



Director: *Professor A B MacKenzie*

Scottish Universities Environmental Research Centre

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Telephone: **01355 223332**
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Fax: **01355 229898**

RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16828 (GU-16013)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2092
Sample Reference	Sample Ref 2001
Material	Cereal grain : Hordeum vulgare (Hulled Barley)

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

Radiocarbon Age BP 595 \pm 35

- N.B.**
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

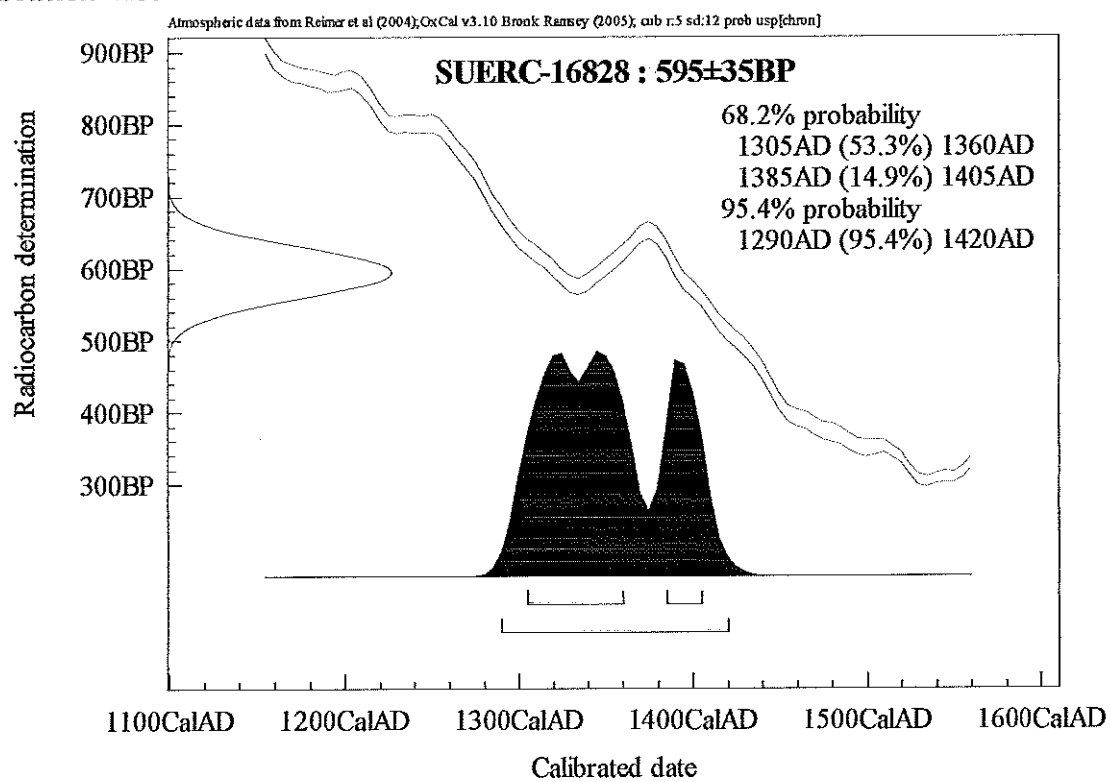
Date :- 18-2-08

Checked and signed off by :-

Gordon Cook

Date :- 18-2-08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

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Laboratory Code	SUERC-16829 (GU-16014)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2126
Sample Reference	Sample Ref 2004
Material	Charcoal : Populus (Poplar)
$\delta^{13}\text{C}$ relative to VPDB	-24.8 ‰
Radiocarbon Age BP	3125 \pm 35

- N.B.**
1. 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 :- *P Naysmith*

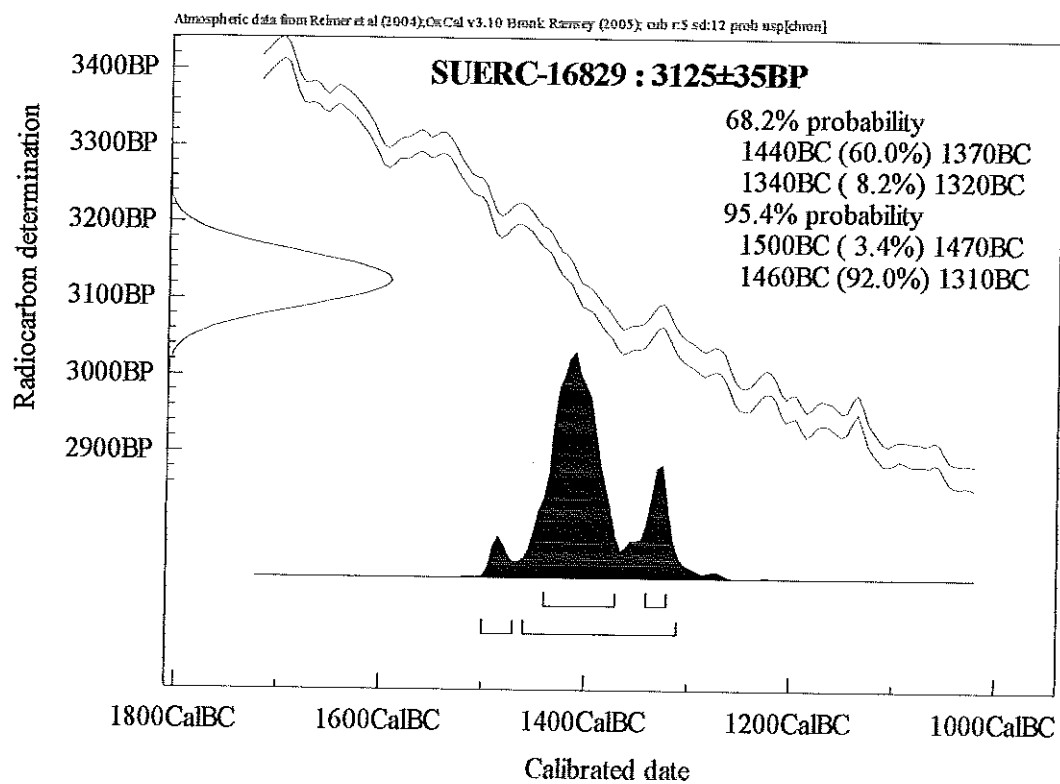
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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16830 (GU-16015)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2074
Sample Reference	Sample Ref 2010
Material	Charcoal : Corylus avellana (Hazel)
$\delta^{13}\text{C}$ relative to VPDB	-26.0 ‰
Radiocarbon Age BP	3380 \pm 35

- N.B.
1. 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 :-

P. Naysmith

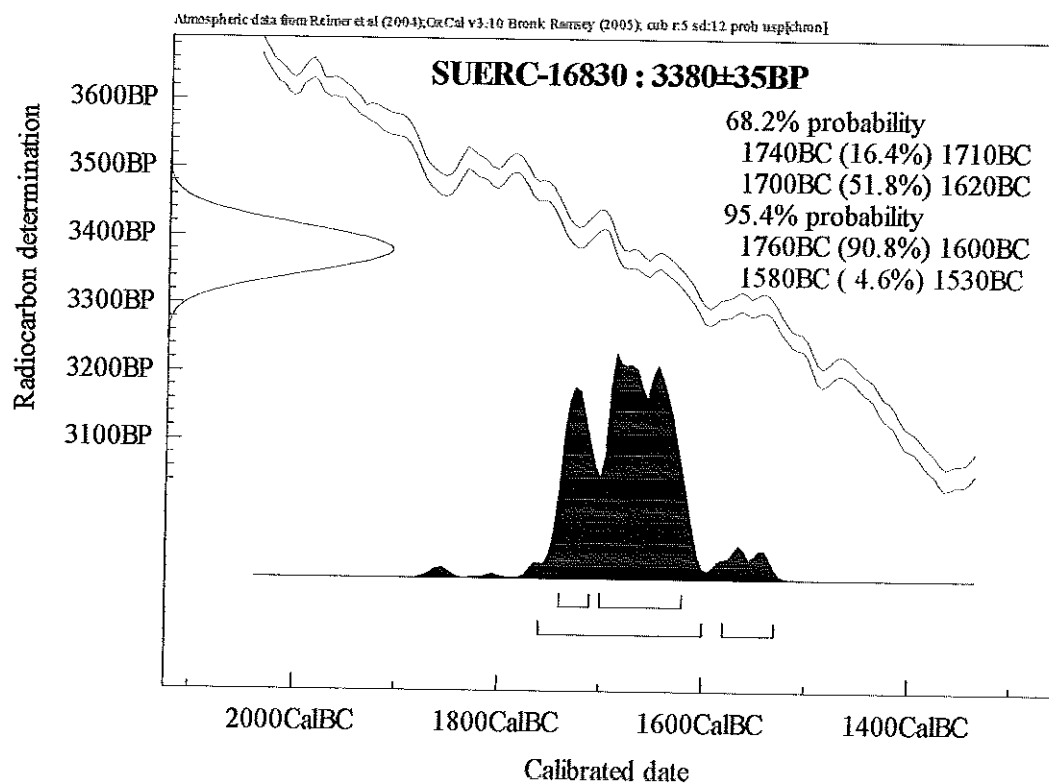
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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16834 (GU-16016)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2166
Sample Reference	Sample Ref 2016
Material	Charcoal : Alnus (Alder)

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

Radiocarbon Age BP 4750 \pm 35

- N.B.
1. 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 :-

P. Naysmith

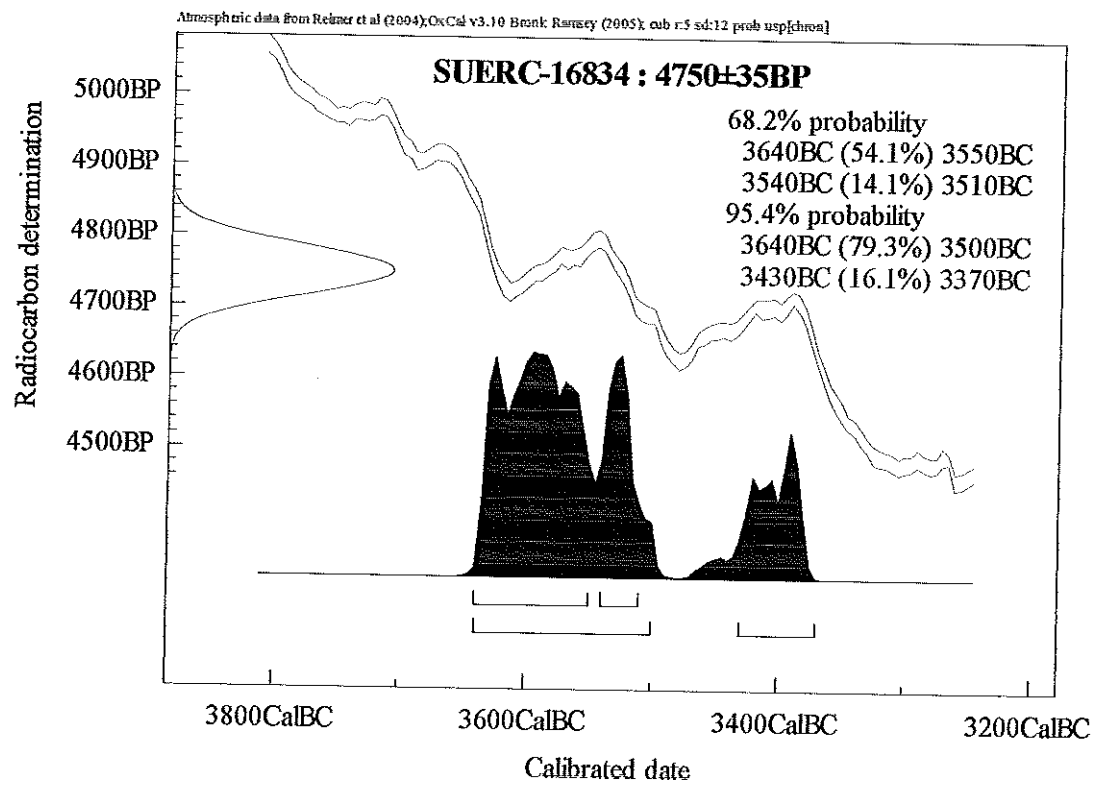
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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16835 (GU-16017)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2140
Sample Reference	Sample Ref 2021
Material	Cereal grain : Hordeum vulgare var nudum (naked barley)

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

Radiocarbon Age BP 4560 \pm 35

- N.B.**
1. 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 :-

P. Naysmith

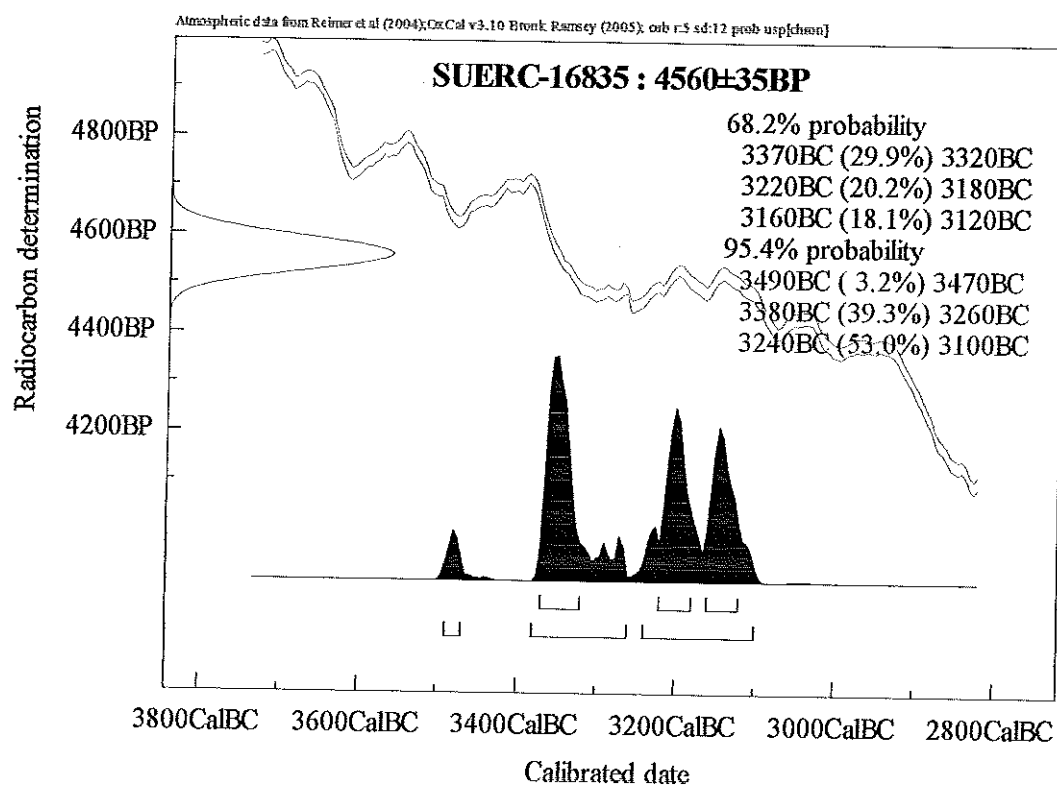
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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16836 (GU-16018)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2101
Sample Reference	Sample Ref 2024
Material	Charcoal : Alnus (Alder)
$\delta^{13}\text{C}$ relative to VPDB	-27.0 ‰
Radiocarbon Age BP	595 \pm 35

- N.B.**
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Conventional age and calibration age ranges calculated by :-

P. Naysmith

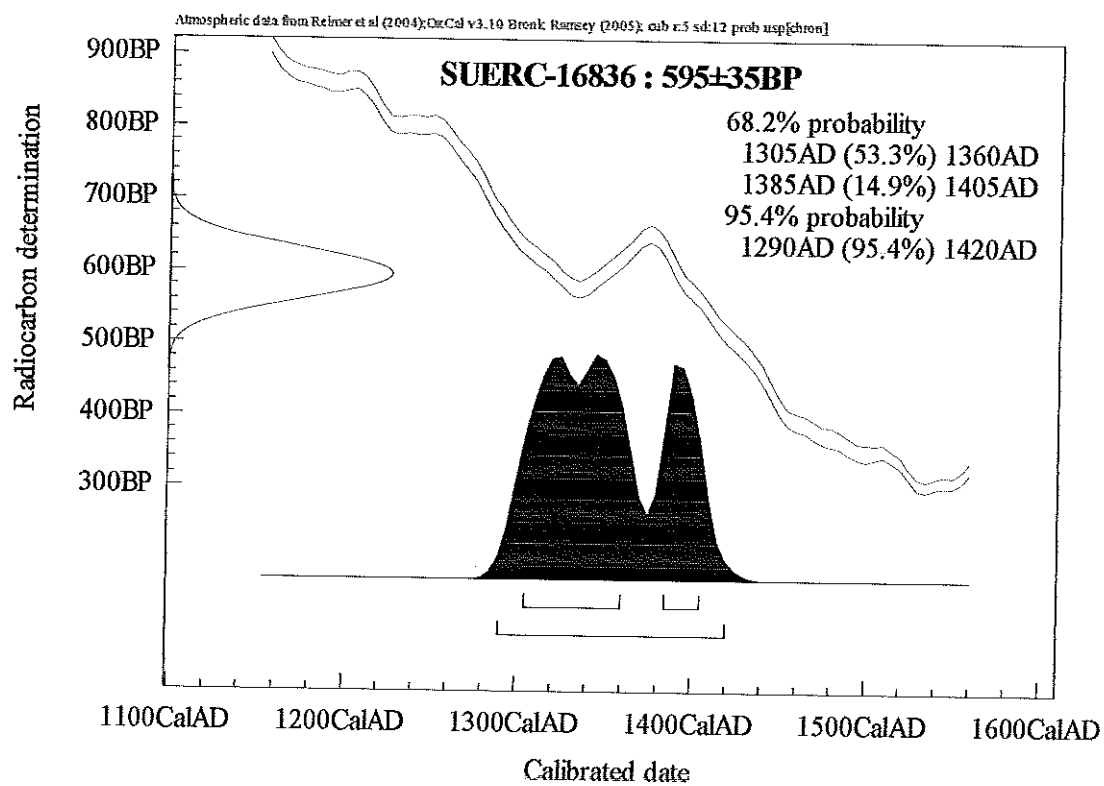
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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16837 (GU-16019)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2112
Sample Reference	Sample Ref 2039
Material	Cereal grain : Avena (oat)
$\delta^{13}\text{C}$ relative to VPDB	-26.3 ‰
Radiocarbon Age BP	635 \pm 35

