PNAS Supporting information for:

Reassessing the chronology of the archaeological site of Anzick

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This PDF includes:

- Table 1. Previously-published radiocarbon dates for osseous material from the site of Anzick
- Table 2. χ^2 test results on radiocarbon dates obtained for the site of Anzick
- Table 3. Data for four Oxford-obtained paired dates with differing C:N values

Table 1. Previously-published radiocarbon dates for osseous material from the site of Anzick, compiled from multiple publications (1–5). Calibration was done using the OxCal 4.3 software (6) and the IntCal13 calibration curve (7).

Sample number	Sample name	AMS laboratory number	Chemical fraction dated	Date (BP)	cal BP (95.4% confidence range)
SR-8151 (87NBS-280)	Anzick-1	AA-313A	decalcified collagen	8,690±310	10,575-9,005
SR-8151 (87NBS-280)	Anzick-1	AA-313B	untreated gelatin	10,500±400	12,630-12,140
SR-8151 (87NBS-280)	Anzick-1	AA-2978	aspartic acid	10,240±120	12,420-1,1400
SR-8151 (87NBS-280)	Anzick-1	AA-2979	glutamic acid	10,820±100	12,960-12,565
SR-8151 (87NBS-280)	Anzick-1	AA-2980	hydroxyproline	10,710±100	12,775-12,420
SR-8151 (87NBS-280)	Anzick-1	AA-2981	glycine	10,940±90	13,020-12,700
SR-8151 (87NBS-280)	Anzick-1	AA-2982	alanine	10,370±130	12,625-11,755
SR-8151 (87NBS-280)	Anzick-1	CAMS-80535	decalcified collagen	10,580±35	12,670-12,425
SR-8151 (87NBS-280)	Anzick-1	CAMS-80536	KOH-collagen	10,525±35	12,585-12,400
SR-8151 (87NBS-280)	Anzick-1	CAMS-80537	gelatin	10,610±30	12,690-12,540
SR-8151 (87NBS-280)	Anzick-1	CAMS-80538	XAD-purified gelatin hydrolyzate	10,705±35	12,725-12,585
SR-8151 (87NBS-280)	Anzick-1	CAMS-35912	0.45 μm-filtered gelatin	11,550±60	13,490-13,265
SR-8151 (87NBS-280)	Anzick-1	Beta-163833	alkali collagen	10,780±40	12,750-12,655
SR-8147 (87NBS-281)	Anzick-2	AA-313C	decalcified collagen	8,620±340	10,570-8,770
SR-8147 (87NBS-281)	Anzick-2	AA-313D	untreated gelatin	8,940±370	11,180-9,145
SR-8147 (87NBS-281)	Anzick-2	AA-2973	aspartic acid	8,510±120	9,890-9,140
SR-8147 (87NBS-281)	Anzick-2	AA-2974	glutamic acid	8,740±90	10,150-9,540

SR-8147 (87NBS-281)	Anzick-2	AA-2975	hydroxyproline	8,520±80	9,685-9,320
SR-8147 (87NBS-281)	Anzick-2	AA-2976	glycine	8,680±90	10,120-9,490
SR-8147 (87NBS-281)	Anzick-2	AA-2977	alanine	8,590±90	9,890-9,430
SR-7599 (rod #122)	Antler rod	UCIAMS-61661	XAD-collagen	11,025±30	13,010-12,775
SR-7599 (rod #122)	Antler rod	Beta-168967	alkali collagen	11,040±40	13,040-12,780
Rod #118/11	Antler rod	Beta-163832	alkali collagen	11,040±60	13,055-12,750

Table 2. χ^2 test results on radiocarbon dates obtained for the site of Anzick through this and previous (1–5; SI Appendix, Table 1) investigations. The statistical analysis was done with OxCal 4.3 (6) following Ward and Wilson (8), using `R_combine` and `Combine` commands (9). `R_combine` performs a χ^2 test on radiocarbon dates before calibration and was used when comparing multiple dates from a single sample, e.g., Anzick-1. `Combine` performs a χ^2 test on calibrated dates and was used when different samples were involved, e.g., Anzick-1 and the antler rods. The degrees of freedom are given by df and the χ^2 value calculated by T. Noted inside the brackets is the confidence level (at 5%) followed by the critical value of the χ^2 distribution. This value denotes the level above which T should not rise for the dates to be considered in good agreement or comparable.

