

Meta-Data

*Title:	<i>Supplementary Data for Khayarmara Paleoearthquake Study, Eastern Nepal</i>
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*CATEGORY:	<i>Earth and Planetary Sciences: Geology and Geophysics</i>

Supplementary Data for Khayarmara Paleoearthquake Study, Eastern Nepal

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Abstract

The data here includes photos of the trenches, alternative Oxcal radiocarbon models, and a complete analytical report of the Radiocarbon data cited in the analysis of Wesnousky et al. (2018).

Value of the Data

- Provide a basis to examine the observations and analyses of Wesnousky et al. (2018) in greater rigor.
- Serve as further support for statements and conclusions put forth in Wesnousky et al. (2018).
- Provide documentation of radiocarbon data used in Wesnousky et al. (2018).

Data

Specifically included are a sequence of four figures and 1 data table.

Figure S1. Photos of west wall of Khayarmara trench.

Figure S2. Photos of east wall of Khayarmara trench

Figure S3. Corrected and modeled Radiocarbon ages and event horizon for Khayarmara after removal of low-yield (LY) samples.

Figure S4. Radiocarbon data and discussion of uncertainties and Oxcal model at Hokse site.

Table S1. Radiocarbon Analytical Report from University of Arizona AMS lab.

Acknowledgements: Data collections supported by of NSF Grant EAR 1345036

References: Wesnousky, S. G., Kumahara, Y., Chamlagain, D., and P. C. Neupane (2018, in press) Large Himalayan Frontal Thrust Paleoearthquake at Khyarmara in Eastern Nepal, *Journal of Asian Earth Sciences*.



Figures S1 . Photos of west wall of Khayarmara trench.

Grid is 1m x 1m.

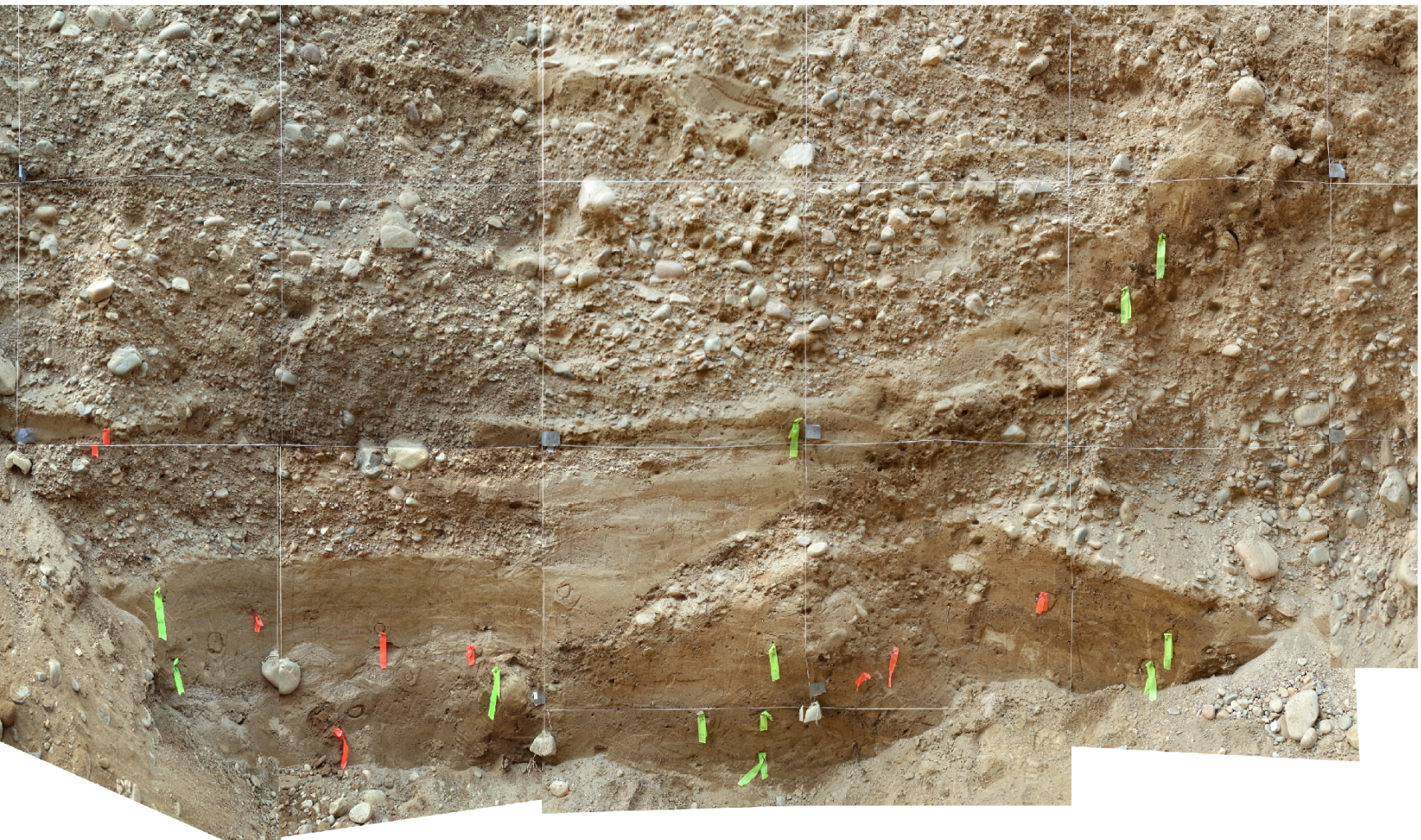


Figure S1
(cont.)
Enlargement
of lower
portion of
preceding
photo of
entire
western
trench wall.
Flags mark
locations of
detrital
charcoal
considered
for
radiocarbon
dating. Many
were judged
in field and
later lab
preparation
to be too
small for
AMS
analysis or
insufficient
to withstand
sample
preparation.
Samples



Figure S2. Photo of east wall of Khayarmara trench exposure. Grid is 1 m x 1 m. See Figure S1 caption for explanation of colored flags. Enlargements of lower portion of photo shown in following two images.

Figure S2 (cont.): Enlargement of lower portion of preceding image.