- N.B.**
1. 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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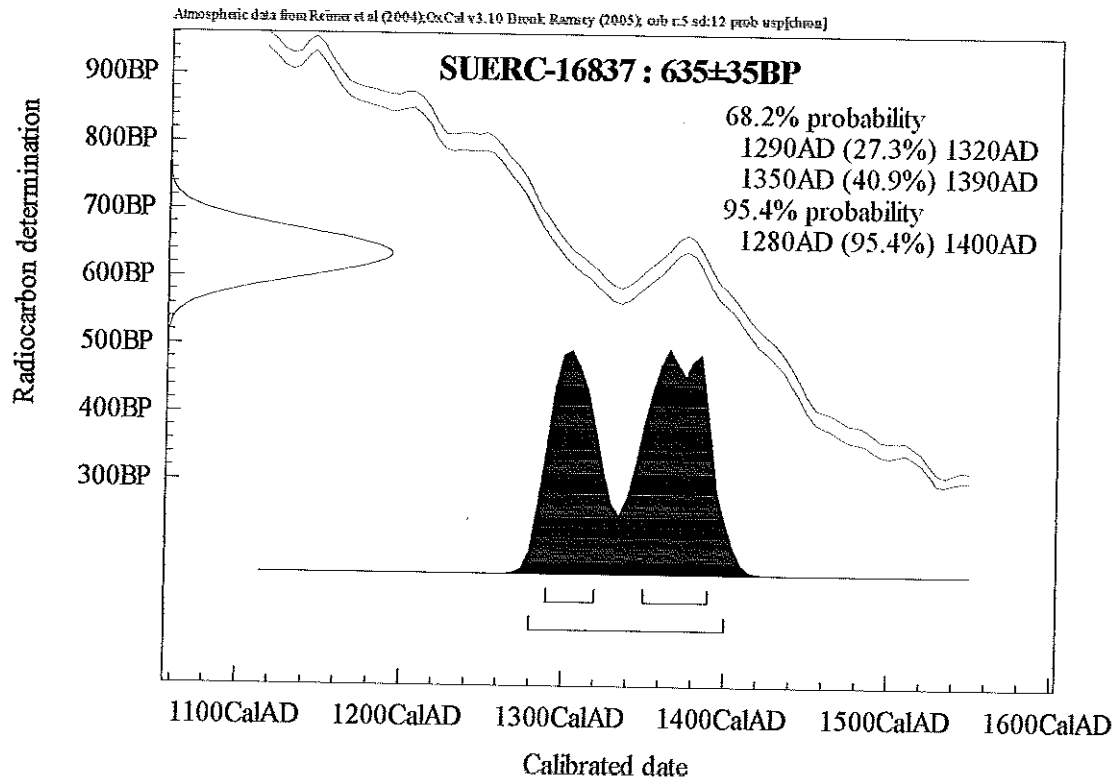
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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16838 (GU-16020)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2216
Sample Reference	Sample Ref 2042
Material	Cereal grain : Avena (oat)

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

Radiocarbon Age BP 540 \pm 35

- N.B.**
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P. Naysmith

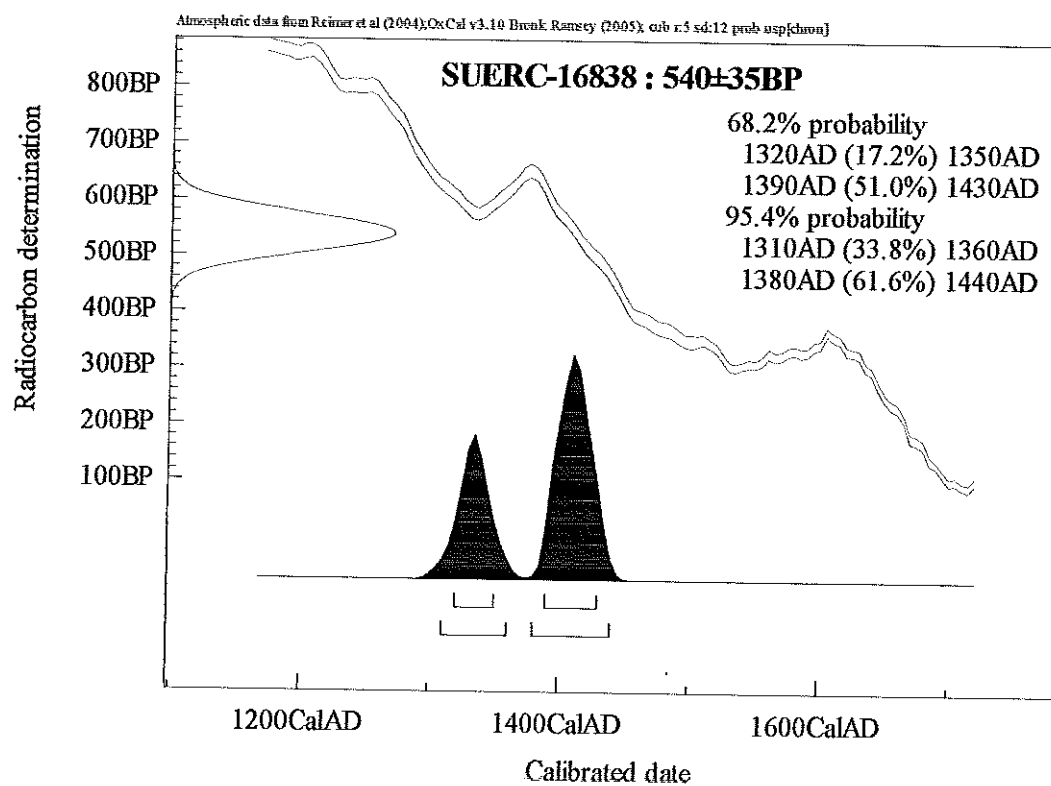
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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16839 (GU-16021)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2319
Sample Reference	Sample Ref 2044
Material	Cereal grain : Avena (oat)
$\delta^{13}\text{C}$ relative to VPDB	-25.7 ‰
Radiocarbon Age BP	540 \pm 35

- N.B.**
1. 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 :- *P. Naysmith*

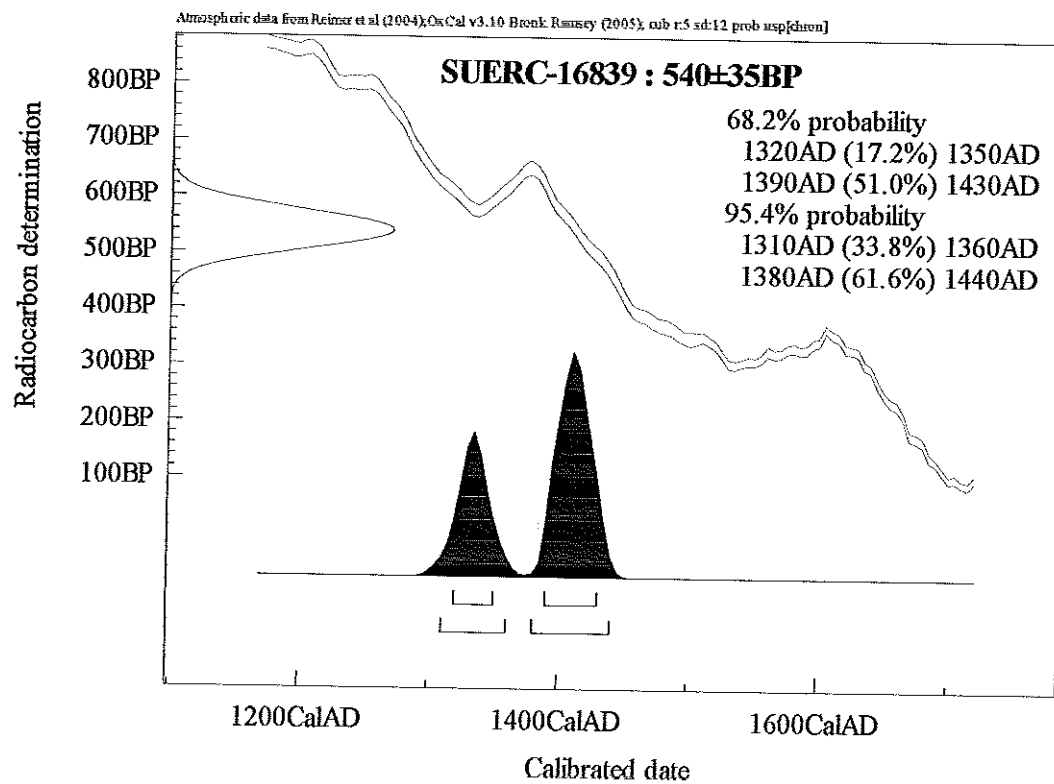
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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16840 (GU-16022)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2319
Sample Reference	Sample Ref 2044
Material	Cereal grain : Hordeum vulgare var nudum (naked barley)
$\delta^{13}\text{C}$ relative to VPDB	-24.5 ‰
Radiocarbon Age BP	4500 \pm 35

- N.B.**
1. 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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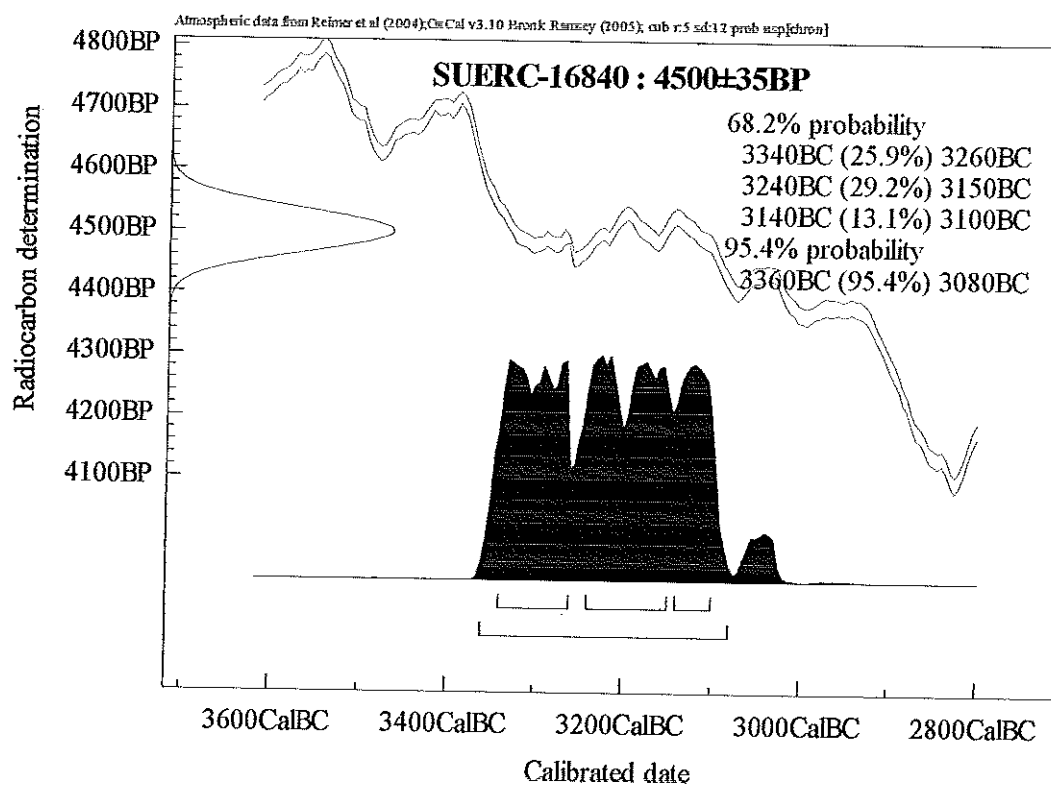
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Date :- 18-2-08

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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16844 (GU-16023)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2300
Sample Reference	Sample Ref 2045
Material	Cereal grain : Hordeum vulgare var nudum (naked barley)
$\delta^{13}\text{C}$ relative to VPDB	-24.9 ‰
Radiocarbon Age BP	3120 \pm 35

- N.B.**
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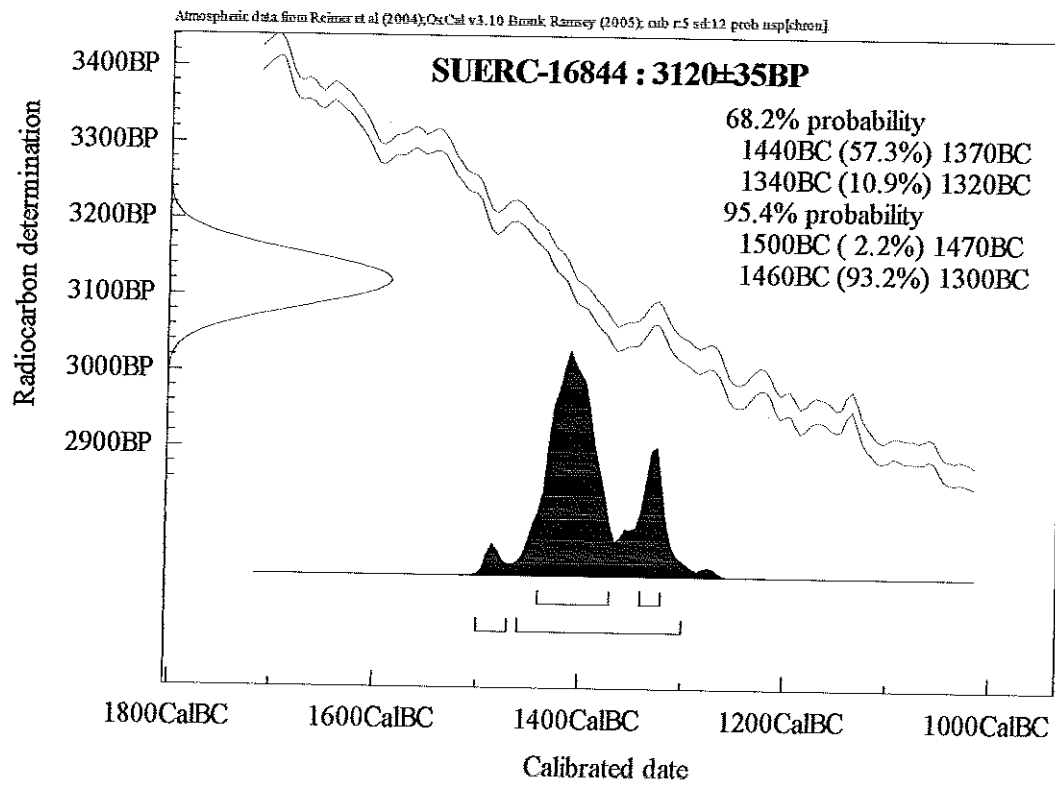
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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16845 (GU-16024)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2369
Sample Reference	Sample Ref 2048
Material	Cereal grain : Hordeum vulgare var nudum (naked barley)
$\delta^{13}\text{C}$ relative to VPDB	-24.3 ‰
Radiocarbon Age BP	4485 \pm 35

- N.B.
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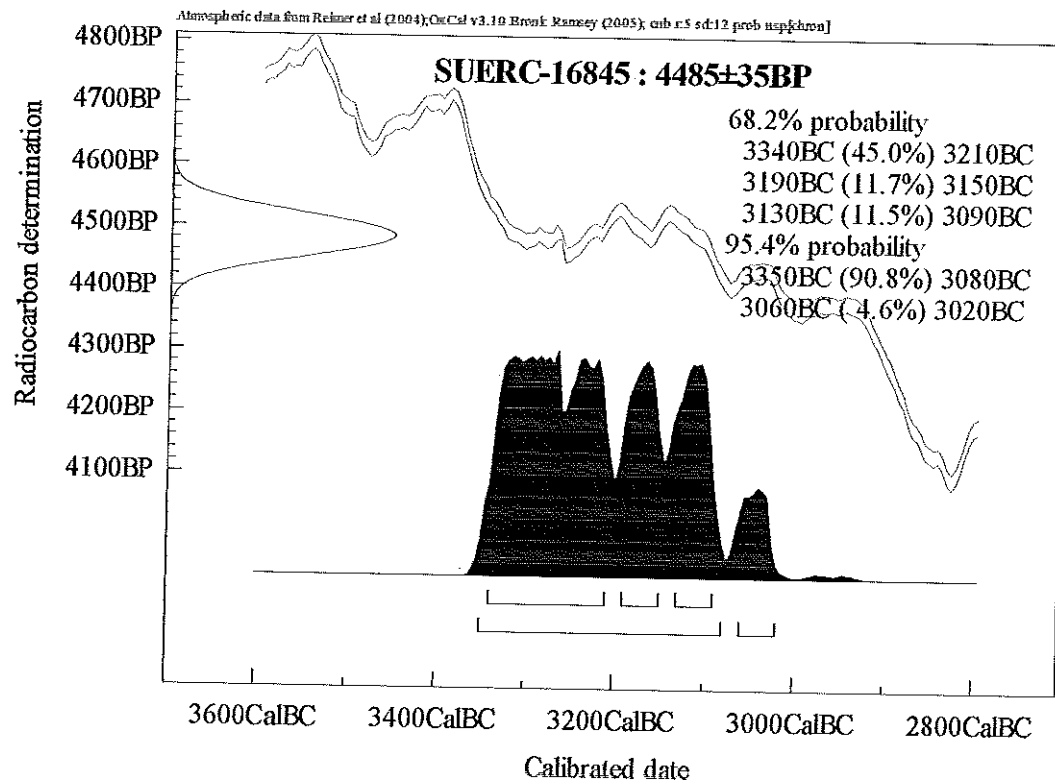
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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16846 (GU-16025)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2437
Sample Reference	Sample Ref 2050
Material	Charcoal : Alnus (Alder)

