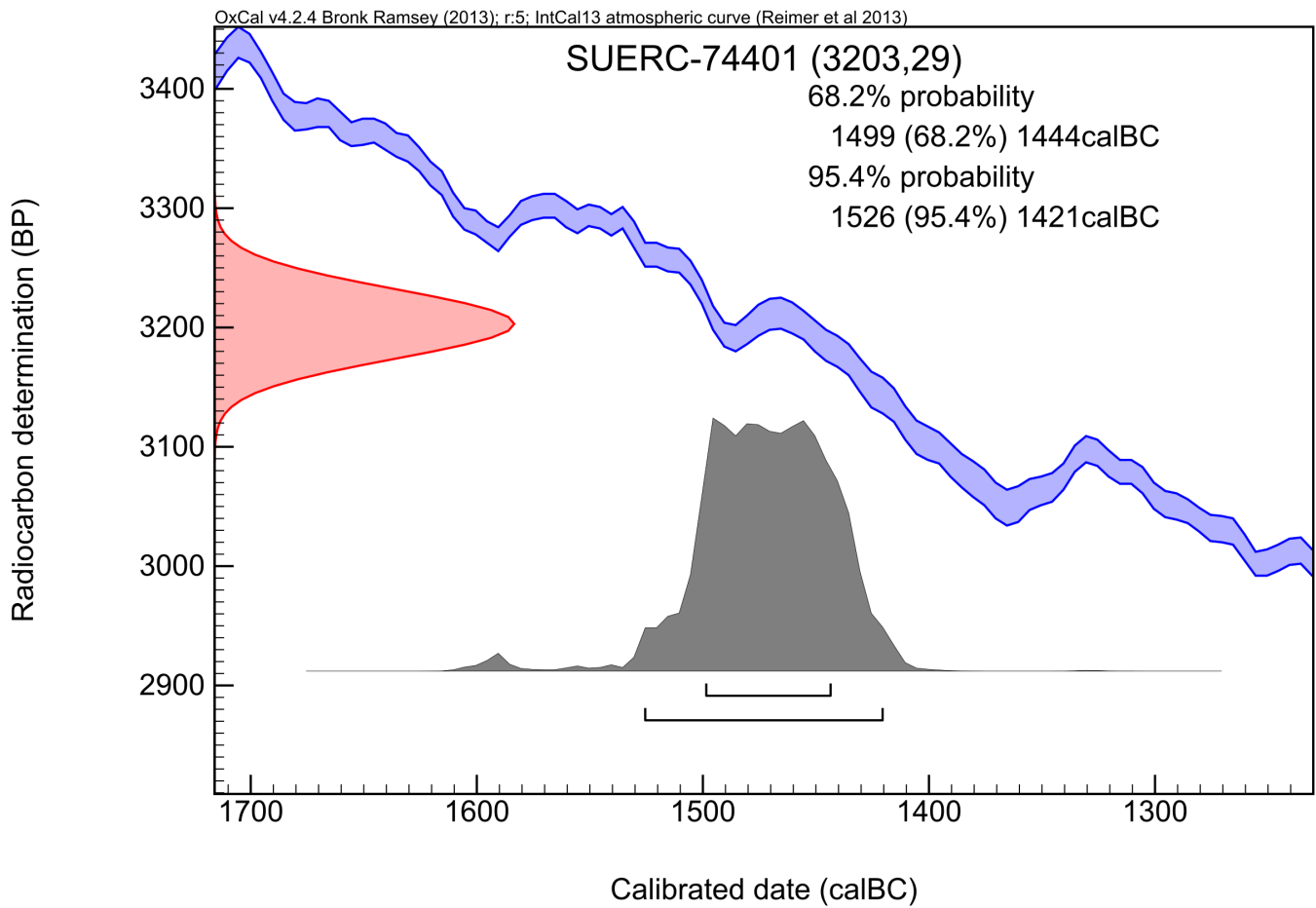
For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by :

E. Dunbar

Checked and signed off by :

P. Naynt



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal13 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon* 51(1) pp.337-60

† Reimer et al. (2013) *Radiocarbon* 55(4) pp.1869-87

RADIOCARBON DATING CERTIFICATE

16 August 2017

Laboratory Code SUERC-74402 (GU44843)

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP

Context Reference 2090

Sample Reference 2021

Material charcoal fragment

$\delta^{13}\text{C}$ relative to VPDB -27.2 ‰

Radiocarbon Age BP 2158 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon* 58(1) pp.9-23.