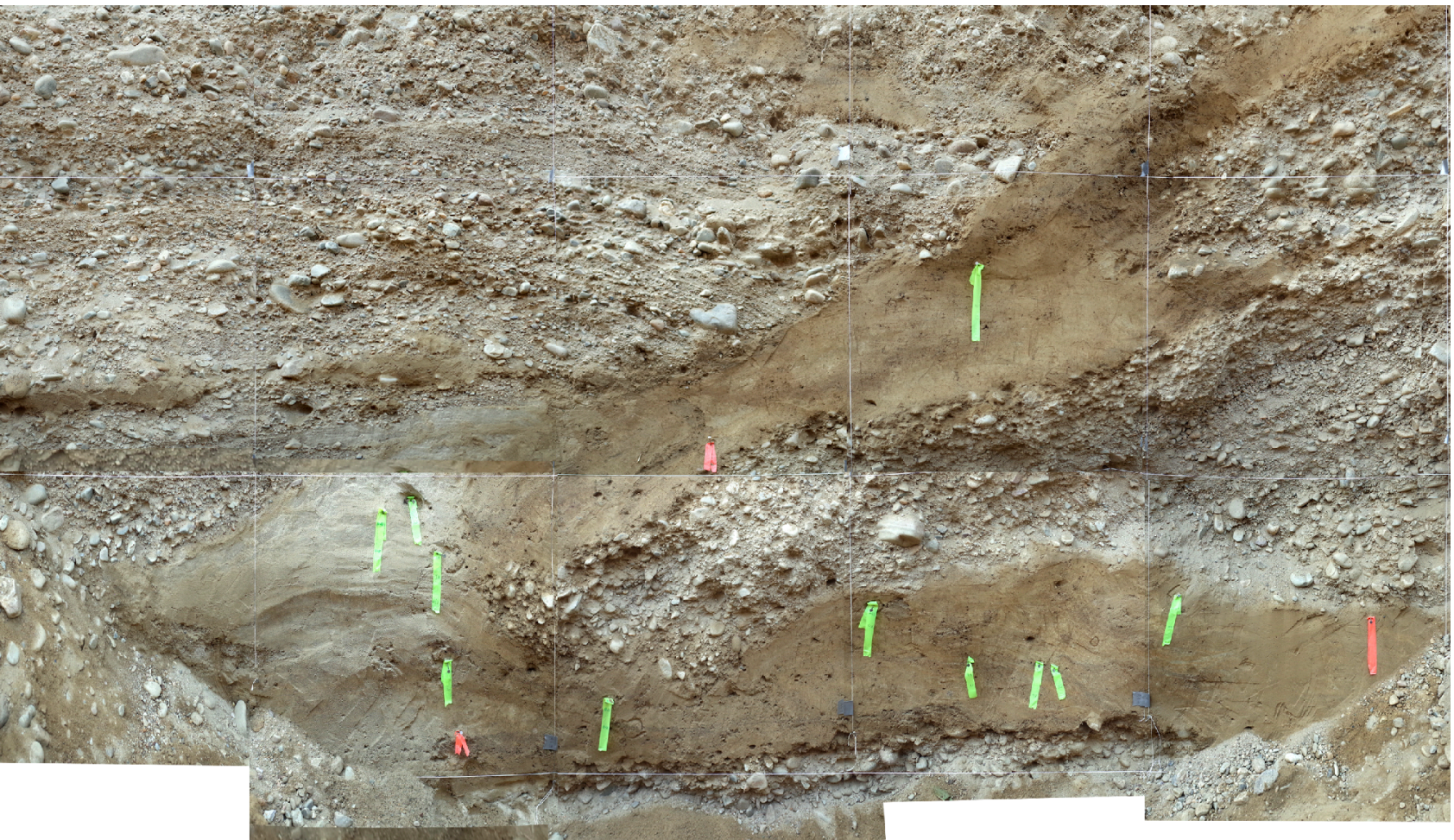


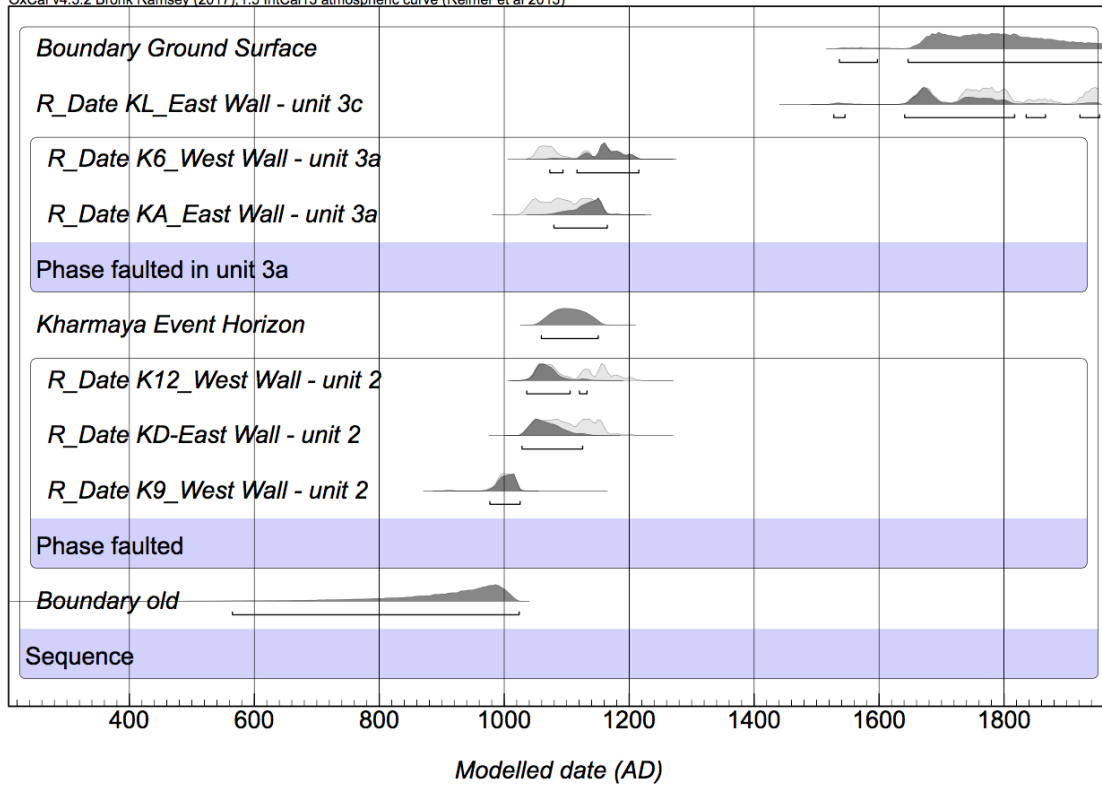


Figure S2 (cont.) Enlargement of lower portion of preceding image.

Figures S3. Corrected and modeled Radiocarbon ages and event horizon for Khayarmara after removal of low-yield (LY) samples.

Name	Unmodelled (BC/AD)			Modelled (BC/AD)			Indices				Select	Page break		
	from	to	%	from	to	%	A _{comb}	A	L	P			C	
Boundary Ground Surface				1536	2259	95.4						96.1	<input checked="" type="checkbox"/> 13	<input type="checkbox"/>
R_Date KL_East Wall - unit 3c	1646	...	95.3	1527	1953	95.4		96.7				99.2	<input checked="" type="checkbox"/> 12	<input type="checkbox"/>
	Warning! Date may extend out of range - 185+/-40BP Warning! Date probably out of range - 185+/-40BP													
R_Date K6_West Wall - unit 3a	1044	1210	95.4	1073	1215	95.4		92.6				99.8	<input checked="" type="checkbox"/> 11	<input type="checkbox"/>
R_Date KA_East Wall - unit 3a	1036	1157	95.4	1079	1165	95.4		99.5				99.8	<input checked="" type="checkbox"/> 10	<input type="checkbox"/>
▲ Phase faulted in unit 3a													<input checked="" type="checkbox"/> 9	<input type="checkbox"/>
Kharmaya Event Horizon				1059	1150	95.4						99.9	<input checked="" type="checkbox"/> 8	<input type="checkbox"/>
R_Date K12_West Wall - unit 2	1041	1205	95.4	1036	1132	95.4		114.2				99.9	<input checked="" type="checkbox"/> 7	<input type="checkbox"/>
R_Date KD-East Wall - unit 2	1032	1164	95.4	1028	1125	95.4		102.8				99.8	<input checked="" type="checkbox"/> 6	<input type="checkbox"/>
R_Date K9_West Wall - unit 2	973	1025	95.4	977	1025	95.4		101.1				99.6	<input checked="" type="checkbox"/> 5	<input type="checkbox"/>
▲ Phase faulted													<input checked="" type="checkbox"/> 4	<input type="checkbox"/>
Boundary old				565	1024	95.4						97.2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/>
▲ Sequence													<input checked="" type="checkbox"/> 2	<input type="checkbox"/>

OxCal v4.3.2 Bronk Ramsey (2017); r:5 IntCal13 atmospheric curve (Reimer et al 2013)



Figures S4. Radiocarbon data, trench logs and Oxcal models for Hokse site.

The trench logs and sample locations of the Hokse Site . Upper log is log of west wall of trench as presented in Upreti et al. (2000 and 2007). Lower east wall log provided by Kumahara-san on June 6, 2016.