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

Radiocarbon Age BP 3085 \pm 35

- N.B.
1. 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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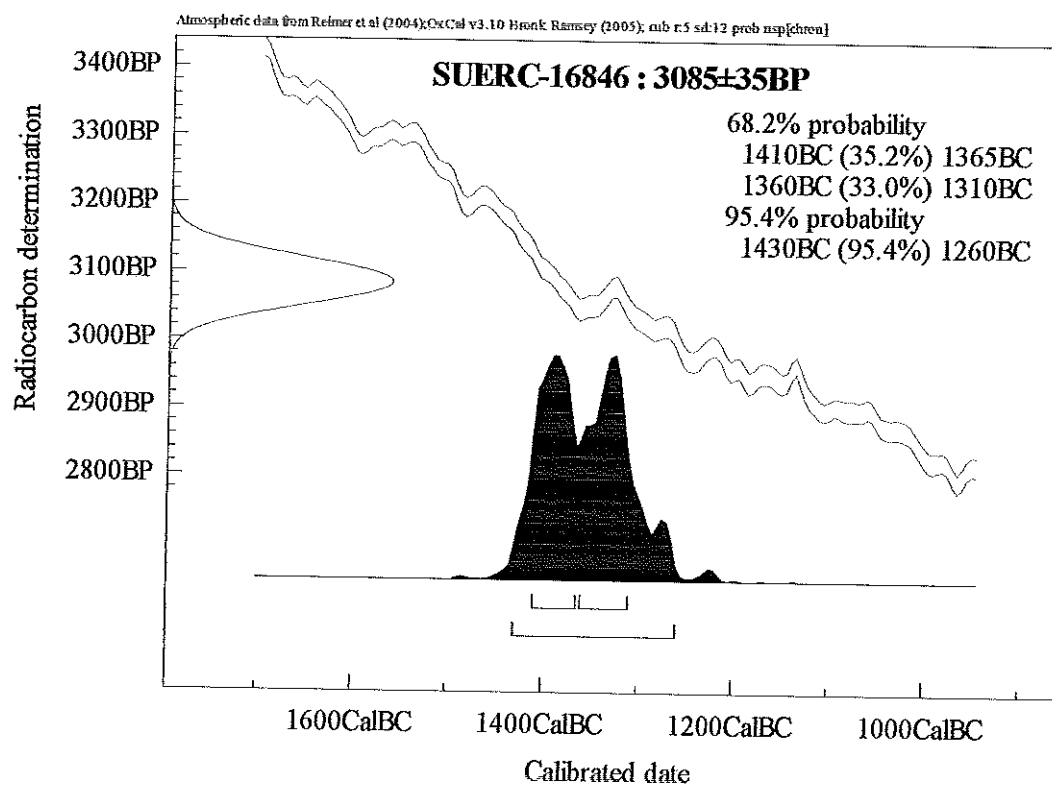
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RADIOCARBON DATING CERTIFICATE

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Laboratory Code	SUERC-16847 (GU-16026)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2034
Sample Reference	Sample Ref 2054
Material	Charcoal : Corylus avellana (Hazel)
$\delta^{13}\text{C}$ relative to VPDB	-25.2 ‰
Radiocarbon Age BP	3220 \pm 35

- N.B.**
1. 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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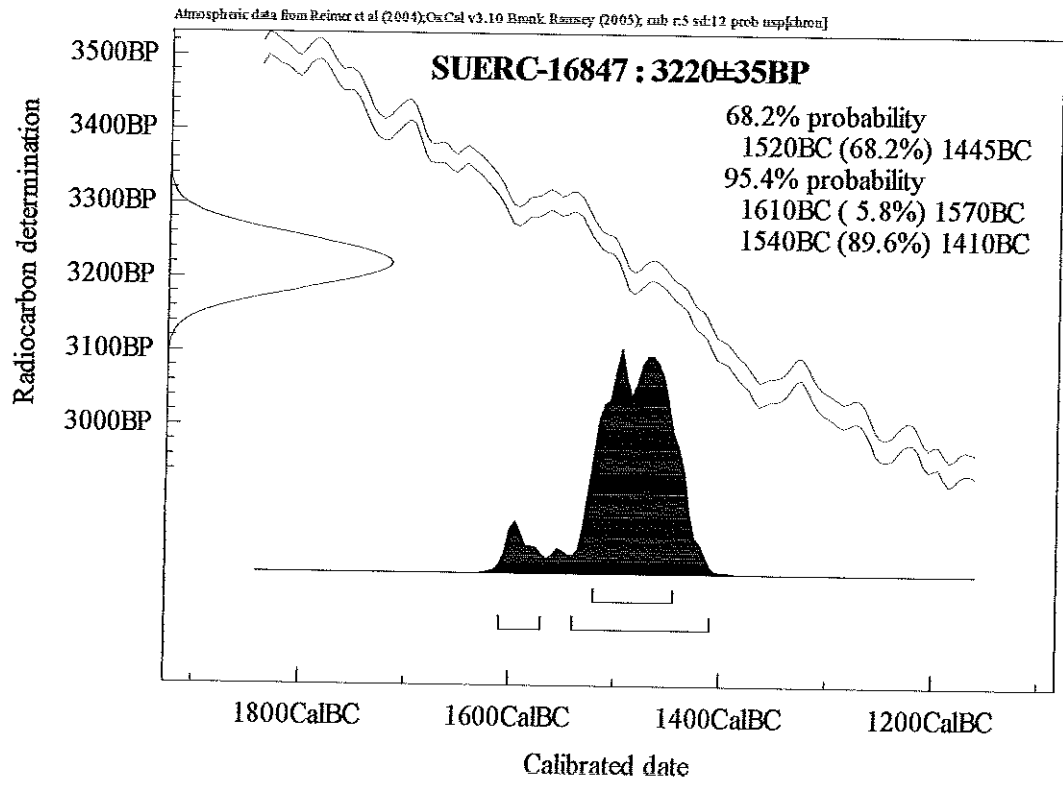
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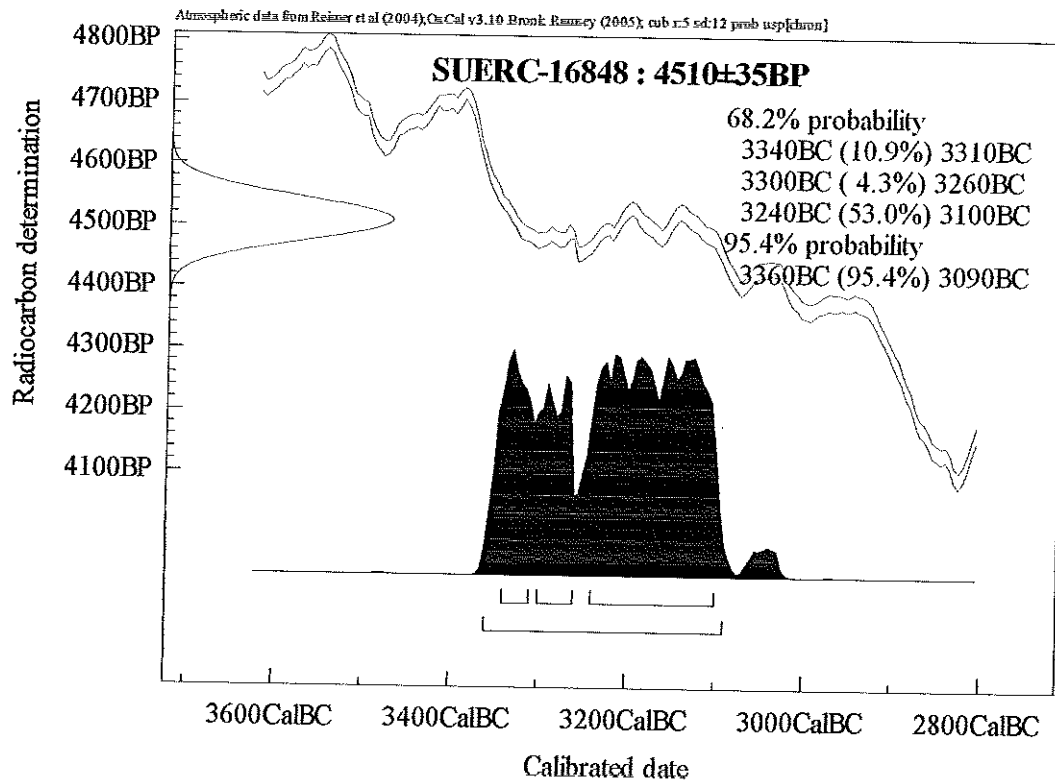
Laboratory Code	SUERC-16848 (GU-16027)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2542
Sample Reference	Sample Ref 2070
Material	Cereal grain : Hordeum vulgare var nudum (naked barley)
$\delta^{13}\text{C}$ relative to VPDB	-24.4 ‰
Radiocarbon Age BP	4510 \pm 35

- N.B.**
1. 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 :- *P. Naysmith* Date :- 18-2-08

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Laboratory Code	SUERC-16849 (GU-16028)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2378
Sample Reference	Sample Ref 2082
Material	Charcoal : Alnus (Alder)

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

Radiocarbon Age BP 2265 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

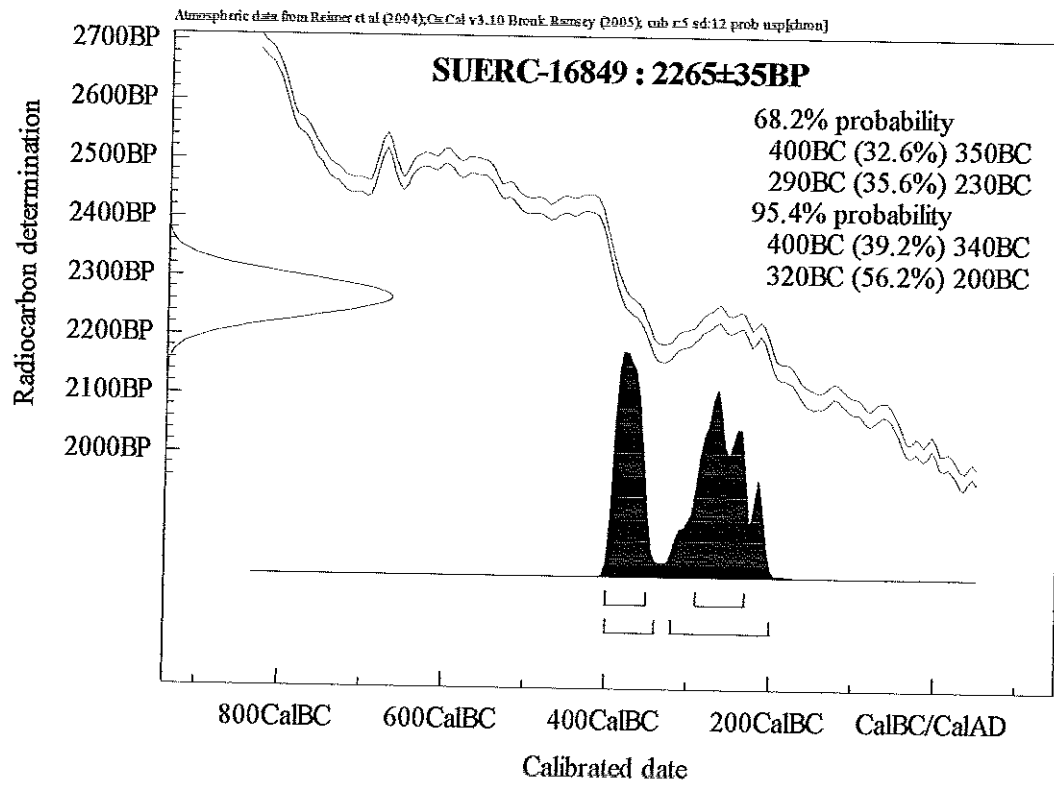
Date :- 18-2-08

Checked and signed off by :-

Gordon Cook

Date :- 18-2-08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16850 (GU-16029)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2213
Sample Reference	Sample Ref 2091
Material	Cereal grain : Hordeum vulgare (Hulled Barley)
$\delta^{13}\text{C}$ relative to VPDB	-24.7 ‰
Radiocarbon Age BP	620 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

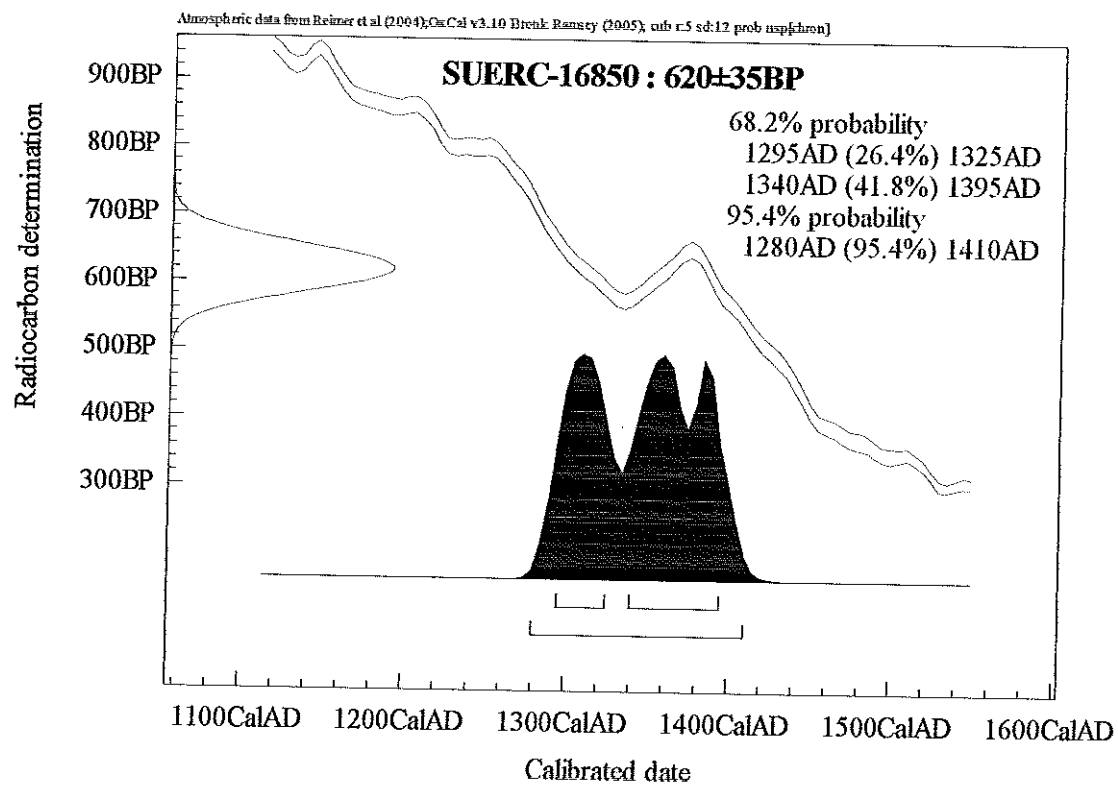
Date :- 18.2.08

Checked and signed off by :-

Gordon Cook

Date :- 18.2.08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16854 (GU-16030)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3739
Sample Reference	Sample Ref 2233
Material	Charcoal : Alnus (Alder)
$\delta^{13}\text{C}$ relative to VPDB	-26.0 ‰
Radiocarbon Age BP	2820 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

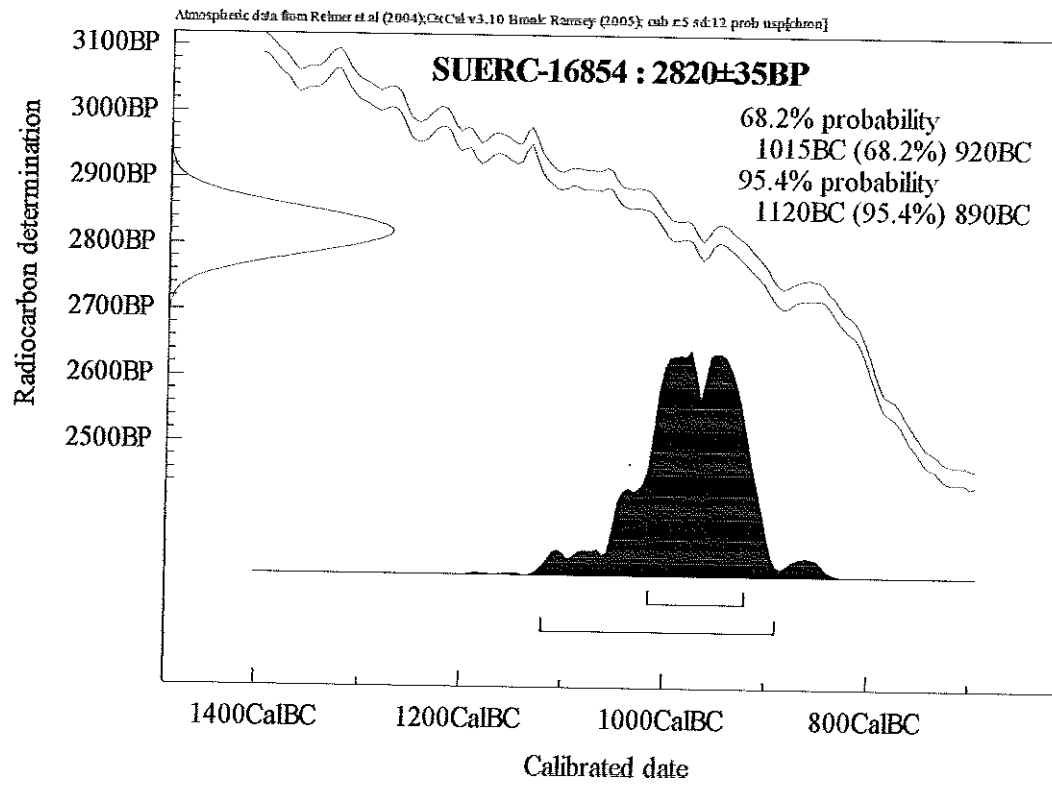
Date :- 18.2.08

Checked and signed off by :-

Gordon Cook

Date :- 18.2.08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16855 (GU-16031)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3247
Sample Reference	Sample Ref 2246
Material	Charcoal : Alnus (Alder)