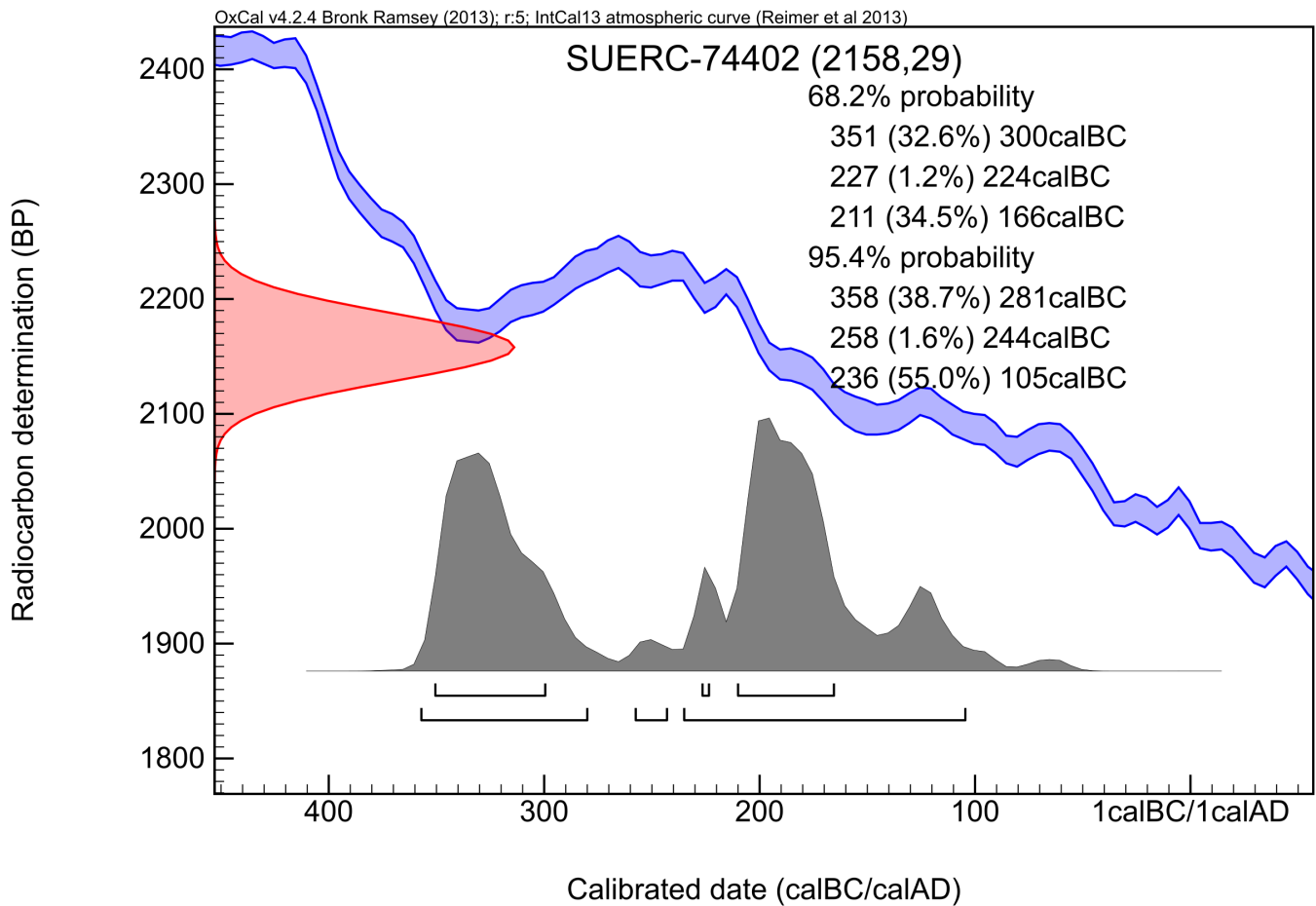
For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by :

E. Dunbar

Checked and signed off by :

P. Naynab



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal13 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon* 51(1) pp.337-60

† Reimer et al. (2013) *Radiocarbon* 55(4) pp.1869-87

RADIOCARBON DATING CERTIFICATE

20 February 2015

Laboratory Code GU36365

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL-002D
Context Reference 1898
Sample Reference 1267

Material Charcoal : Salix sp

Result Failed on AMS.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-

P. Naynab

Date :- 20/02/2015

RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code GU36521

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL003B
Context Reference 4
Sample Reference 1007

Material Bone : Burnt bone

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-

P. Naynab

Date :- 16/03/2015

RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code GU36524

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL003B
Context Reference 205
Sample Reference 1086

Material Bone : Burnt bone

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-

P. Naynab

Date :- 16/03/2015

RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code GU36526

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL003B
Context Reference 303
Sample Reference 1130

Material Bone : Burnt bone

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-

P. Naynab

Date :- 16/03/2015

RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code GU36528

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002C
Context Reference 12
Sample Reference 7

Material Burnt bone

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-

P. Naynab

Date :- 16/03/2015

RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code GU36531

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL004B
Context Reference 39
Sample Reference 1019

Material Burnt bone

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-

P. Naynab

Date :- 16/03/2015

RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code GU36810

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL002C
Context Reference 12
Sample Reference 7

Material Burnt bone

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-

P. Naynab

Date :- 16/03/2015

RADIOCARBON DATING CERTIFICATE

16 March 2015

Laboratory Code GU36811

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL003B
Context Reference 4
Sample Reference 1007

Material Bone : Burnt bone

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-

P. Naynab

Date :- 16/03/2015



RADIOCARBON DATING CERTIFICATE

08 June 2017

Laboratory Code GU44047

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP
Context Reference 6270

Material pottery residue

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-

Date :- 08/06/2017



RADIOCARBON DATING CERTIFICATE

08 June 2017

Laboratory Code GU44052

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP
Context Reference 6052

Material pottery residue

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-



Date :- 08/06/2017



RADIOCARBON DATING CERTIFICATE

08 June 2017

Laboratory Code GU44053

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP
Context Reference 6187

Material pottery residue

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-

Date :- 08/06/2017



RADIOCARBON DATING CERTIFICATE

08 June 2017

Laboratory Code GU44056

Submitter Angela Walker
Headland Archaeology Ltd
13 Jane Street
Leith
Edinburgh
EH6 5HE

Site Reference ABYP
Context Reference 2090

Material pottery residue

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-

Date :- 08/06/2017



RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code GU41235

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABSL 002C
Context Reference 2C-0076
Sample Reference 2C-1047

Material Burnt bone

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :- *E. Dunbar*

Date :- 15/07/2016



RADIOCARBON DATING CERTIFICATE

15 July 2016

Laboratory Code GU41257

Submitter Laura Bailey
Headland Archaeology
13 Jane Street
Edinburgh
EH6 5HE

Site Reference ABNL13- NL012
Context Reference 12-0003

Material Pottery residue

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :- *E. Dunbar*

Date :- 15/07/2016