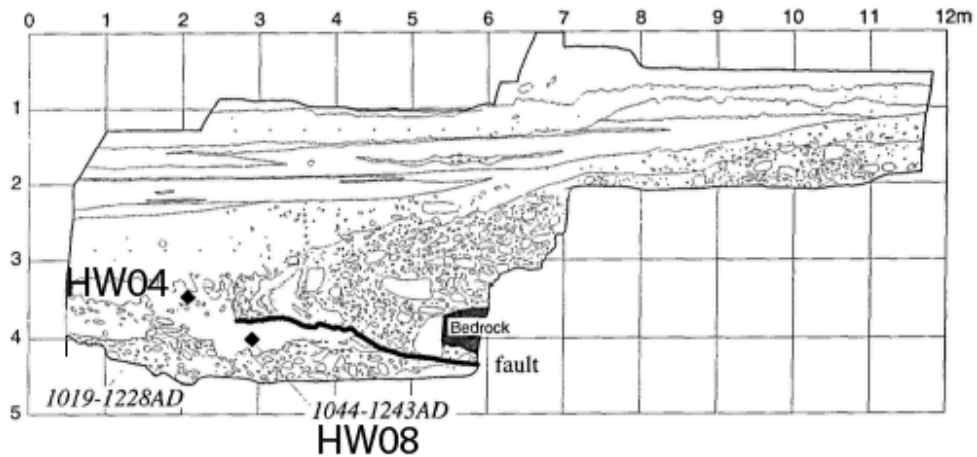
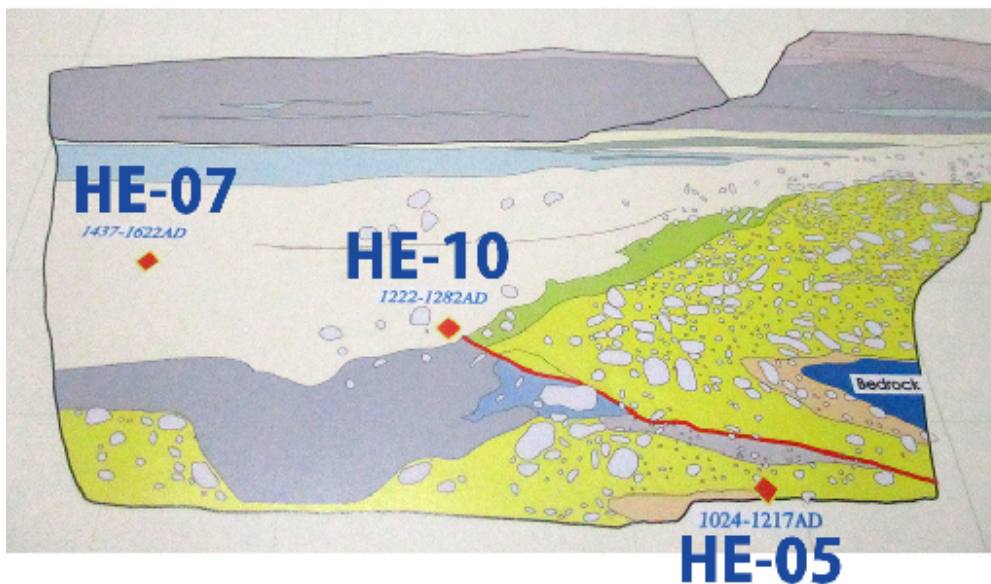


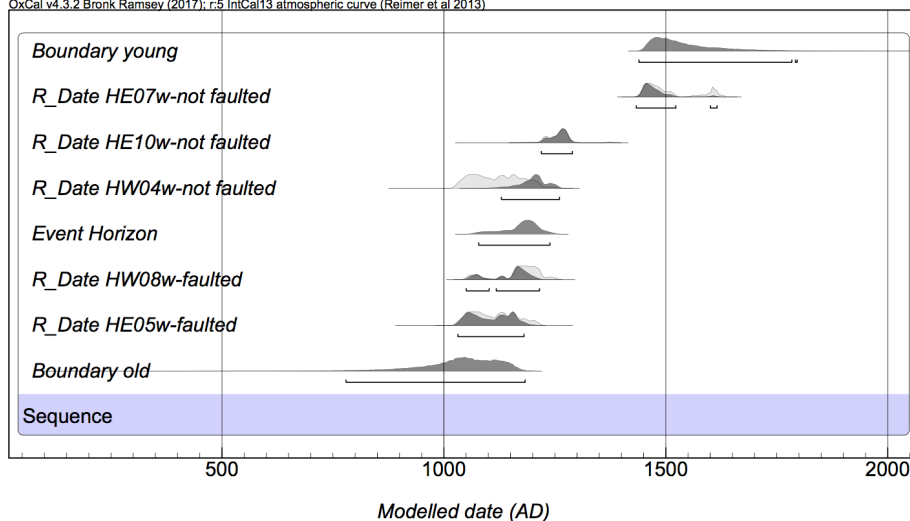
Figure 4. Log of west-wall at the Hokse Trench across the HFT. Folded sand and gravel beds overriding late Holocene overbank deposits along a low-angle fault surface.



The Oxcal model presented for this site in the main text of the paper is for the stratigraphic sequence of ages as presented in Upreti et al. (2007). The analysis results in a displacement horizon at between 1146 AD and 1282 AD (Figure 9 of main text). The analysis is critically dependent on the interpretation that sample HW04 is unfaulted. Examination of the log shows the sample is located very close to the fault and nose of the dip panel. As presented, it may be reasonably be questioned that the sample is actually in faulted deposit or derived from erosion of the faulted dip panel material. The results of applying Oxcal with the assumption that HW04 is in a faulted deposit or derived from the faulted deposit are shown below and yield a broader window for the displacement horizon between 1078 and 1239 AD. It may also be noted that the reported ages are an average of two runs of the respective samples and that the age of the sample HE04 falls within 900 to 950 AD, within the portion of the atmospheric curve that is flat and exhibits changes in slope (Figure 7 of main text).

Name	Unmodelled (BC/AD)			Modelled (BC/AD)			Indices			Select	Page break				
	from	to	%	from	to	%	$A_{model}=80.3$	$A_{overall}=86.5$	A_{comb}			A	L	P	C
Show all															
Show structure															
Boundary young				1439	1796	95.4							97.6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
R_Date HE07w-not faulted	1439	1628	95.4	1433	1615	95.4			115.6				99.8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
R_Date HE10w-not faulted	1216	1291	95.4	1219	1289	95.4			103.1				99.7	<input checked="" type="checkbox"/>	<input type="checkbox"/>
R_Date HW04w-not faulted	1030	1215	95.4	1129	1260	95.4			63				99.8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Event Horizon				1078	1239	95.4							99.8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
R_Date HW08w-faulted	1047	1255	95.4	1050	1215	95.4			91.3				99.6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
R_Date HE05w-faulted	1032	1206	95.4	1031	1180	95.4			105.3				99.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Boundary old				779	1183	95.4							97.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▲ Sequence												<input checked="" type="checkbox"/>	<input type="checkbox"/>		

OxCal v4.3.2 Bronk Ramsey (2017); r5 IntCal13 atmospheric curve (Reimer et al 2013)





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RADIOCARBON ANALYTICAL REPORT

Wesnousky, S. (AA111179 - AA111192 and
AA111380 - AA111381)

Order #2089

Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Summary Page

The following analytical report contains ^{14}C analysis from the University of Arizona. This report contains:

1. Summary page, includes data qualifiers and non-conformances (page 1)
2. Data summary (page 2)
3. Individual sample reports (pages 3-18)

Data Qualifiers: Fraction Modern Carbon and Radiocarbon Age were calculated as weighted averages of combined machine runs to reduce overall error. A small sample correction is applied to samples with a carbon mass less than 0.50 mg.

Non-Conformances: Two samples did not yield results. AA111179 dissolved during the 2nd NaOH rinse of pretreatment. AA111188 was too small to process. Two other samples are included in this suite as replacements (AA111380 and AA111381).