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

Radiocarbon Age BP 3225 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :- *P. Naysmith*

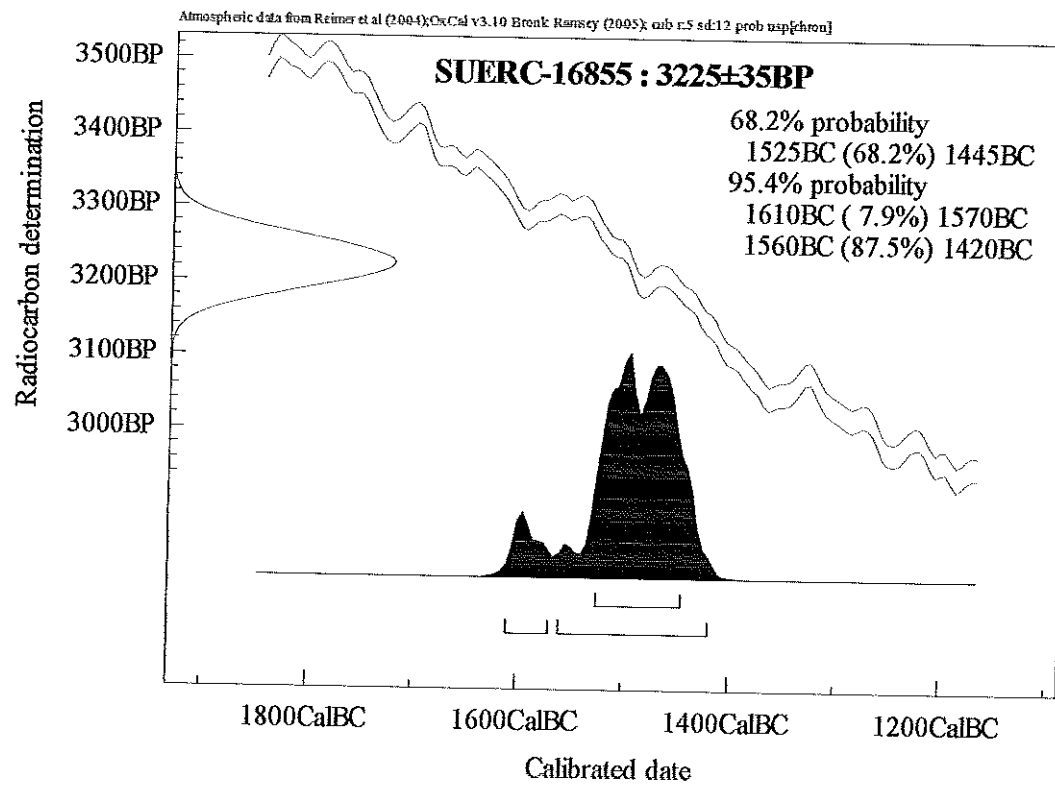
Date :- 18.2.08

Checked and signed off by :-

Gordon Cook

Date :- 18.2.08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16856 (GU-16032)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	5701
Sample Reference	Sample Ref 2254
Material	Charcoal : <i>Corylus avellana</i> (Hazel)

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

Radiocarbon Age BP 2850 ± 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

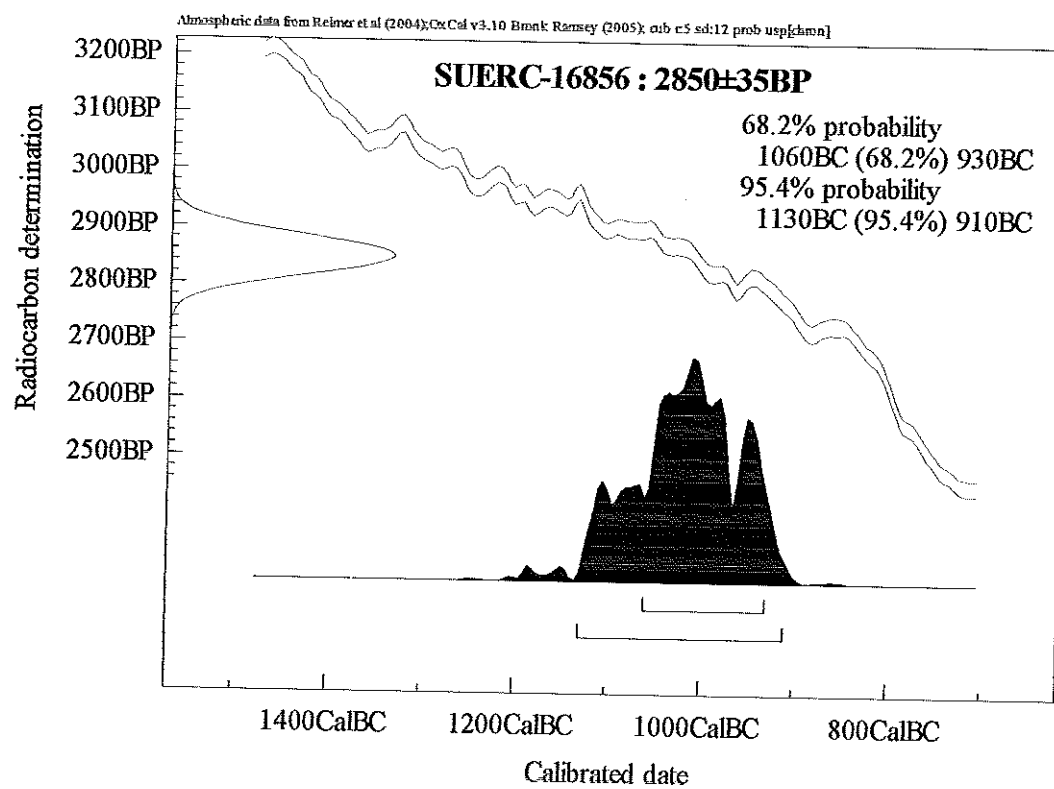
Date :- 18-2-08

Checked and signed off by :-

Gordon Cook

Date :- 18.2.08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16857 (GU-16033)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3635
Sample Reference	Sample Ref 2261
Material	Charcoal : <i>Corylus avellana</i> (Hazel)

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

Radiocarbon Age BP 3660 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

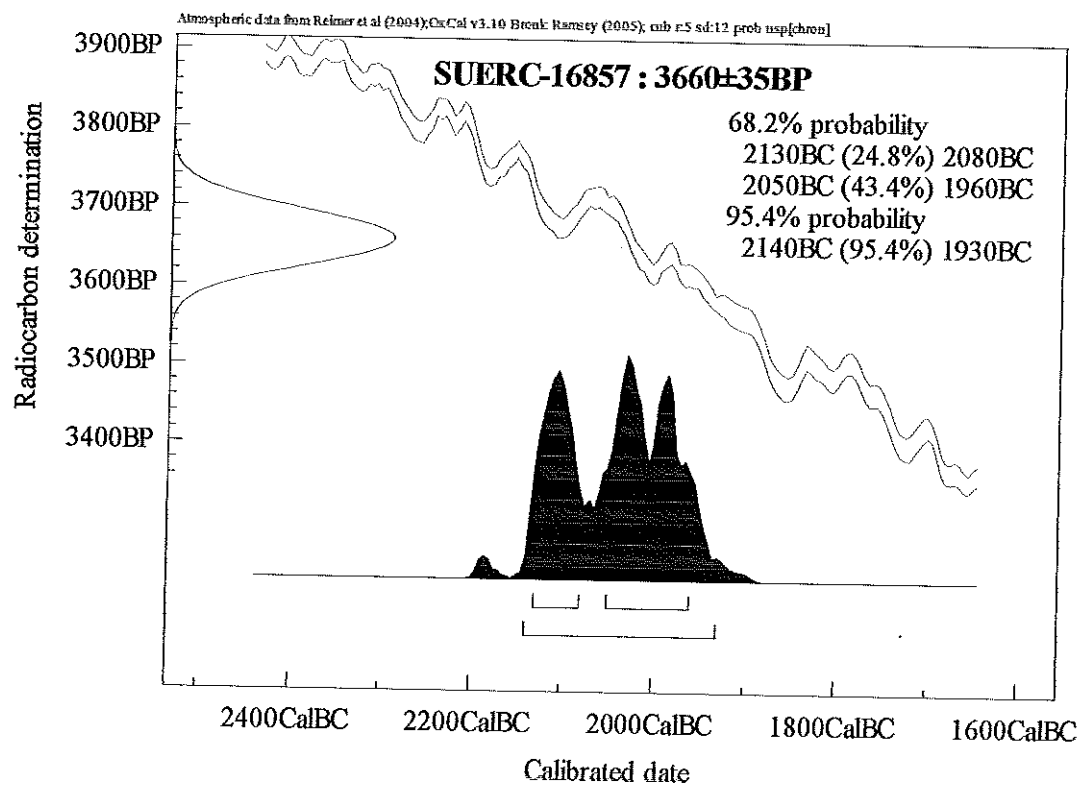
Date :- 18-2-08

Checked and signed off by :-

Gordon Cook

Date :- 18.2.08

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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16858 (GU-16034)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3700
Sample Reference	Sample Ref 2262
Material	Charcoal : Alnus (Alder)

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

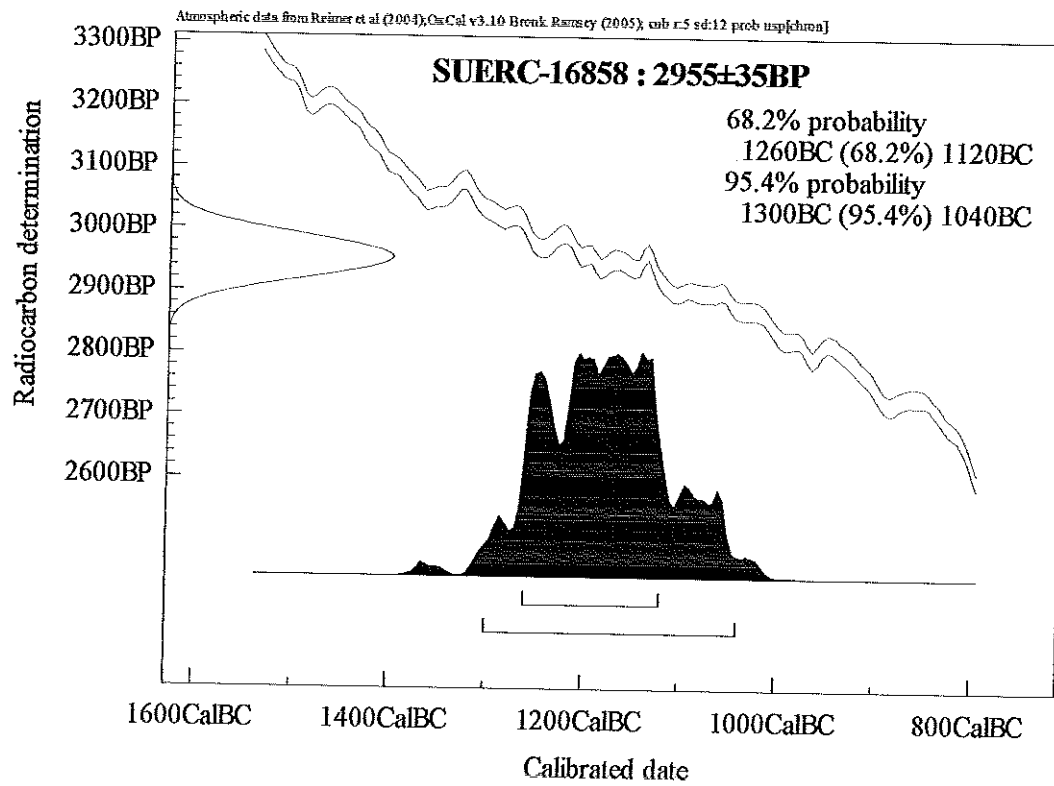
Radiocarbon Age BP 2955 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :- *P. Naysmith* Date :- 18-2-08

Checked and signed off by :- *Gordon Cook* Date :- 18-2-08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16859 (GU-16035)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3682
Sample Reference	Sample Ref 2298
Material	Charcoal : Alnus (Alder)
$\delta^{13}\text{C}$ relative to VPDB	-24.8 ‰
Radiocarbon Age BP	2940 \pm 35

- N.B.**
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

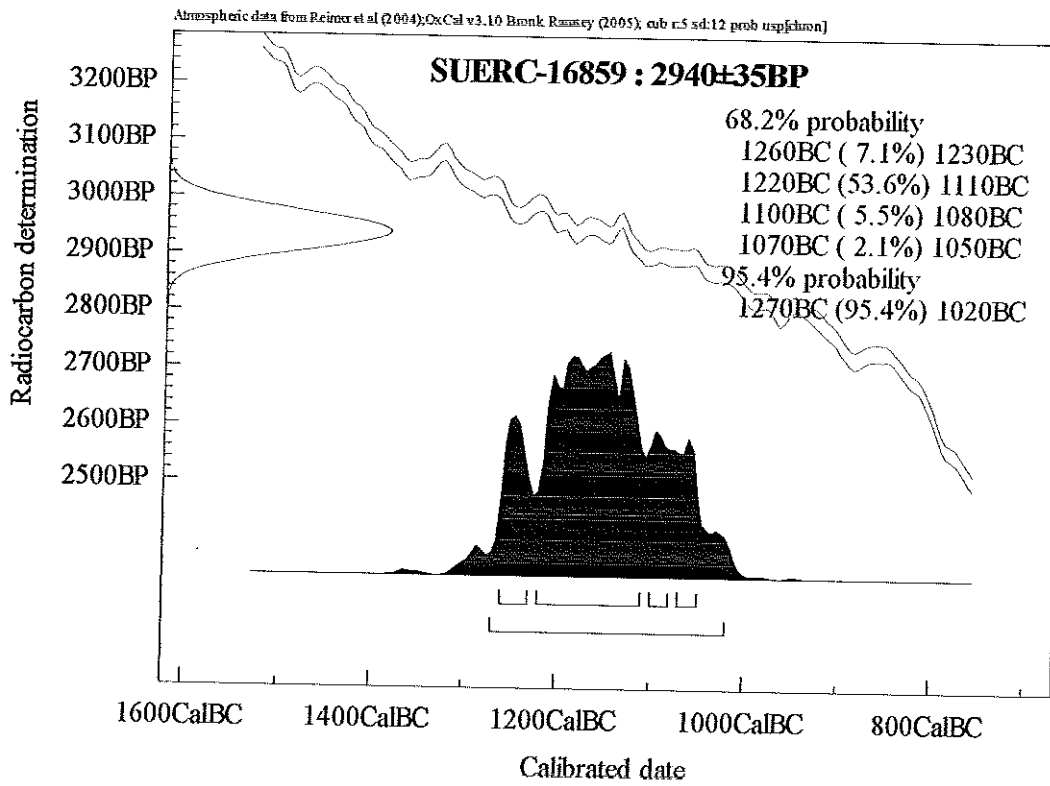
Date :- 18.2.08

Checked and signed off by :-

Gordon Cook

Date :- 18.2.08

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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16860 (GU-16036)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3357
Sample Reference	Sample Ref 2312
Material	Charcoal : <i>Corylus avellana</i> (Hazel)
$\delta^{13}\text{C}$ relative to VPDB	-24.5 ‰
Radiocarbon Age BP	2980 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

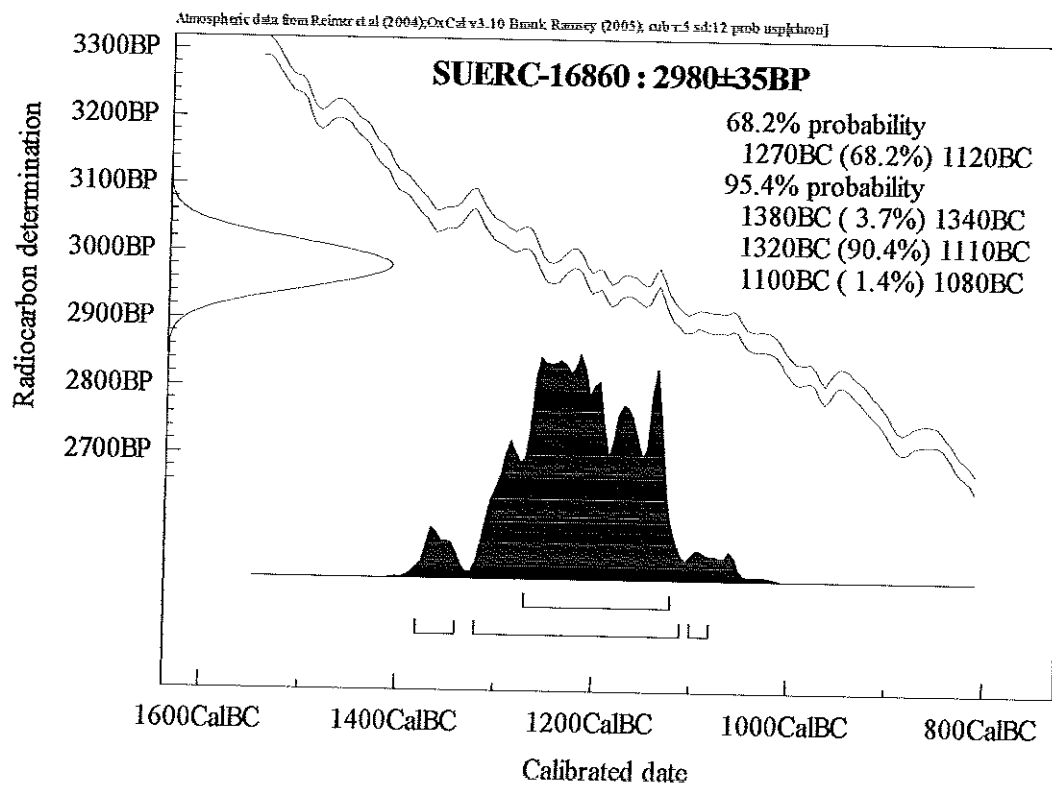
Date :- 18-2-08

Checked and signed off by :-

Gordon Cook

Date :- 18-2-08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16864 (GU-16037)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	5685
Sample Reference	Sample Ref 2321
Material	Charcoal : Alnus (Alder)