Sample number	**Sample name(s)**	**Radiocarbon results included in test (by laboratory number)**	**Result**
SR-8151	Anzick-1	OxA-35,729; OxA-36,166; OxA-X-2734-18; OxA-X-2739-54	df=3 T=253.013 (5% 7.8)
SR-8151	Anzick-1	OxA-X-2739-54; AA-2979; AA-2981	df=2 T=0.939 (5% 5.991)
SR-7599	antler rod	OxA-35,731; OxA-35,732; OxA-X-2734-19; OxA-X-2739-55	df=3 T=11.525 (5% 7.8)
SR-7602	antler rod	OxA-35,733; OxA-35,781; OxA-X-2734-20; OxA-X-2739-56	df=3 T=1.4 (5% 7.8)
SR-7599 & SR-7602	antler rods	OxA-35,731; OxA-35,732; OxA-X-2734-19; OxA-X-2739-55; OxA-35,733; OxA-35,781; OxA-X-2734-20; OxA-X-2739-56	df=7 T=12.832 (5% 14.1)
SR-7599 & Rod #118/11	antler rods	UCIAMS-61661; Beta-168967; Beta-163832	df=2 T=0.1 (5% 6.0)
SR-7599, SR-7602, & Rod #118/11	antler rods	OxA-35,731; OxA-35,732; OxA-X-2734-19; OxA-X-2739-55; OxA-35,733; OxA-35,781; OxA-X-2734-20; OxA-X-2739-56; UCIAMS-61661; Beta-168967; Beta-163832	df=10 T=13.618 (5% 18.307)
SR-8147	Anzick-2	OxA-35,734; OxA-35,782; OxA-X-2734-21; OxA-X-2739-57	df=3 T=7.982 (5% 7.8)
SR-8147	Anzick-2	OxA-35,734; OxA-35,782; OxA-X-2734-21; OxA-X-2739-57; AA-313C; AA-313D; AA-2973; AA-2974; AA-2975; AA-2976; AA-2977	df=10 T=13.988 (5% 18.307)
SR-8151 & SR-7599	Anzick-1 (HYP date, only) and antler rod	OxA-X-2739-54; OxA-35,731; OxA-35,732; OxA-X-2734-19; OxA-X-2739-55;	df=4 T=11.104 (5% 9.5)
SR-8151 & SR-7602	Anzick-1 (HYP date, only) and antler rod	OxA-X-2739-54; OxA-35,733; OxA-35,781; OxA-X-2734-20; OxA-X-2739-56	df=4 T=8.896 (5% 9.5)
SR-8151, SR-7599, & SR-7602	Anzick-1 (HYP date, only) and two antler rods	OxA-X-2739-54; OxA-35,731; OxA-35,732; OxA-X-2734-19; OxA-X-2739-55; OxA-35,733; OxA-35,781; OxA-X-2734-20; OxA-X-2739-56	df=8 T=27.422 (5% 15.5)
SR-8151, SR-7599, & SR-7602	Anzick-1 (HYP date, only) and two antler rods (HYP dates, only)	OxA-X-2739-54; OxA-X-2739-55; OxA-X-2739-56	df=2 T=3.358 (5% 5.991)

Table 3. Data for four Oxford-obtained paired dates (two measurements obtained on the same sample) with differing C:N values, prepared using the same pretreatment protocol (P-code) as this study (10). The dates have not been corrected for HPLC background carbon, per Devièse et al. (10). Calibration was done using the OxCal 4.3 software (6) and the IntCal13 calibration curve (7). For the χ^2 test results, the degrees of freedom are given by df and the χ^2 value calculated by T. Noted inside the brackets is the confidence level (at 5%) followed by the critical value of the χ^2 distribution. This value denotes the level above which T should not rise for the dates to be considered in good agreement or comparable. Results show that although C:N values differ for the same sample, radiocarbon dates obtained are not widely disparate from one another.

Sample number	Sub-sample	P-code	C:N	Date (BP)	±	cal BP (95.4% confidence range)	χ^2 test results
1	a	NRC-02 (HYP)	5.2	11,360	50	13,300-13,090	df=1 T=5.645 (5%3.8)
	b	NRC-02 (HYP)	4.9	11,520	45	13,455-13,275	
2	a	NRC-02 (HYP)	5.3	11,190	50	13,160-12,930	df=1 T=0.6 (5%3.8)
	b	NRC-02 (HYP)	4.9	11,245	50	13,220-13,025	
3	a	NRC-02 (HYP)	5.3	10,920	50	12,915-12,700	df=1 T=3.1 (5%3.8)
	b	NRC-02 (HYP)	5.0	11,045	50	13,055-12,770	
4	a	NRC-02 (HYP)	5.7	10,915	50	12,905-12,695	df=1 T=10.576 (5%3.8)
	b	NRC-02 (HYP)	5.0	11,145	50	13,110-12,850	

References

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