Report generated by: Richard Cruz

Report Generation Date: 6/4/2018

Reviewer: Greg Hodgins

Date: 6/4/2018

Signature:

Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Summary

AA	lab #	sample ID	MATERIAL	MASS (mg)	d13C value	Fraction Modern	14C age BP
AA111179	X32865	K2	charcoal	x	x	Dissolved	in base
AA111180	X32866	K3	charcoal	1.68	-24.5	0.8876 +- 0.0023	958 +- 21
AA111181	X32867	K5	charcoal	1.38	-24.5	0.8923 +- 0.0022	916 +- 19
AA111182	X32868	K6	charcoal	2.05	-27.2	0.8946 +- 0.0023	895 +- 21
AA111183	X32869	K7	charcoal	0.34	-25.6	0.8962 +- 0.0034	880 +- 31
AA111184	X32870	K10	charcoal	0.49	-27.6	0.8858 +- 0.0046	974 +- 41
AA111185	X32871	K12	charcoal	1.45	-25.8	0.8938 +- 0.0022	902 +- 20
AA111186	X32872	KA	charcoal	1.78	-26.9	0.8908 +- 0.0022	929 +- 20
AA111187	X32873	KD	charcoal	1.28	-25.4	0.8916 +- 0.0026	922 +- 24
AA111188	X32874	KJ	charcoal	x	x	Too small to	process
AA111189	X32875	P1	charcoal	1.69	-27.3	0.8512 +- 0.0021	1294 +- 20
AA111190	X32876	P3	charcoal	0.22	-26.0	0.897 +- 0.006	873 +- 54
AA111191	X32877	KL	charcoal	1.73	-25.9	0.9277 +- 0.0023	603 +- 20
AA111192	X32878	KK	charcoal	0.60	-23.8	0.9056 +- 0.0023	796 +- 21
AA111380	X33068R	KB	charcoal	0.59	-25.8	0.8901 +- 0.0022	935 +- 20
AA111381	X33069R	K9	charcoal	1.46	-26.3	0.8785 +- 0.0023	1041 +- 21

Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (1 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S. <u>User ID</u> : K2 <u>Expected age</u> : 1000 AD <u>Sample origin</u> : Nepal	<u>AA-number</u> : AA111179 <u>Laboratory number</u> : X32865 <u>Sample type</u> : charcoal <u>Pretreatment</u> : ABA <u>Carbon yield</u> : NA <u>Carbon mass</u> : NA

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\text{‰}$, 1σ):	NA
Fraction of modern carbon ($\pm 1\sigma$):	NA
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	NA
Calibration Program / Dataset:	NA
Calendar Age Range (68%):	NA
Calendar Age Range (95%):	NA

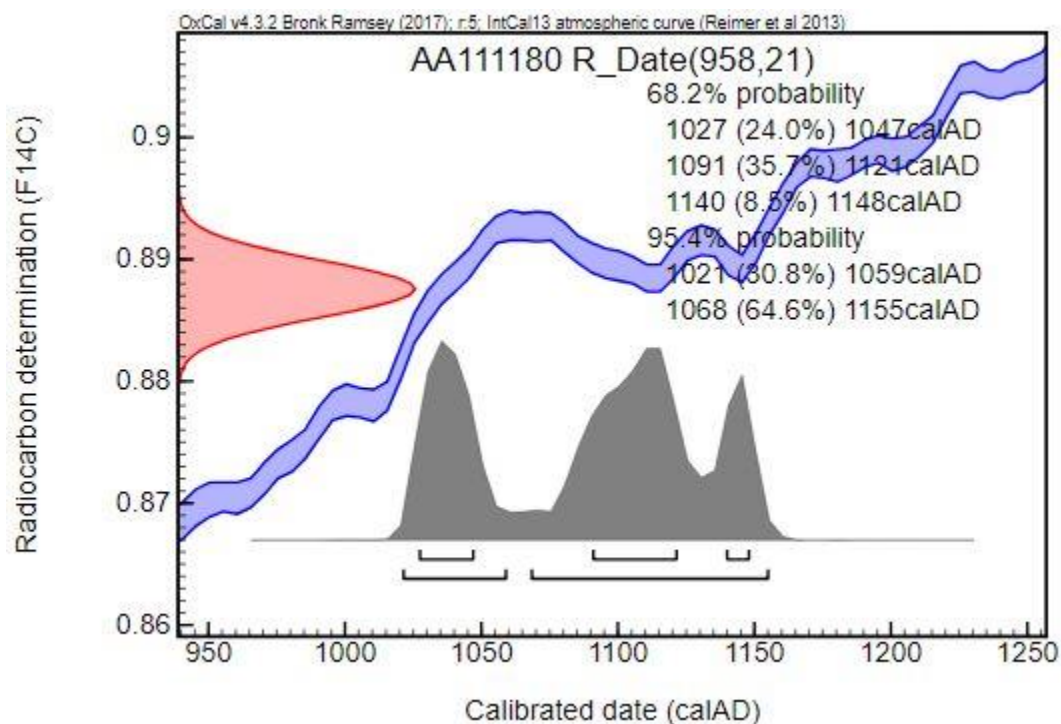
“Sample dissolved in pretreatment during 2nd NaOH rinse”

Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (2 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111180
<u>User ID</u> : K3	<u>Laboratory number</u> : X32866
<u>Expected age</u> : 1000 AD	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Nepal	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 70%
	<u>Carbon mass</u> : 1.68 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\%$, 1σ):	-24.5 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.8876 \pm 0.0023
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	958 \pm 21 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	1027 calAD to 1148 calAD
Calendar Age Range (95%):	1021 calAD to 1155 calAD

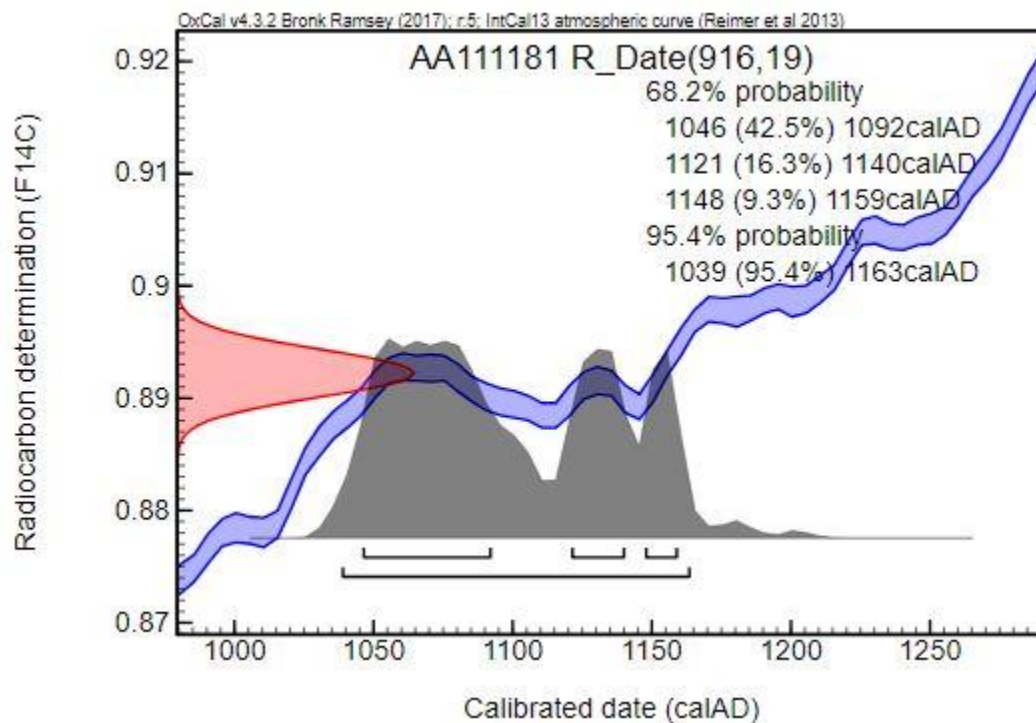


Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (3 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111181
<u>User ID</u> : K5	<u>Laboratory number</u> : X32867
<u>Expected age</u> : 1000 AD	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Nepal	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 59%
	<u>Carbon mass</u> : 1.38 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\%$, 1σ):	-24.5 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.8923 \pm 0.0022
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	916 \pm 19 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	1046 calAD to 1159 calAD
Calendar Age Range (95%):	1039 calAD to 1163 calAD