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

Radiocarbon Age BP 2925 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

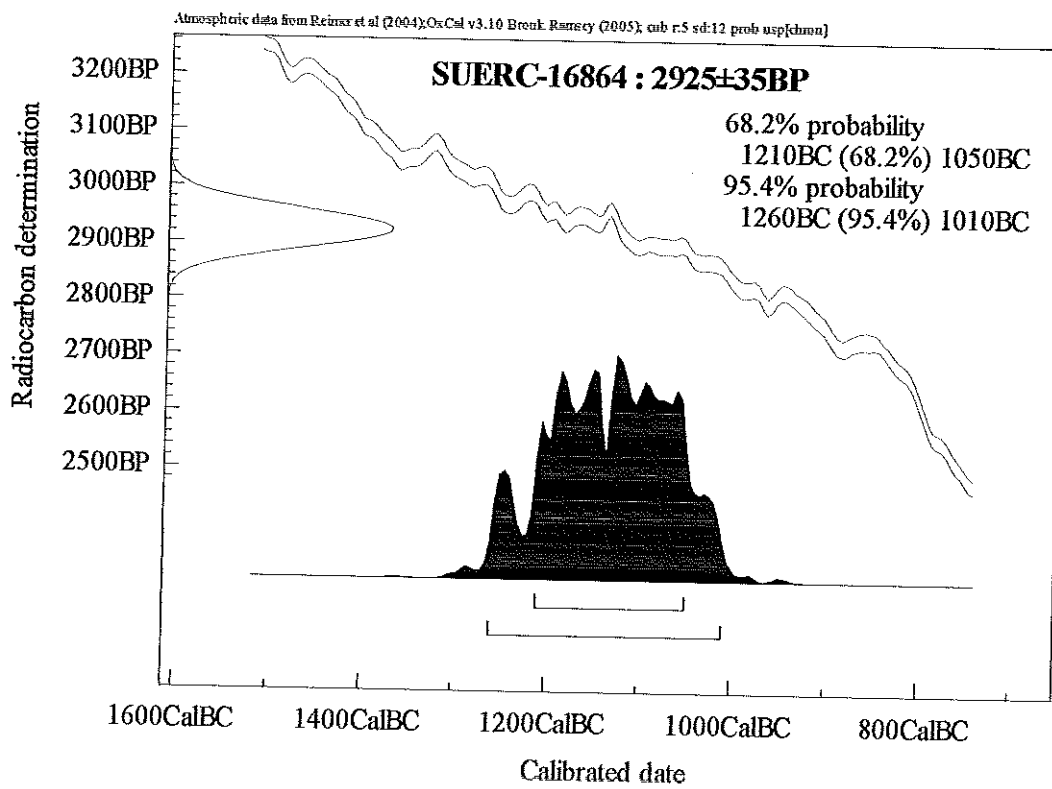
Date :- 18-2-08

Checked and signed off by :-

Gordon Cook

Date :- 18-2-08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16865 (GU-16038)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	5687
Sample Reference	Sample Ref 2322
Material	Cereal grain : Hordeum vulgare var nudum (naked barley)

$\delta^{13}\text{C}$ relative to VPDB -24.1 ‰

Radiocarbon Age BP 2835 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

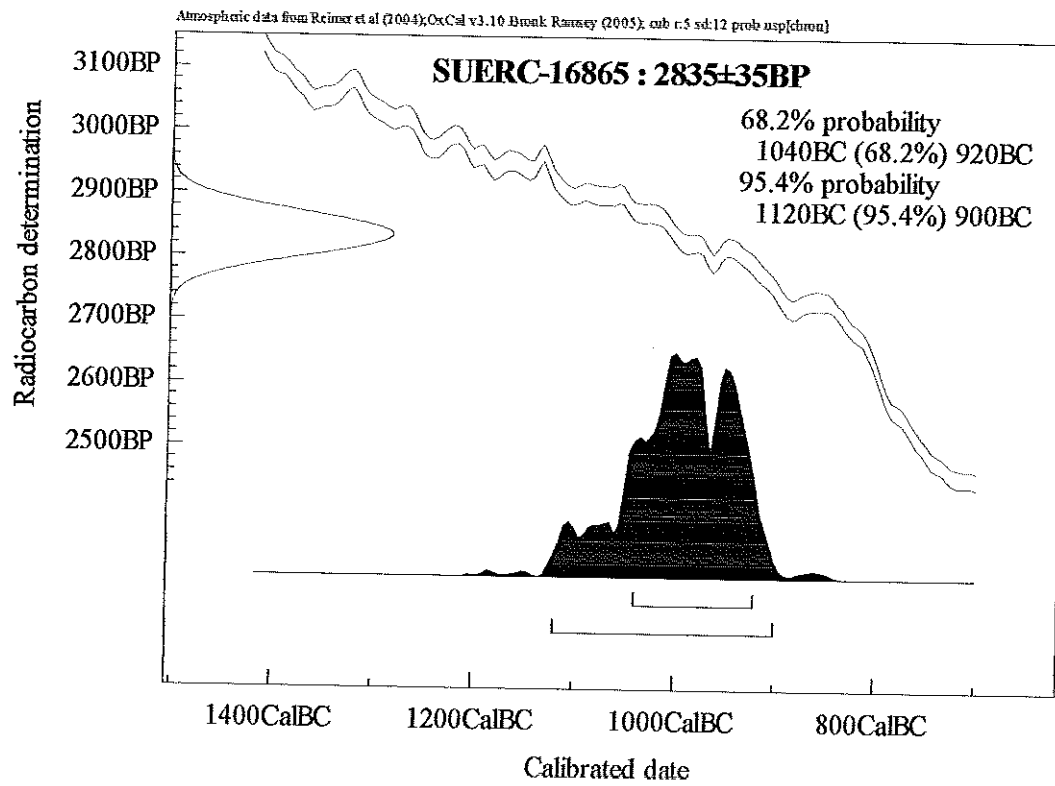
Date :- 18-2-08

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Gordon Cook

Date :- 18-2-08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16866 (GU-16039)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3449
Sample Reference	Sample Ref 2323
Material	Charcoal : Alnus (Alder)
$\delta^{13}\text{C}$ relative to VPDB	-24.8 ‰

Radiocarbon Age BP 2925 \pm 35

- N.B.**
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

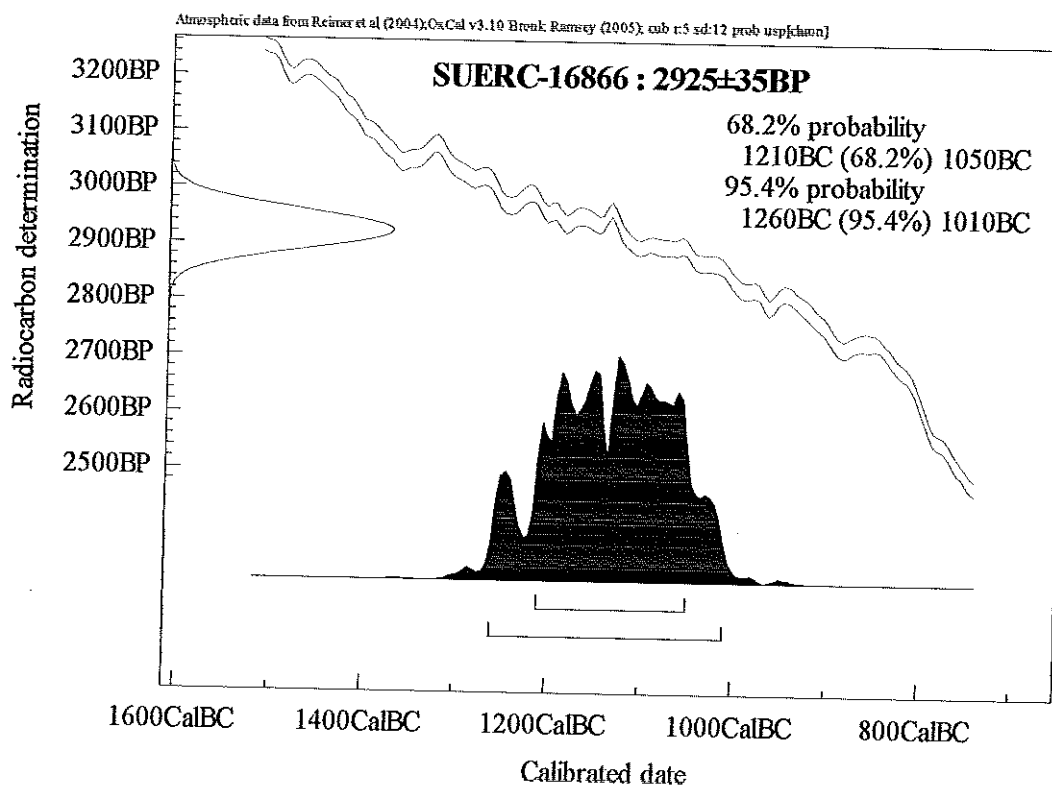
Date :- 18-2-08

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Date :- 18-2-08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16867 (GU-16040)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3456
Sample Reference	Sample Ref 2327
Material	Charcoal : <i>Corylus avellana</i> (Hazel)
$\delta^{13}\text{C}$ relative to VPDB	-27.3 ‰
Radiocarbon Age BP	2940 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

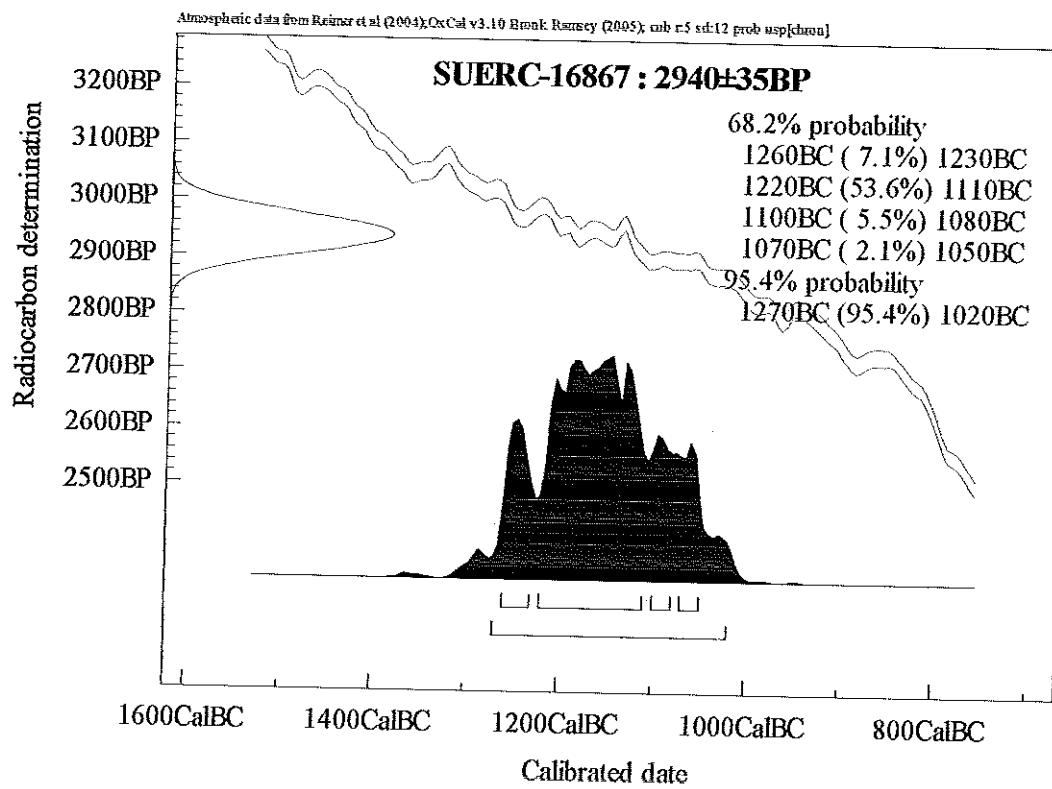
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Checked and signed off by :-

Gordon Cook

Date :- 18.2.08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16868 (GU-16041)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3468
Sample Reference	Sample Ref 2333
Material	Charcoal : Alnus (Alder)
$\delta^{13}\text{C}$ relative to VPDB	-27.0 ‰
Radiocarbon Age BP	2860 \pm 35

- N.B.**
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naynmb

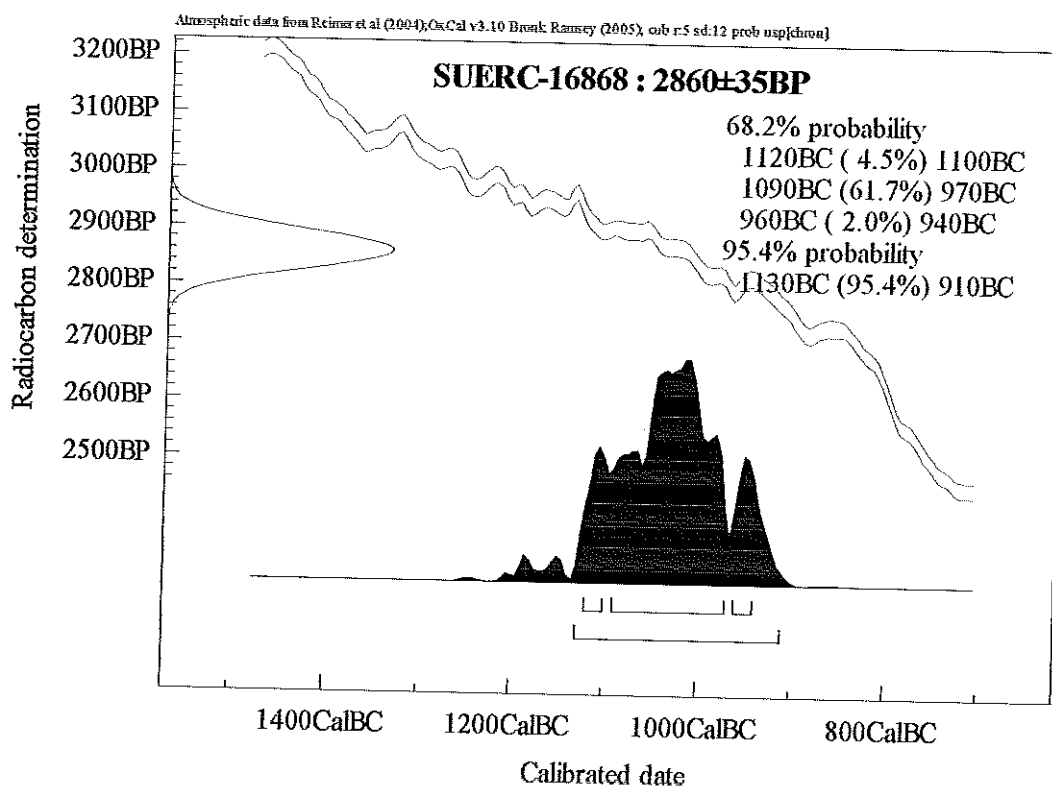
Date :- 18.2.08

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Gordon Cook

Date :- 18.2.08

Calibration Plot





Director: *Professor A B MacKenzie*

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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16869 (GU-16042)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3907
Sample Reference	Sample Ref 2400
Material	Charred Nutshell : <i>Corylus avellana</i> (Hazel)

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

Radiocarbon Age BP 3520 ± 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

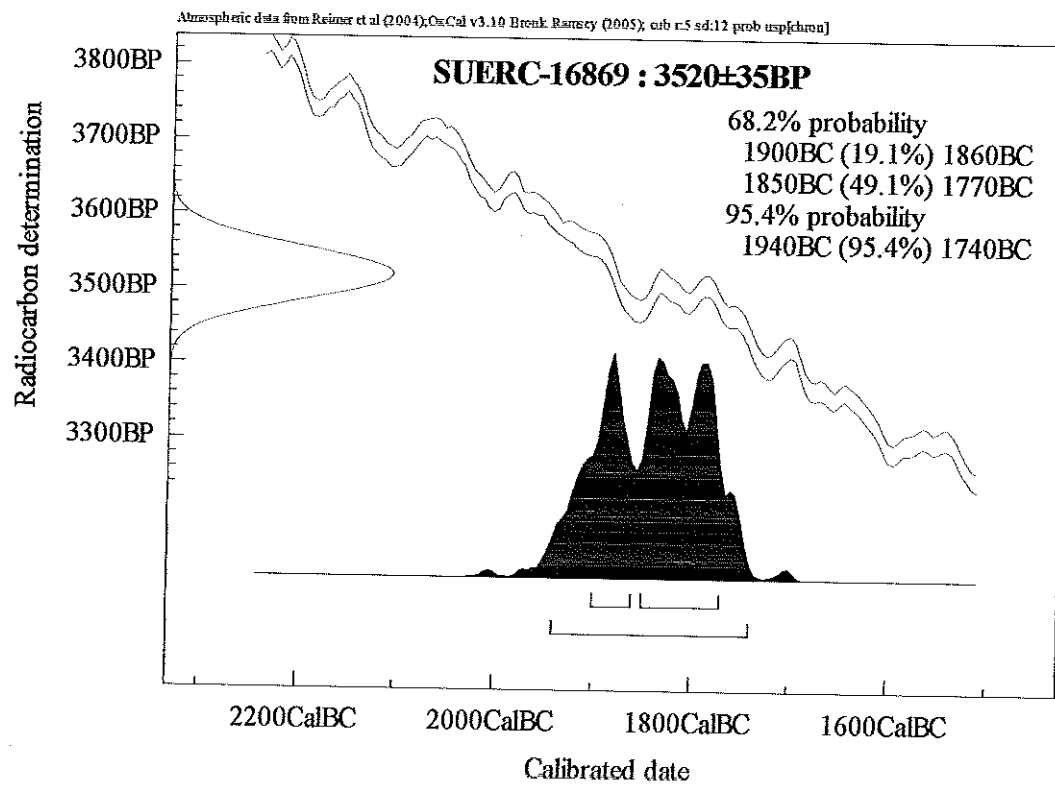
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Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16870 (GU-16043)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3924
Sample Reference	Sample Ref 2403
Material	Charcoal : <i>Corylus avellana</i> (Hazel)