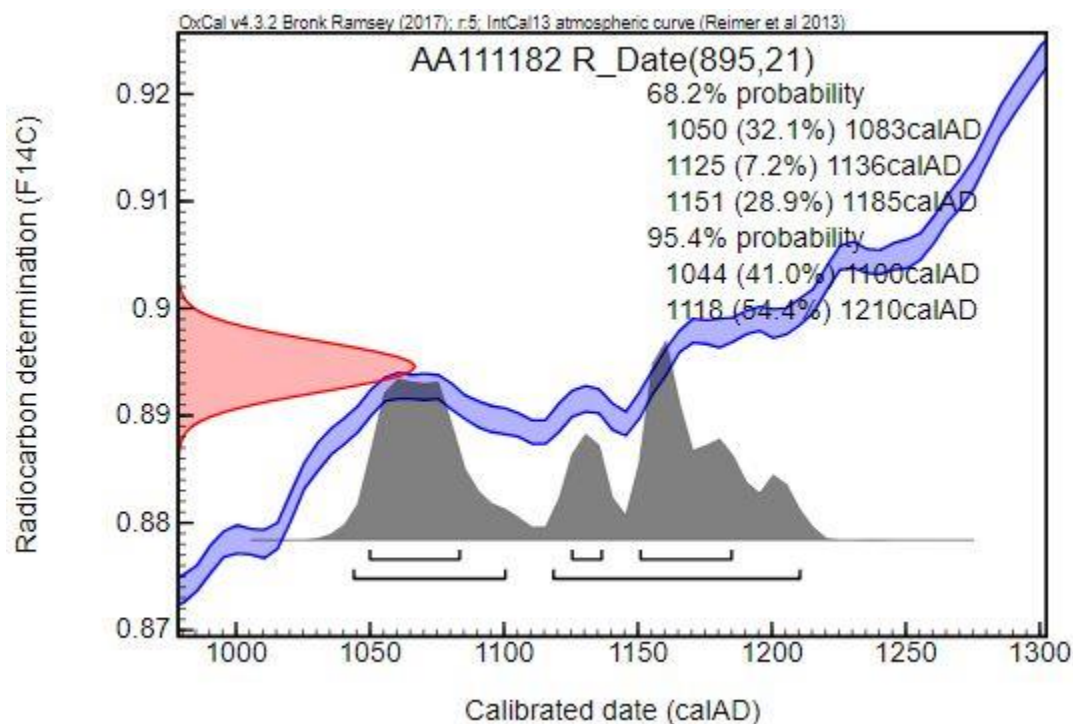


Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (4 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111182
<u>User ID</u> : K6	<u>Laboratory number</u> : X32868
<u>Expected age</u> : 1000 AD	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Nepal	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 66%
	<u>Carbon mass</u> : 2.05 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\%$, 1σ):	-27.2 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.8946 \pm 0.0023
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	895 \pm 21 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	1050 calAD to 1185 calAD
Calendar Age Range (95%):	1044 calAD to 1210 calAD

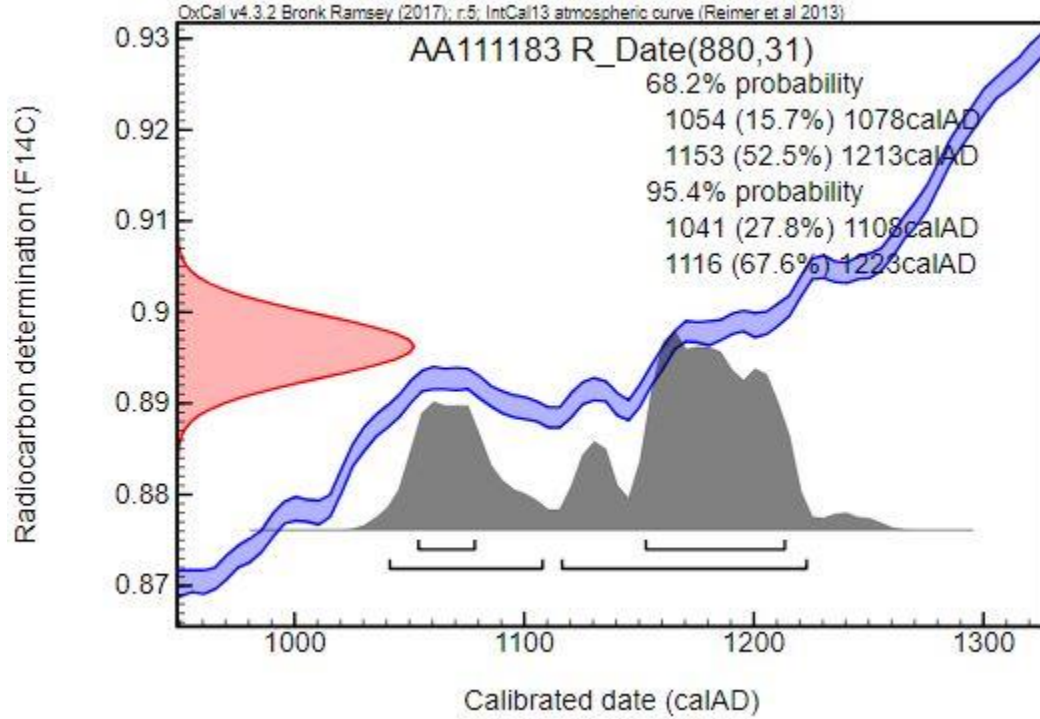


Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (5 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111183
<u>User ID</u> : K7	<u>Laboratory number</u> : X32869
<u>Expected age</u> : 1000 AD	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Nepal	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 28%
	<u>Carbon mass</u> : 0.34 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\%$, 1σ):	-25.6 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.8962 \pm 0.0034
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	880 \pm 31 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	1054 calAD to 1213 calAD
Calendar Age Range (95%):	1041 calAD to 1223 calAD

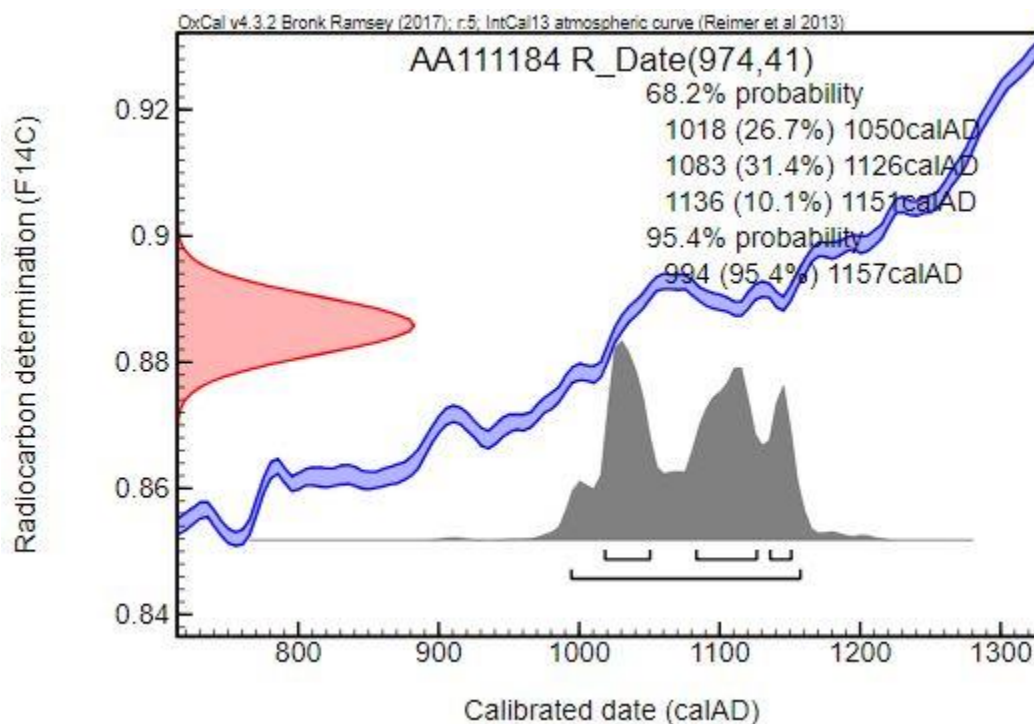


Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (6 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111184
<u>User ID</u> : K10	<u>Laboratory number</u> : X32870
<u>Expected age</u> : 1000 AD	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Nepal	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 22%
	<u>Carbon mass</u> : 0.49 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\text{‰}$, 1σ):	-27.6 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.8858 \pm 0.0046
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	974 \pm 41 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	1018 calAD to 1151 calAD
Calendar Age Range (95%):	994 calAD to 1157 calAD