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

Radiocarbon Age BP 4590 \pm 40

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :- *P. Naysmith*

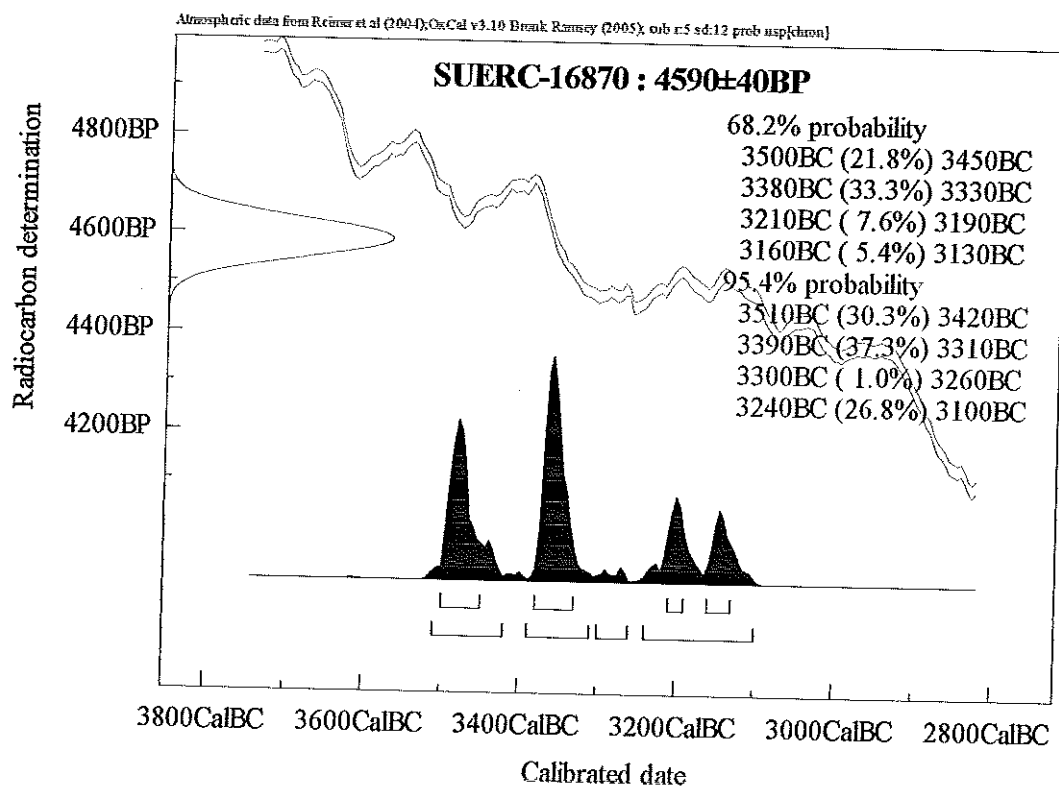
Date :- 18-2-08

Checked and signed off by :-

Gordon Cook

Date :- 18-2-08

Calibration Plot





Director: *Professor A B Mackenzie*

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Direct Dial: **01355 270136**
Fax: **01355 229898**

RADIOCARBON DATING CERTIFICATE

18 February 2008

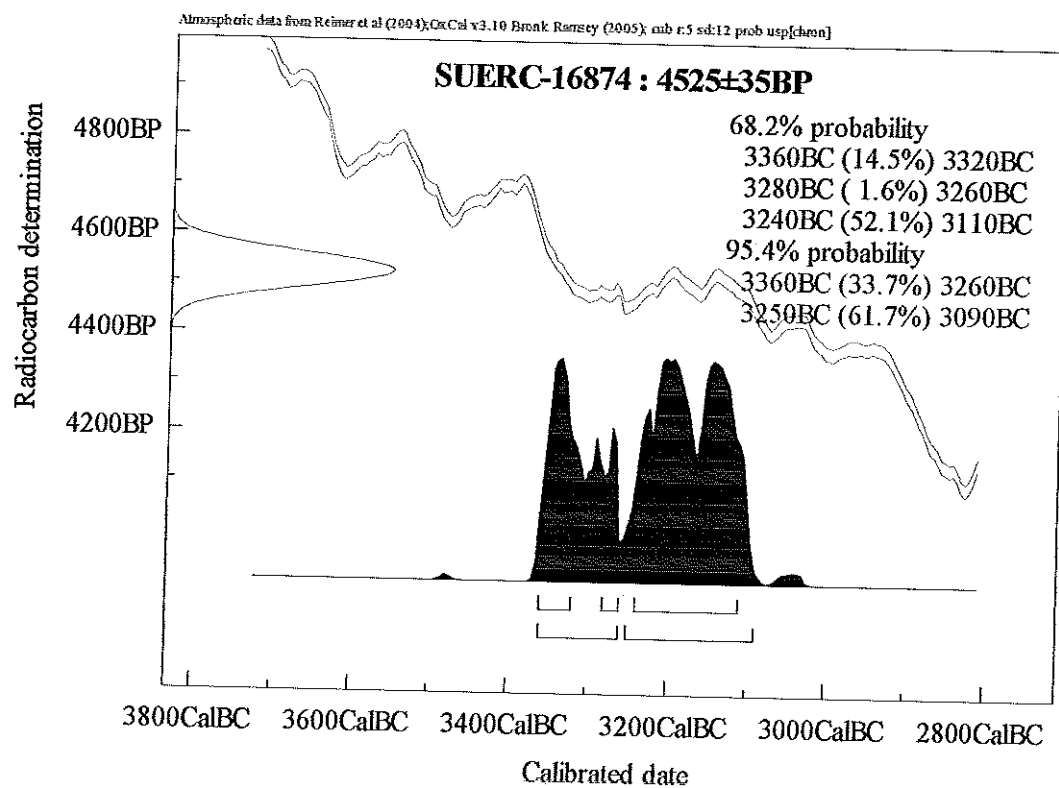
Laboratory Code	SUERC-16874 (GU-16044)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3944
Sample Reference	Sample Ref 2414
Material	Carbonised Nutshell : <i>Corylus avellana</i> (Hazel)
$\delta^{13}\text{C}$ relative to VPDB	-24.6 ‰
Radiocarbon Age BP	4525 \pm 35

- N.B.**
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :- *P. Naysmith* Date :- 18.2.08

Checked and signed off by :- *Gordon Cook* Date :- 18.2.08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16875 (GU-16045)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3948
Sample Reference	Sample Ref 2416
Material	Charred Nutshell : <i>Corylus avellana</i> (Hazel)

$\delta^{13}\text{C}$ relative to VPDB -24.6 ‰

Radiocarbon Age BP 4540 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

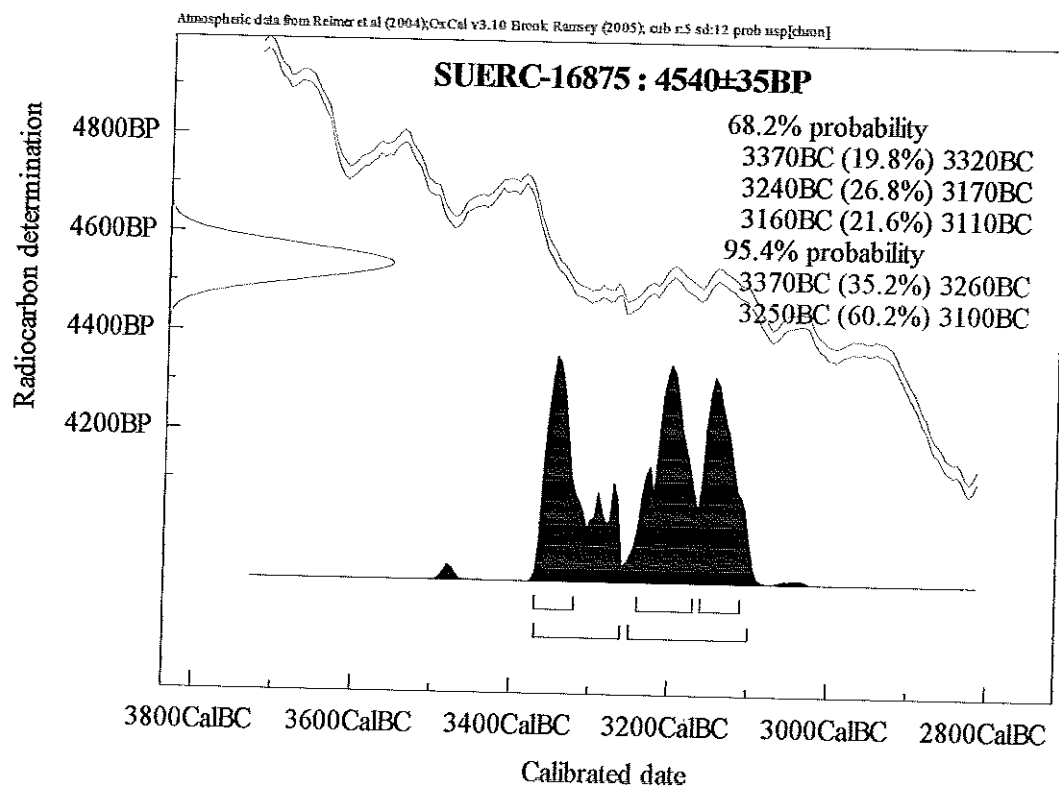
Date :- 18.2.08

Checked and signed off by :-

Gordon Cook

Date :- 18.2.08

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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16876 (GU-16046)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3974
Sample Reference	Sample Ref 2418
Material	Charred Nutshell : <i>Corylus avellana</i> (Hazel)

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

Radiocarbon Age BP 4965 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

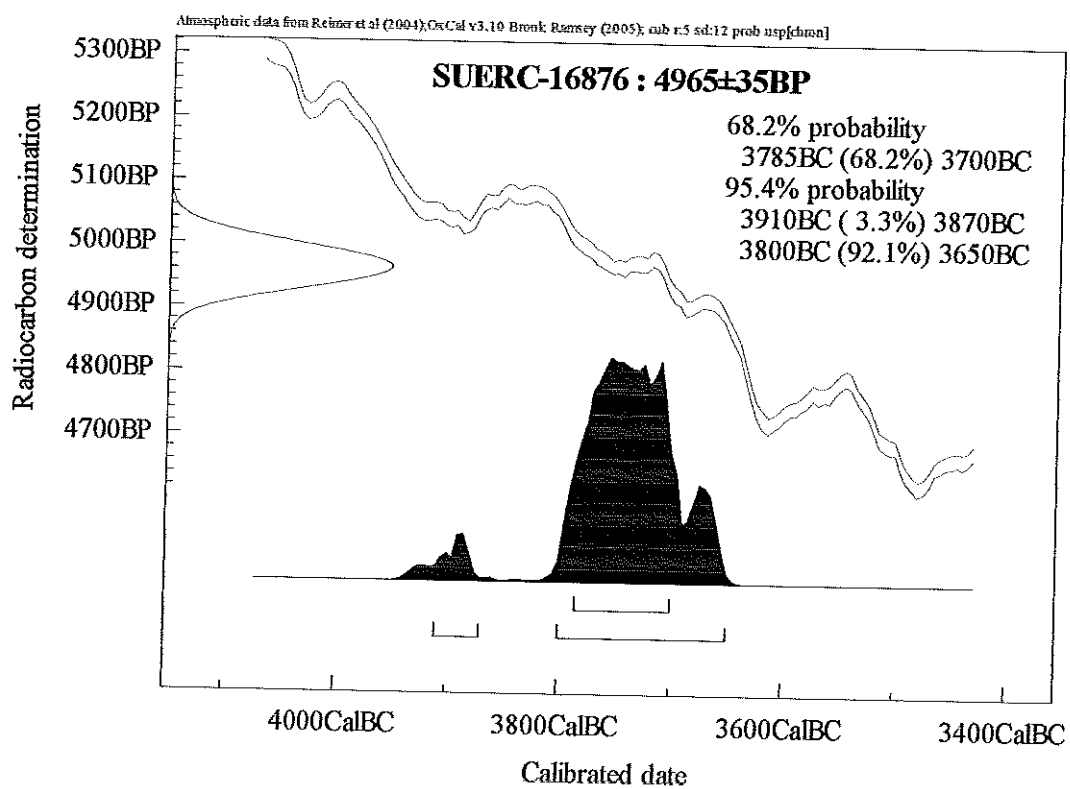
Date :- 18.2.08

Checked and signed off by :-

Gordon Cook

Date :- 18.2.08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16877 (GU-16047)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2763
Sample Reference	Sample Ref 2095
Material	Cereal grain : Triticum aestivo-compactum (Club/bread wheat)
$\delta^{13}\text{C}$ relative to VPDB	-23.3 ‰
Radiocarbon Age BP	705 \pm 35

- N.B.**
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

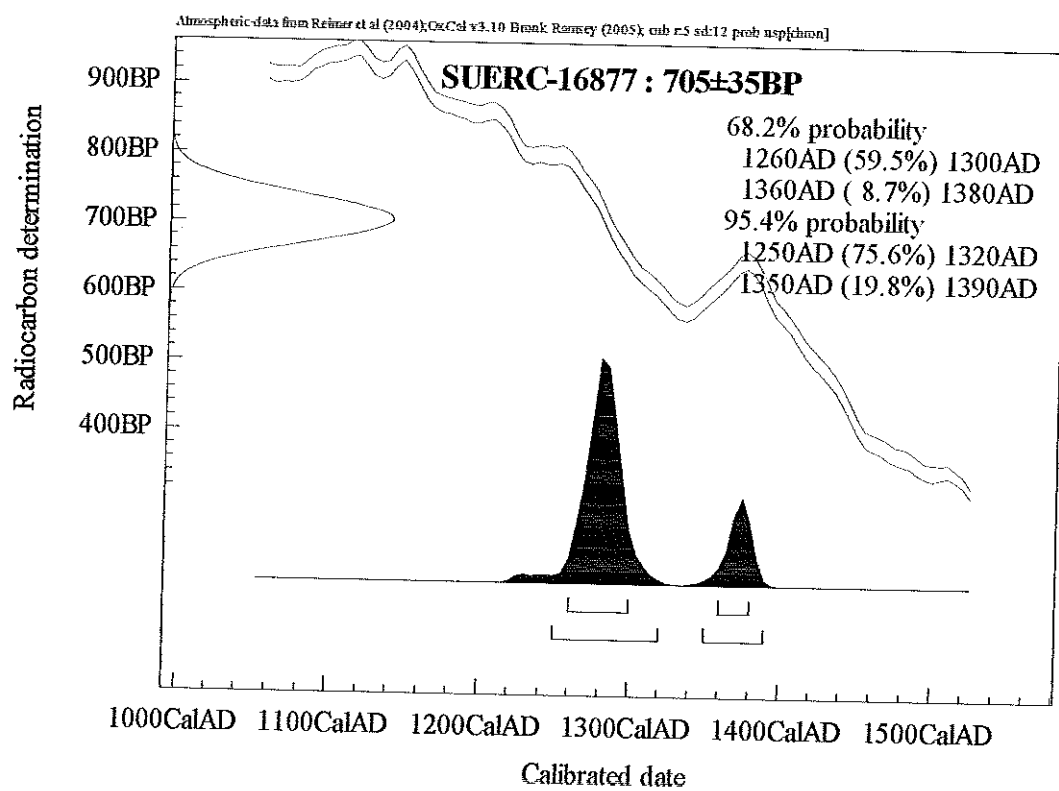
Conventional age and calibration age ranges calculated by :-

P. Naysmith
Date :- 18-2-08

Checked and signed off by :-

Gordon Cook
Date :- 18-2-08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16878 (GU-16048)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2752
Sample Reference	Sample Ref 2096
Material	Cereal grain : Avena (oat)

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

Radiocarbon Age BP 575 ± 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

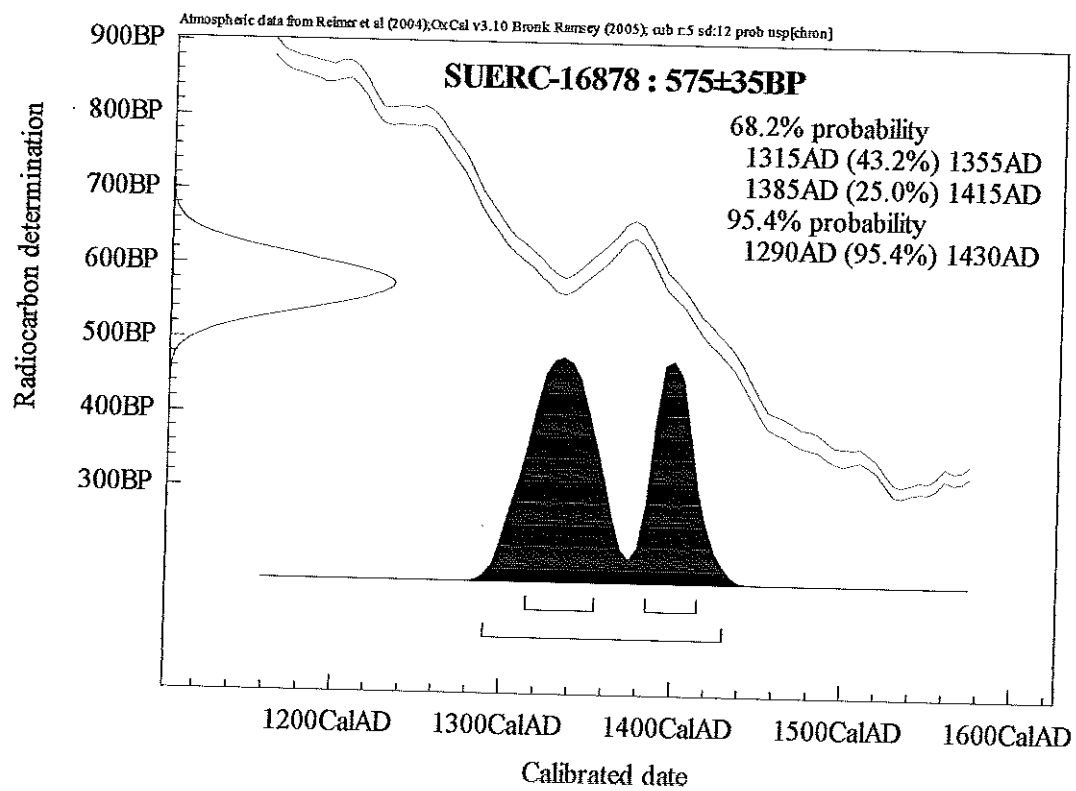
Conventional age and calibration age ranges calculated by :- P. Naysmith