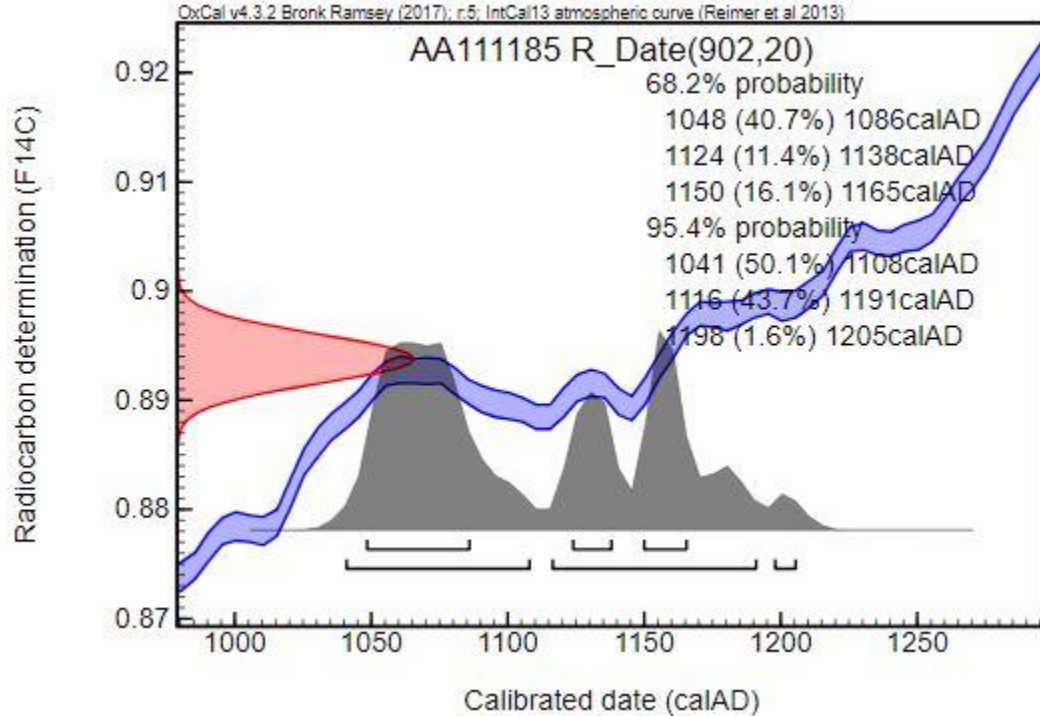


Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (7 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111185
<u>User ID</u> : K12	<u>Laboratory number</u> : X32871
<u>Expected age</u> : 1000 AD	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Nepal	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 59%
	<u>Carbon mass</u> : 1.45 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\%$, 1σ):	-25.8 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.8938 \pm 0.0022
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	902 \pm 20 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	1048 calAD to 1165 calAD
Calendar Age Range (95%):	1041 calAD to 1205 calAD

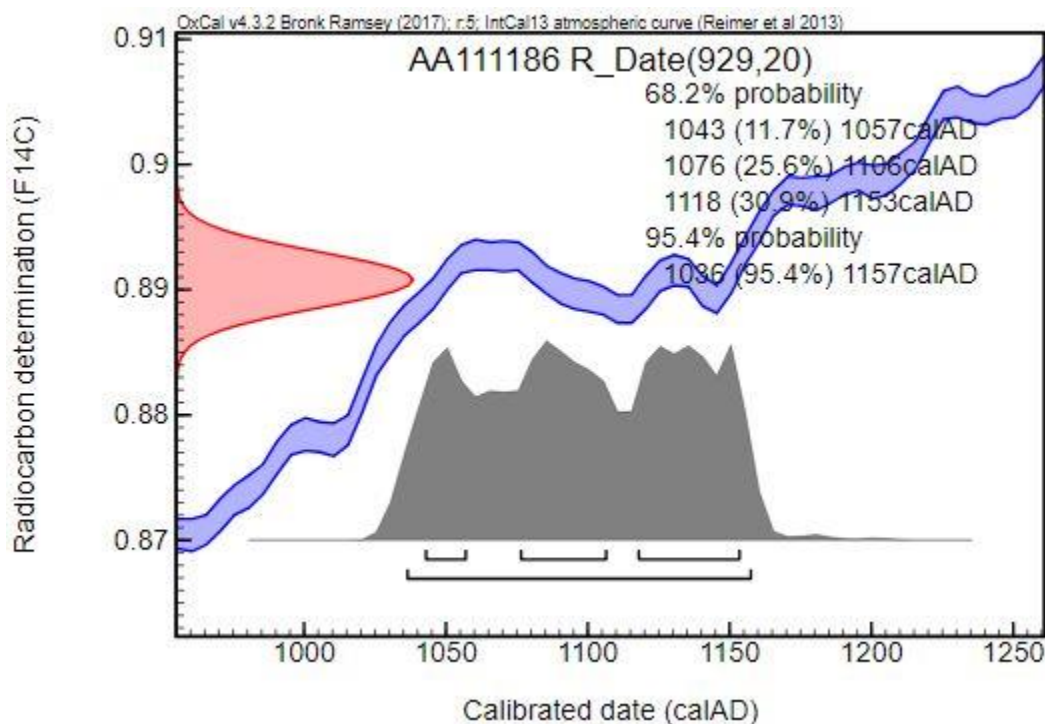


Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (8 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111186
<u>User ID</u> : KA	<u>Laboratory number</u> : X32872
<u>Expected age</u> : 1000 AD	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Nepal	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 73%
	<u>Carbon mass</u> : 1.78 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\%$, 1σ):	-26.9 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.8908 \pm 0.0022
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	929 \pm 20 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	1043 calAD to 1153 calAD
Calendar Age Range (95%):	1036 calAD to 1157 calAD

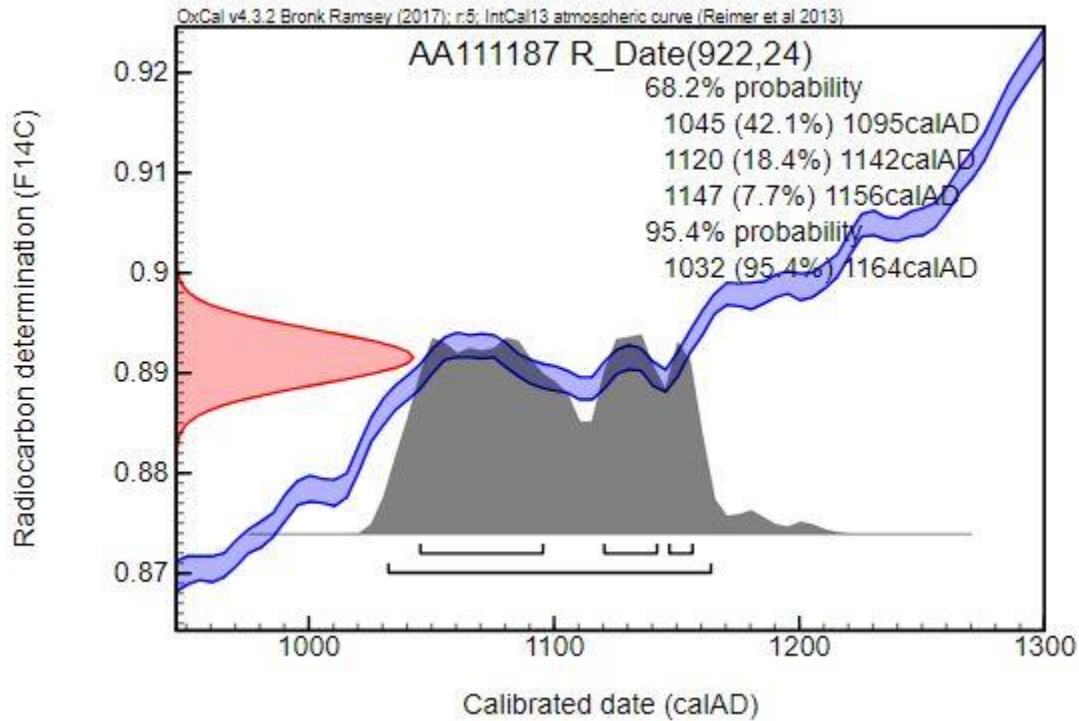


Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (9 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111187
<u>User ID</u> : KD	<u>Laboratory number</u> : X32873
<u>Expected age</u> : 1000 AD	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Nepal	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 64%
	<u>Carbon mass</u> : 1.28 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\%$, 1σ):	-25.4 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.8916 \pm 0.0026
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	922 \pm 24 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	1045 calAD to 1156 calAD
Calendar Age Range (95%):	1032 calAD to 1164 calAD



Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (10 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S. <u>User ID</u> : KJ <u>Expected age</u> : 1000 AD <u>Sample origin</u> : Nepal	<u>AA-number</u> : AA111188 <u>Laboratory number</u> : X32874 <u>Sample type</u> : charcoal <u>Pretreatment</u> : ABA <u>Carbon yield</u> : NA <u>Carbon mass</u> : NA

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\text{‰}$, 1σ):	NA
Fraction of modern carbon ($\pm 1\sigma$):	NA
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	NA
Calibration Program / Dataset:	NA
Calendar Age Range (68%):	NA
Calendar Age Range (95%):	NA

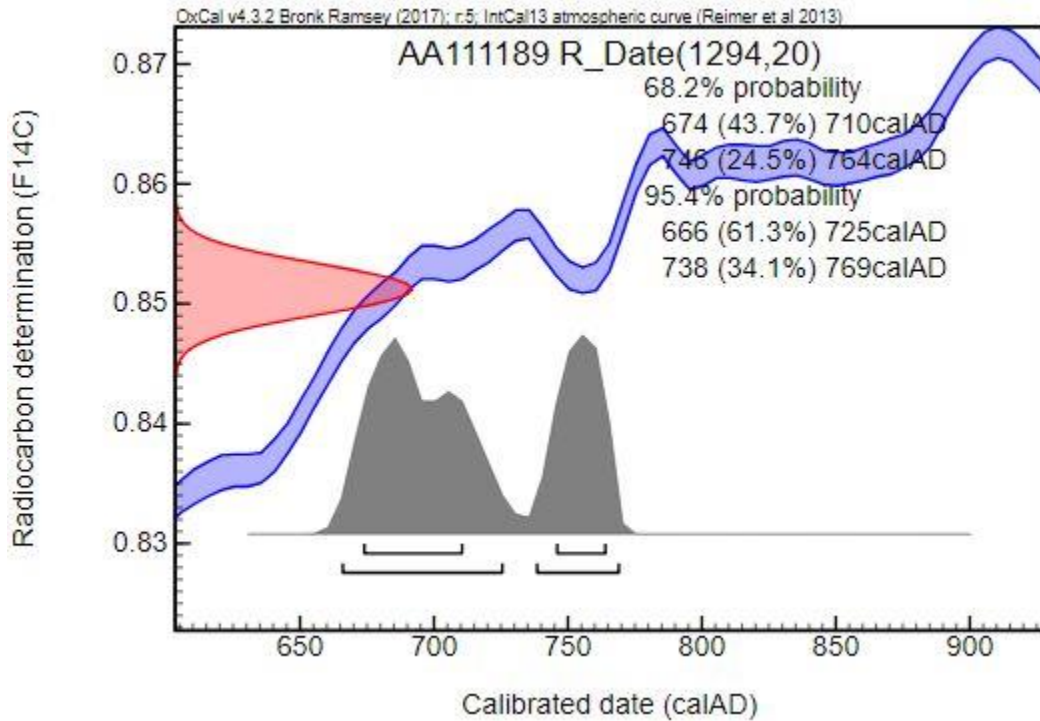
“Too small to date”

Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (11 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111189
<u>User ID</u> : P1	<u>Laboratory number</u> : X32875
<u>Expected age</u> : 1000 AD	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Nepal	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 79%
	<u>Carbon mass</u> : 1.69 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\%$, 1σ):	-27.3 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.8512 \pm 0.0021
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	1294 \pm 20 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	674 calAD to 764 calAD
Calendar Age Range (95%):	666 calAD to 769 calAD

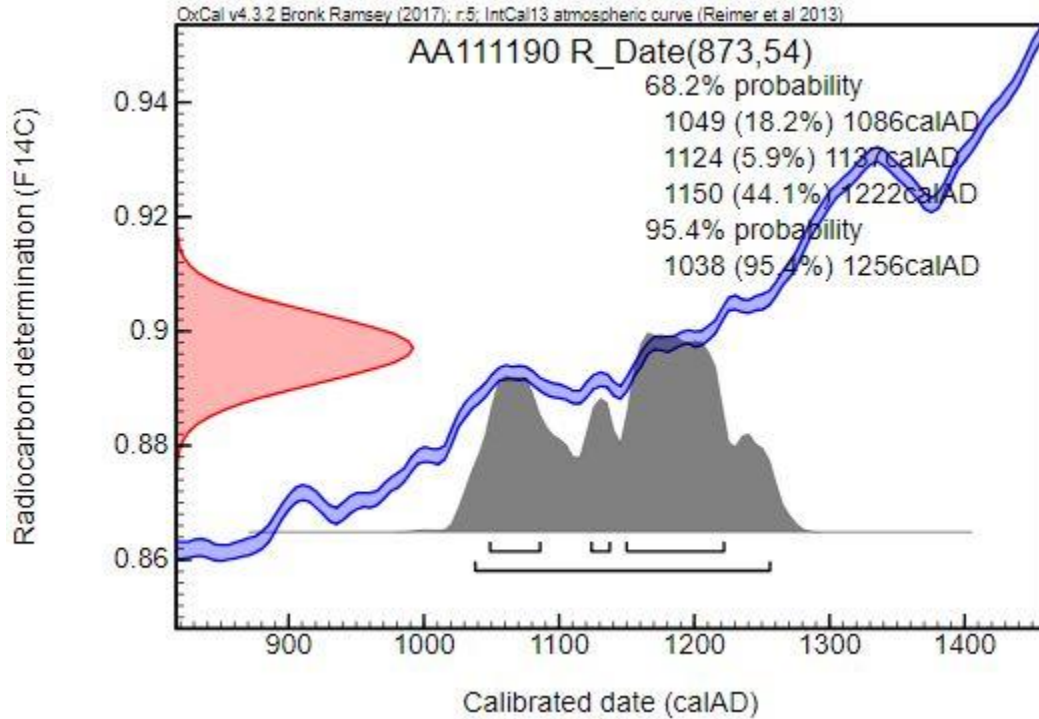


Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (12 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111190
<u>User ID</u> : P3	<u>Laboratory number</u> : X32876
<u>Expected age</u> : 1000 AD	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Nepal	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 33%
	<u>Carbon mass</u> : 0.22 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\%$, 1σ):	-26.0 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.897 \pm 0.006
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	873 \pm 54 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	1049 calAD to 1222 calAD
Calendar Age Range (95%):	1038 calAD to 1256 calAD

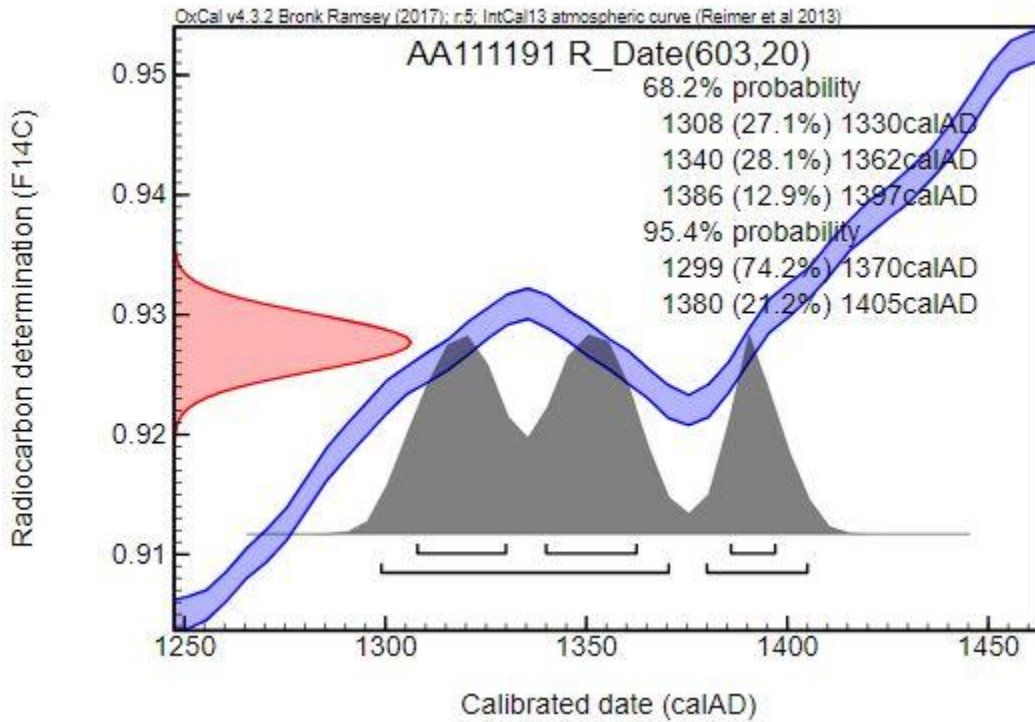


Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (13 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111191
<u>User ID</u> : KL	<u>Laboratory number</u> : X32877
<u>Expected age</u> : 1500 AD	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Nepal	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 69%
	<u>Carbon mass</u> : 1.73 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\text{‰}$, 1σ):	-25.9 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.9277 \pm 0.0023
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	603 \pm 20 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	1308 calAD to 1397 calAD
Calendar Age Range (95%):	1299 calAD to 1405 calAD

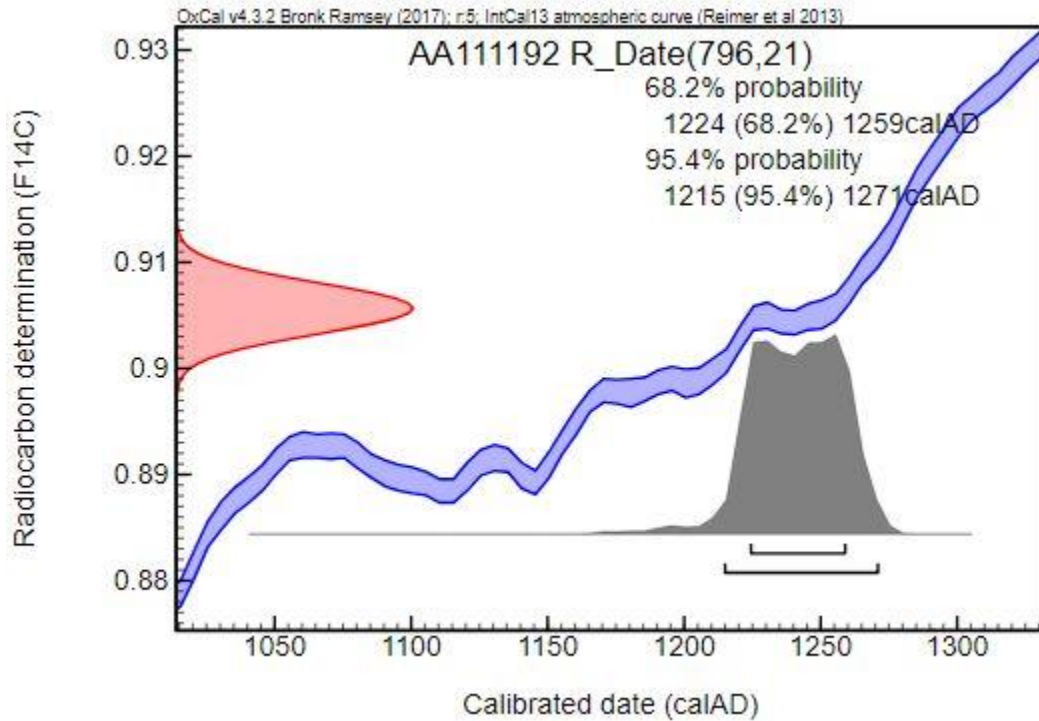


Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (14 of 14)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111192
<u>User ID</u> : KK	<u>Laboratory number</u> : X32878
<u>Expected age</u> : 1000 AD	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Nepal	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 37%
	<u>Carbon mass</u> : 0.60 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\text{‰}$, 1σ):	-23.8 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.9056 \pm 0.0023
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	796 \pm 21 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	1224 calAD to 1259 calAD
Calendar Age Range (95%):	1215 calAD to 1271 calAD

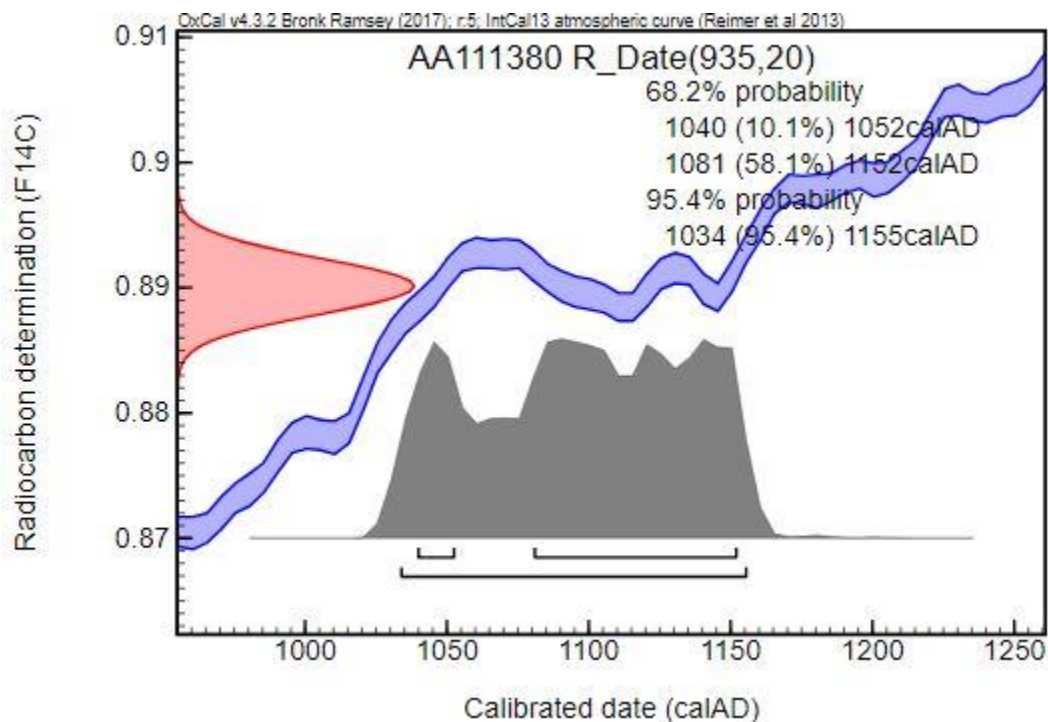


Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (1 of 2)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111380
<u>User ID</u> : KB	<u>Laboratory number</u> : X33068R
<u>Expected age</u> : Not provided	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Not provided	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 28%
	<u>Carbon mass</u> : 0.59 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\%$, 1σ):	-25.8 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.8901 \pm 0.0022
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	935 \pm 20 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	1040 calAD to 1152 calAD
Calendar Age Range (95%):	1034 calAD to 1155 calAD



Wesnousky, S. (AA111179 - AA111192 and AA111380 - AA111381) – Radiocarbon Analytical Report

Data Report (2 of 2)

<i>User Information</i>	<i>Laboratory Information</i>
<u>Submitter</u> : Wesnousky, S.	<u>AA-number</u> : AA111381
<u>User ID</u> : K9	<u>Laboratory number</u> : X33069R
<u>Expected age</u> : Not provided	<u>Sample type</u> : charcoal
<u>Sample origin</u> : Not provided	<u>Pretreatment</u> : ABA
	<u>Carbon yield</u> : 69%
	<u>Carbon mass</u> : 1.46 mg

<i>Results</i>	
$\delta^{13}\text{C}$ ($\pm 0.1\text{‰}$, 1σ):	-26.3 ‰
Fraction of modern carbon ($\pm 1\sigma$):	0.8785 \pm 0.0023
Uncalibrated ^{14}C Age ($\pm 1\sigma$):	1041 \pm 21 ^{14}C years BP
Calibration Program / Dataset:	OxCal 4.2 / IntCal13 atmospheric
Calendar Age Range (68%):	992 calAD to 1017 calAD
Calendar Age Range (95%):	973 calAD to 1025 calAD