Date :- 18.2.08

Checked and signed off by :- Gordon Cook

Date :- 18.2.08

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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16879 (GU-16049)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2674
Sample Reference	Sample Ref 2100
Material	Charcoal : <i>Corylus avellana</i> (Hazel)
$\delta^{13}\text{C}$ relative to VPDB	-26.2 ‰

Radiocarbon Age BP 3335 \pm 35

- N.B.**
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

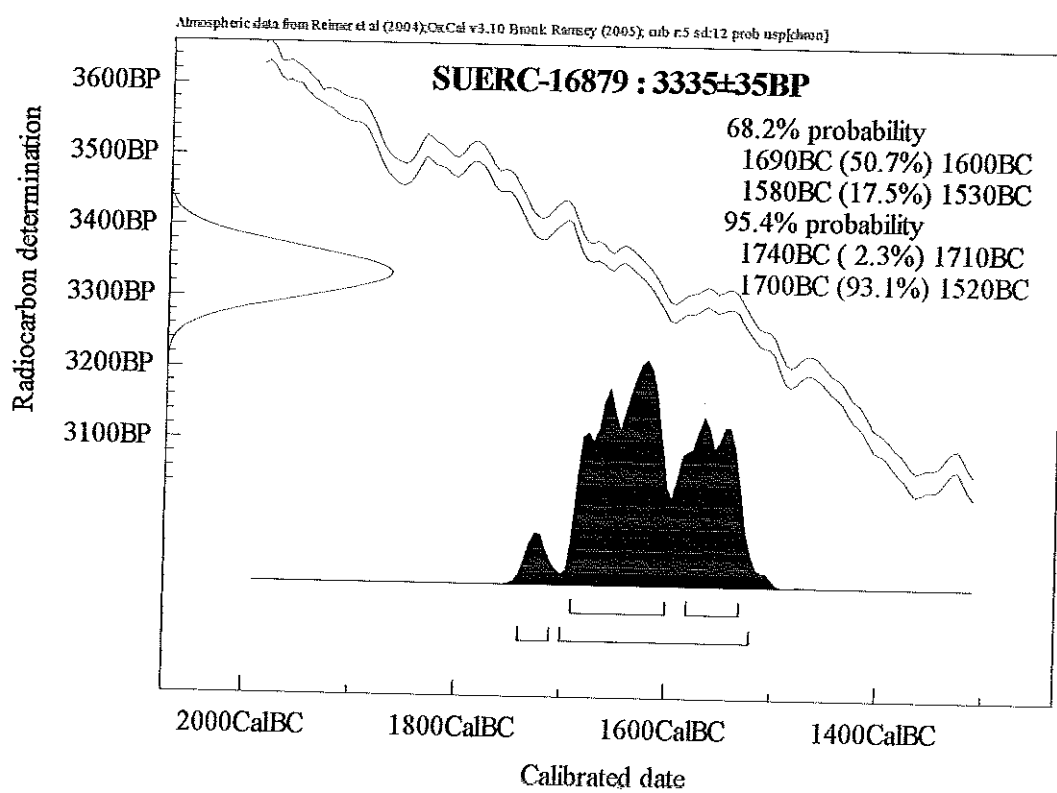
Date :- 18.2.08

Checked and signed off by :-

Gordon Cook

Date :- 18.2.08

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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16880 (GU-16050)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2792
Sample Reference	Sample Ref 2103
Material	Cereal grain : Hordeum vulgare var nudum (naked barley)

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

Radiocarbon Age BP 3140 \pm 35

- N.B.**
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

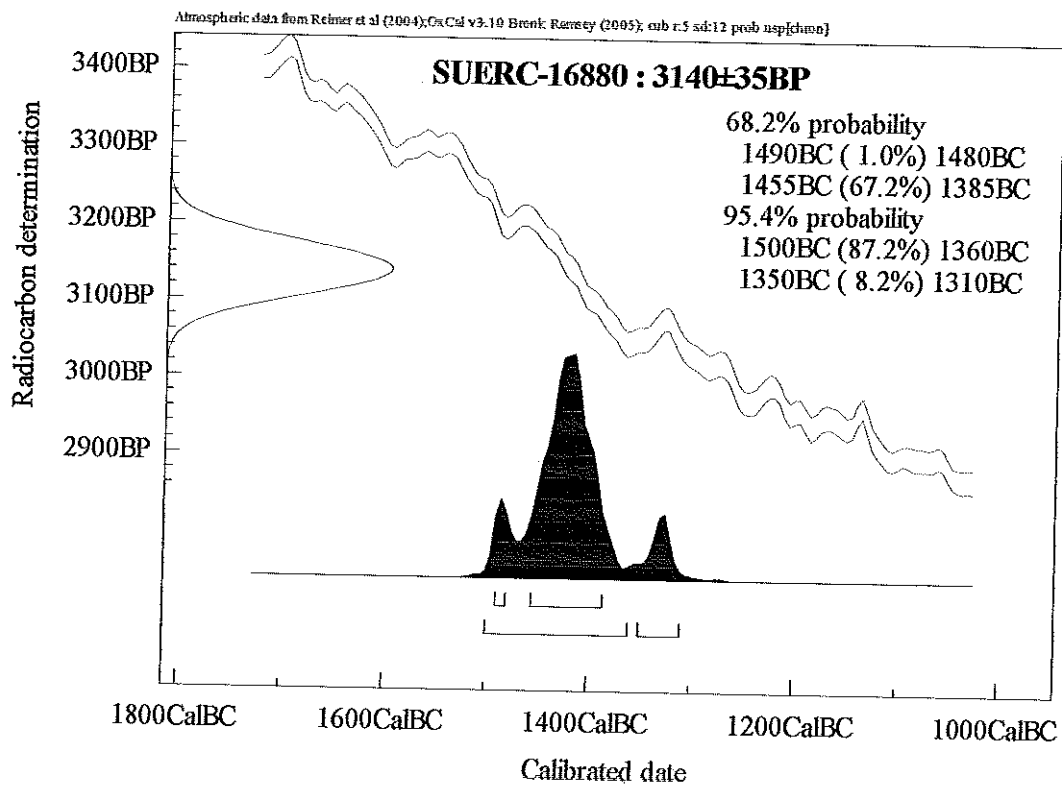
Date :- 18-2-08

Checked and signed off by :-

Gordon Cook

Date :- 18-2-08

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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16884 (GU-16051)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2950
Sample Reference	Sample Ref 2116
Material	Cereal grain : Hordeum vulgare var nudum (naked barley)
$\delta^{13}\text{C}$ relative to VPDB	-24.0 ‰
Radiocarbon Age BP	4485 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

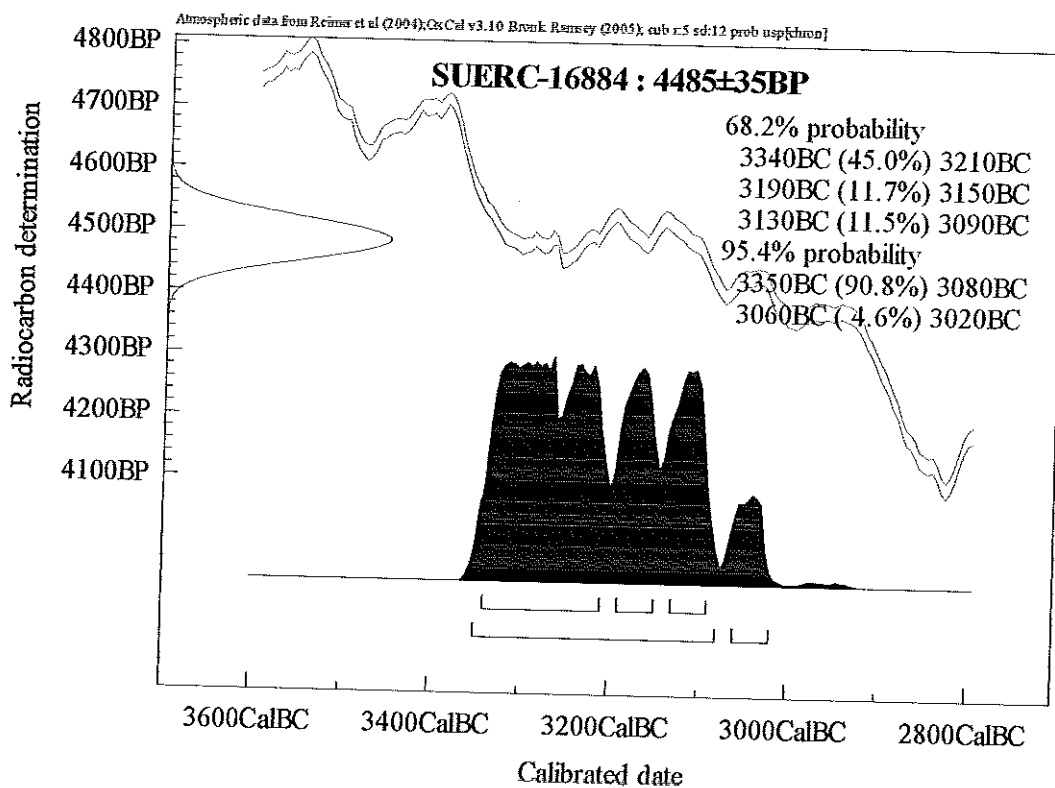
Date :- 18-2-08

Checked and signed off by :-

Gordon Cook

Date :- 18-2-08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16885 (GU-16052)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2991
Sample Reference	Sample Ref 2123
Material	Charcoal : Alnus (Alder)
$\delta^{13}\text{C}$ relative to VPDB	-27.5 ‰

Radiocarbon Age BP 3110 \pm 35

- N.B.**
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

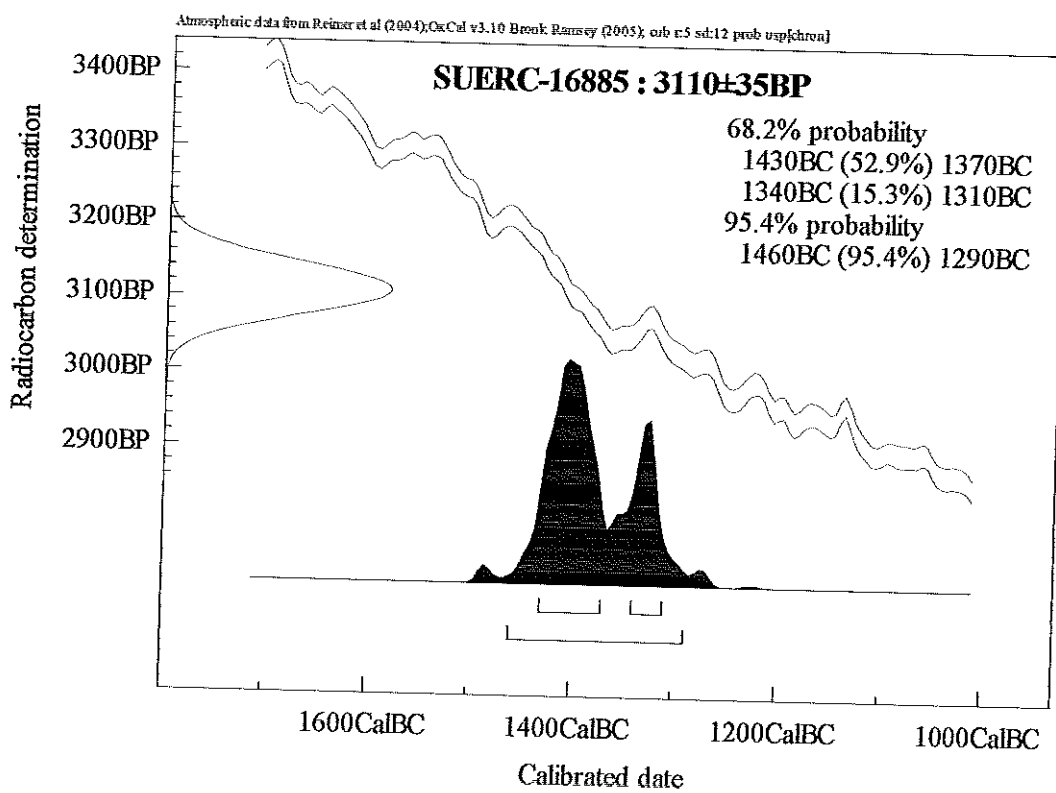
Conventional age and calibration age ranges calculated by :- *P. Naysmith* Date :- 18.2.08

Checked and signed off by :-

Gordon Cook

Date :- 18.2.08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16886 (GU-16053)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2672
Sample Reference	Sample Ref 2135
Material	Charcoal : Alnus (Alder)
$\delta^{13}\text{C}$ relative to VPDB	-26.2 ‰

Radiocarbon Age BP 3125 \pm 35

- N.B.**
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

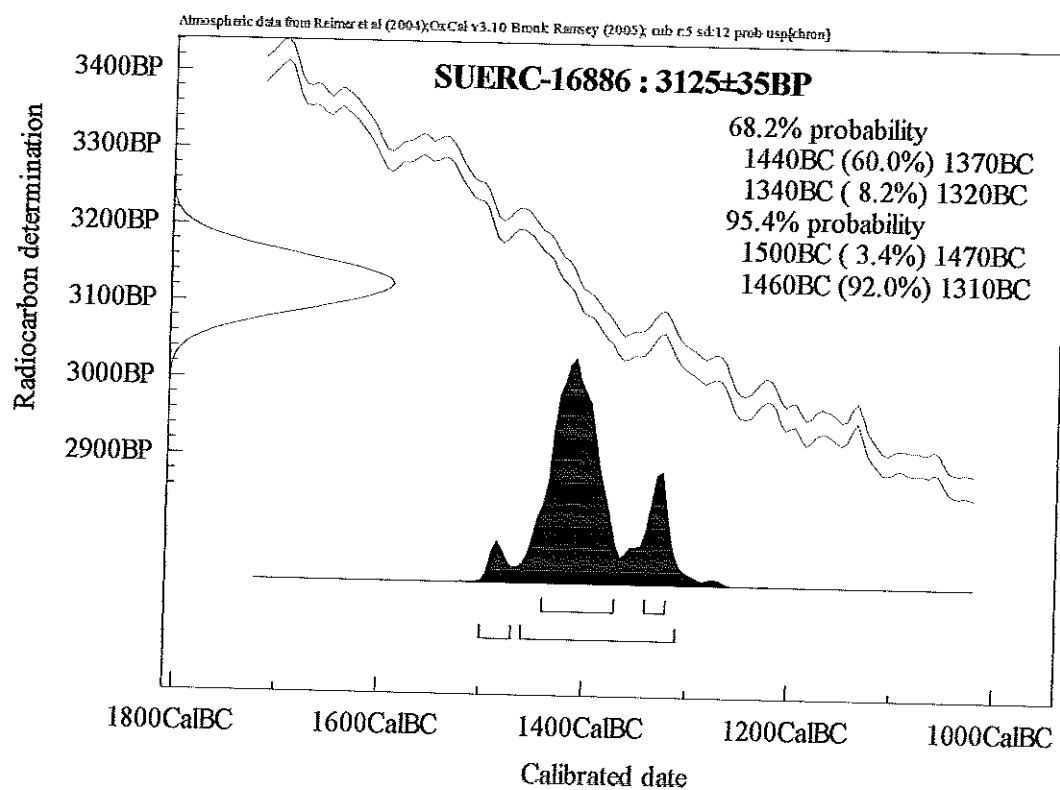
Date :- 18-2-08

Checked and signed off by :-

Gordon Cook

Date :- 18-2-08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16887 (GU-16054)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3043
Sample Reference	Sample Ref 2140
Material	Charcoal : <i>Corylus avellana</i> (Hazel)

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

Radiocarbon Age BP 3275 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :- *P. Naysmith*

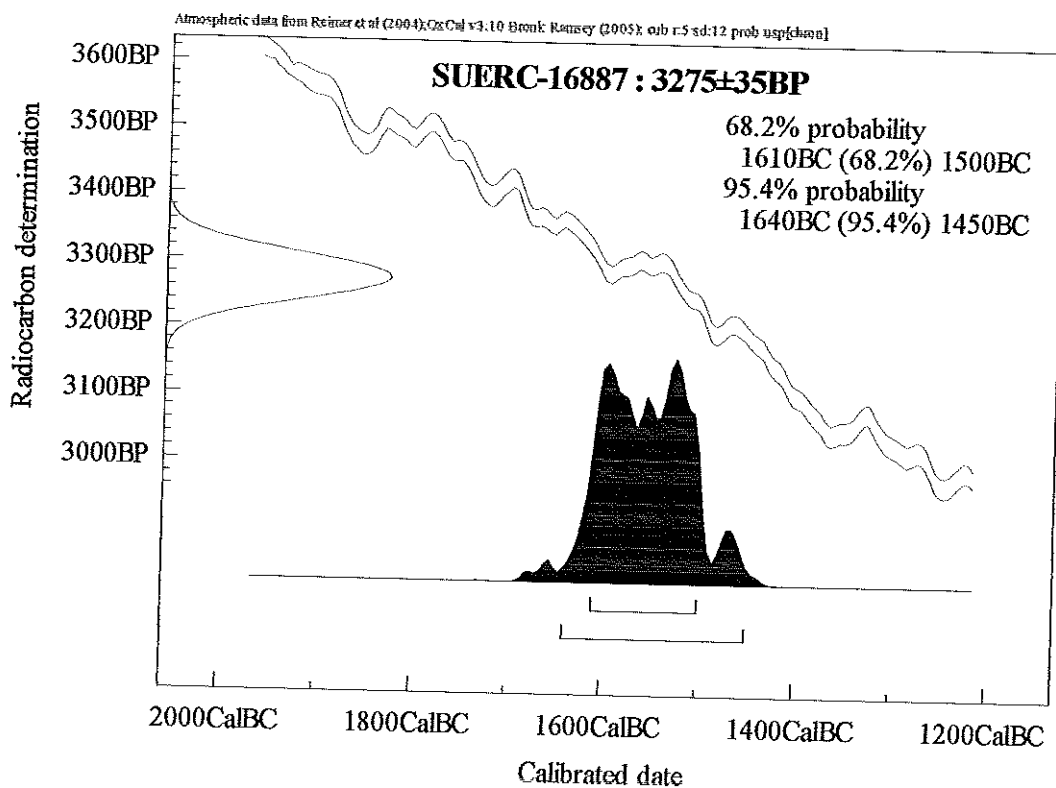
Date :- 18-2-08

Checked and signed off by :-

Gordon Cook

Date :- 18-2-08

Calibration Plot





Director: Professor A B Mackenzie

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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16888 (GU-16055)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2468
Sample Reference	Sample Ref 2166
Material	Cereal grain : Hordeum vulgare var nudum (naked barley)
$\delta^{13}\text{C}$ relative to VPDB	-23.1 ‰
Radiocarbon Age BP	4505 \pm 40

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

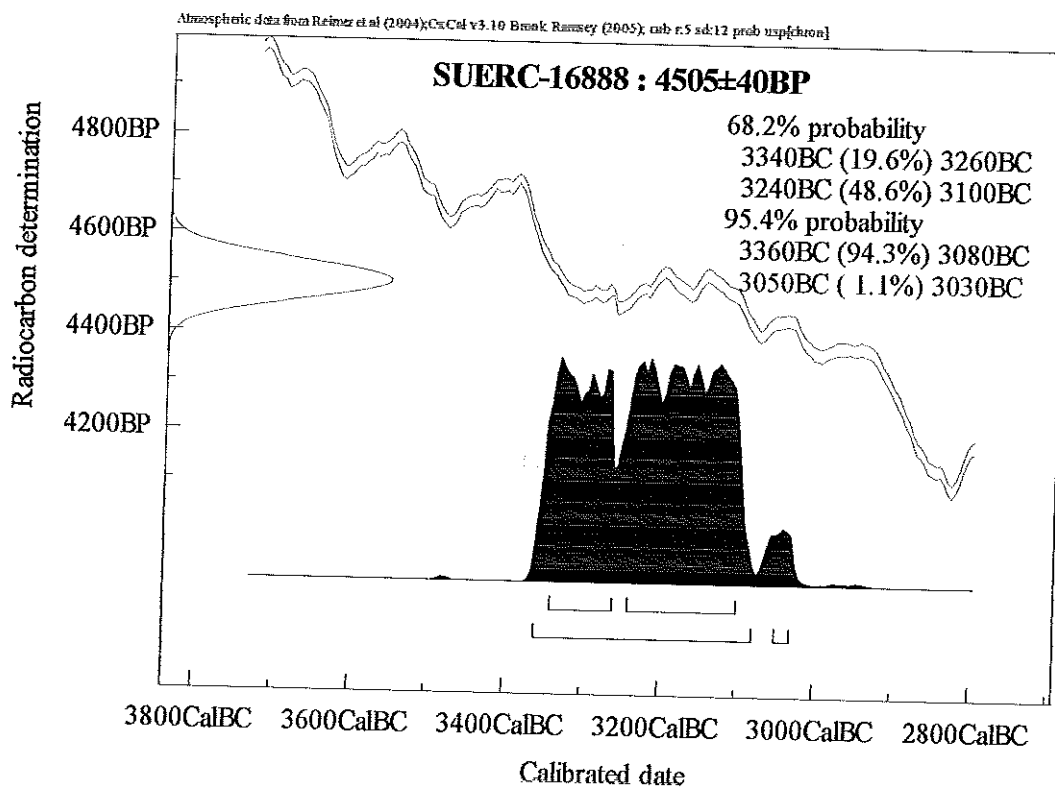
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Gordon Cook

Date :- 18.2.08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16889 (GU-16056)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2571
Sample Reference	Sample Ref 2171
Material	Charcoal : Alnus (Alder)

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

Radiocarbon Age BP 3245 ± 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

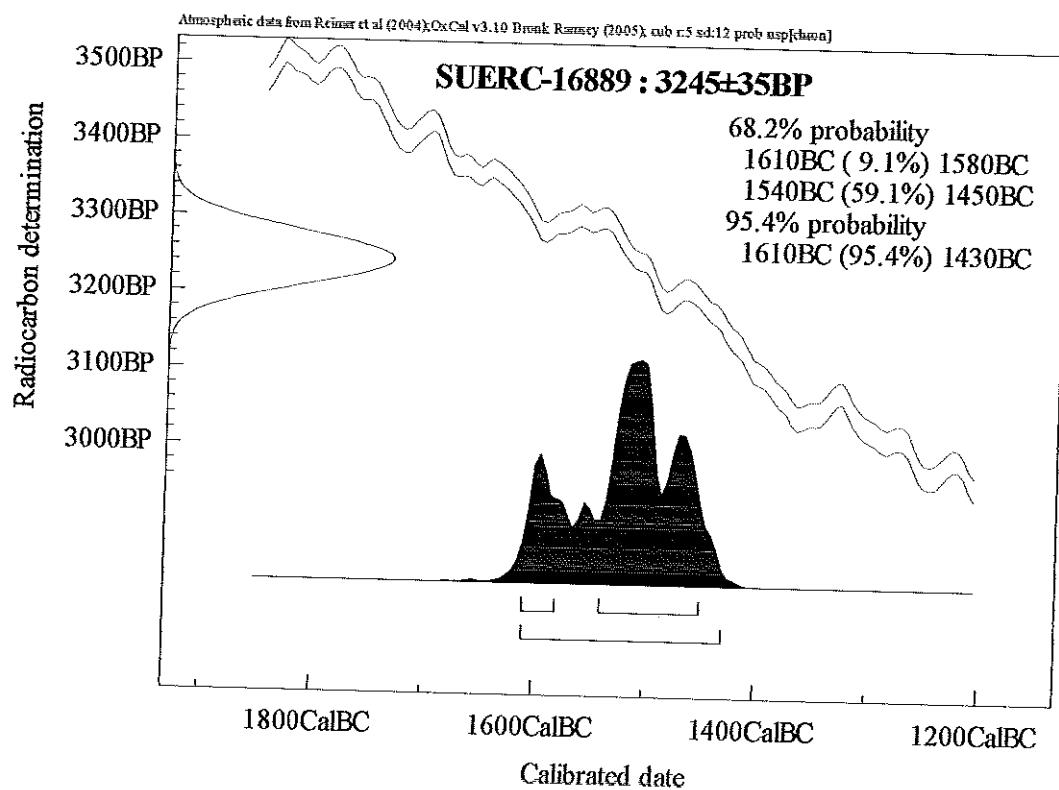
Conventional age and calibration age ranges calculated by :- P. Naysub

Date :- 18-2-08

Checked and signed off by :- Gordon Cook

Date :- 18-2-08

Calibration Plot





Director: Professor A B MacKenzie

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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code SUERC-16890 (GU-16057)

Submitter Sarah-Jane Haston
Headland Archaeology Ltd.
13 Jane Street
Edinburgh
EH6 5HE

Site Reference Upper Forth Crossing-Meadowend Farm
Context Reference 2309
Sample Reference Sample Ref 2175

Material Carbonised Nutshell : Corylus avellana (Hazel)

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

Radiocarbon Age BP 4520 \pm 40

- N.B.**
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

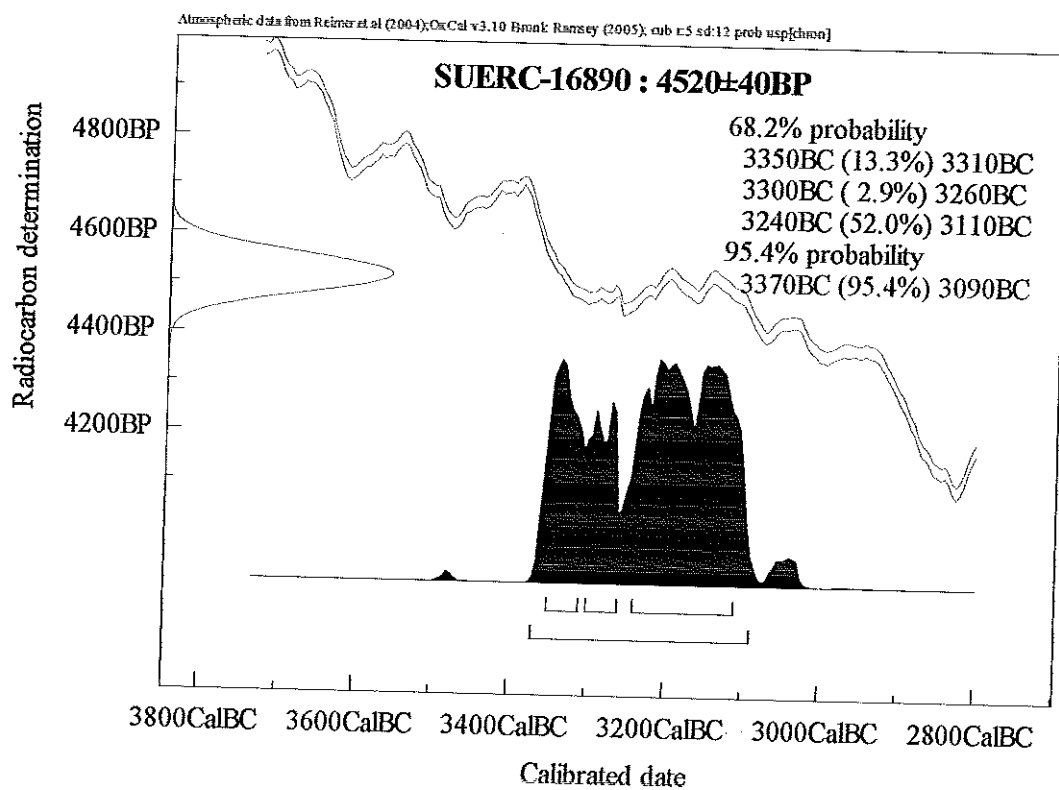
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Gordon Cook

Date :- 18.2.08

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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16894 (GU-16058)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	2623
Sample Reference	Sample Ref 2180
Material	Cereal grain : Hordeum vulgare var nudum (naked barley)
$\delta^{13}\text{C}$ relative to VPDB	-24.4 ‰
Radiocarbon Age BP	4450 \pm 40

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

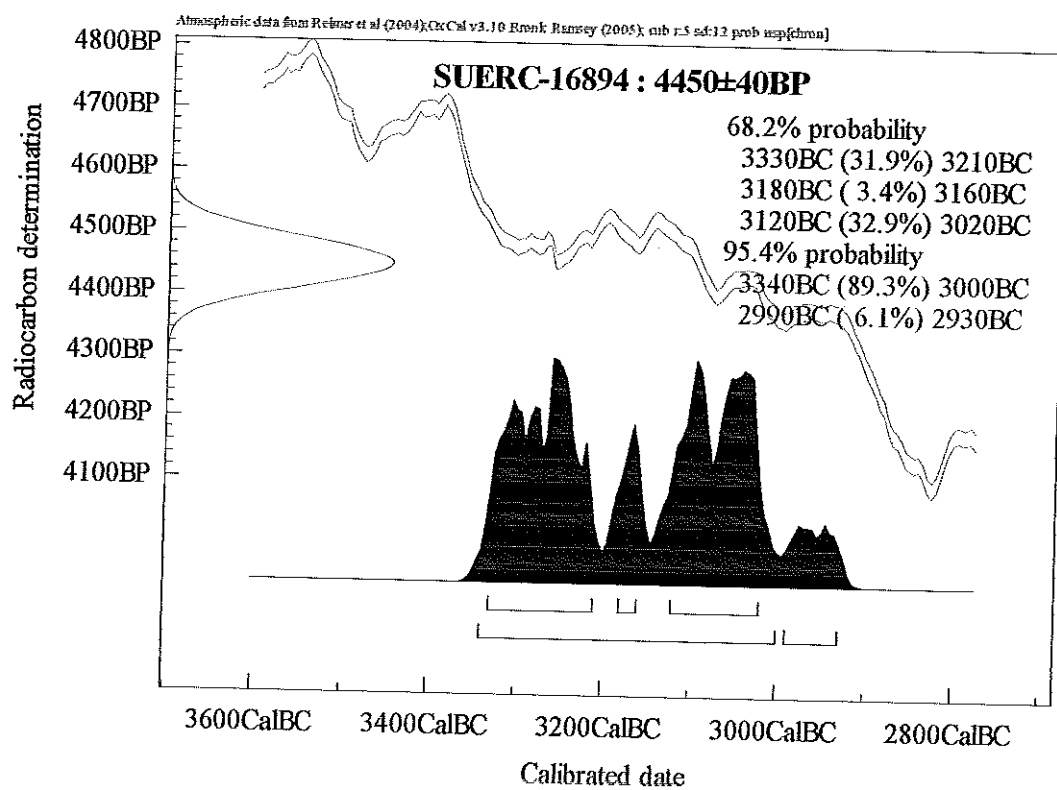
Date :- 18-2-08

Checked and signed off by :-

Gordon Cook

Date :- 18-2-08

Calibration Plot





Director: Professor A B MacKenzie

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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16895 (GU-16059)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3294
Sample Reference	Sample Ref 2193
Material	Charcoal : Alnus (Alder)
$\delta^{13}\text{C}$ relative to VPDB	-26.4 ‰
Radiocarbon Age BP	3600 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

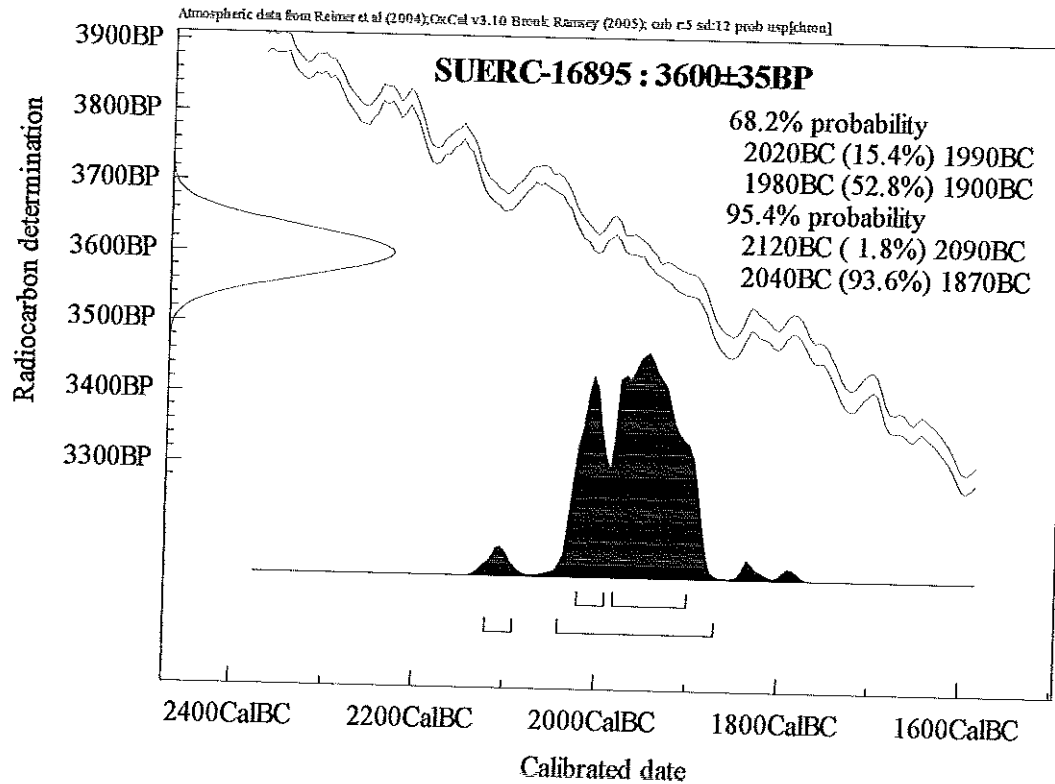
Date :- 18.2.08

Checked and signed off by :-

Gordon Cook

Date :- 18.2.08

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

18 February 2008

Laboratory Code	SUERC-16896 (GU-16060)
Submitter	Sarah-Jane Haston Headland Archaeology Ltd. 13 Jane Street Edinburgh EH6 5HE
Site Reference	Upper Forth Crossing-Meadowend Farm
Context Reference	3418
Sample Reference	Sample Ref 2224
Material	Charcoal : Alnus (Alder)
$\delta^{13}\text{C}$ relative to VPDB	-25.5 ‰
Radiocarbon Age BP	5025 \pm 35

- N.B.
1. 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.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. 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.

Conventional age and calibration age ranges calculated by :-

P. Naysmith

Date :- 18-2-08

Checked and signed off by :-

Gordon Cook

Date :- 18.2.08

Calibration Plot

