

# Supporting Information

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Table S1. The uncalibrated and calibrated radiocarbon data used in the analyses

Site name	Uncalibrated radiocarbon age	Error	Calibrated radiocarbon age	Error	Ref.
12 Mile Creek	10503.72	66.25784	12480	150	1
13TM173	9550	100	10900	170	1
32DU181	8870	70	9970	150	1
32DU183	9840	60	11270	60	1
32DU224	9690	60	11040	150	1
35CU67C	8429.044	48.23684	9460	50	1
35HA1028	8440	90	9420	90	1
35HA2222	9360.946	122.06	10600	190	1
35JE49	8202.353	45.5554	9160	80	1
35JE49	9360.9	34.45837	10590	60	1
35LA861	9485	90	10830	190	1
35LK1180	8220	430	9180	520	1
35LK1180	9880	360	11440	590	1
35LK1871	11490	90	13360	90	1
35LK1881	8750.129	55.1487	9760	120	1
35LK2076	8803.824	102.8992	9890	200	1
35LK2076	10020	370	11660	600	1
41LU26	11100	80	13020	80	1
41WH19	9920	530	11500	790	1
42SA17107	8340	290	9280	370	1
42SA17215	8330	110	9300	140	1
42SA17216	8100	220	9000	290	1
45CH58	8180	90	9160	120	1
45GA47	8050	110	8930	180	1
45KI25	8540	110	9560	110	1
45WT111	8590	160	9670	210	1
48FR3160	8210	60	9180	100	1
48LN1101	8500	120	9480	130	1
48LN1185	8180	270	9080	340	1
48LN1185	8570	220	9630	300	1
48LN1658	9530	300	10860	410	1
48LN1679	9650	290	11060	450	1
48LN2996	8170	70	9150	100	1
48LN373	8980	130	10050	190	1
48PA328	8270	90	9260	130	1
48SU2980	8510	160	9520	200	1
48SW4492	8020	90	8870	140	1
48UT786	8475.276	59.4829	9490	40	1
8LE2105	9870.492	38.41106	11280	40	1
Agate Basin	9750	130	11090	220	1
Agate Basin	9990	225	11610	360	1
Agate Basin	10375	700	11930	890	1
Agate Basin	10412.72	548.172	12040	720	1
Agate Basin	10445	110	12380	220	1
Agate Basin	10575	90	12570	160	1
Agate Basin	10780	120	12770	100	1
Agate Basin	11144.62	59.73748	13050	70	1
Agate Basin	11700	95	13560	120	1
Albertson	8410	245	9390	310	1
Alexon	9990	200	11610	330	1
Alexon	11170	130	13080	110	1
Alkali Creek	8528.071	29.29379	9520	20	1
Allen	8050	80	8920	140	1
Allen	8160	80	9140	110	1
Angeles Mesa	10500	2000	12260	2540	1
Anzick	11040	35	12980	60	2
Arenosa Shelter	9550	190	10860	260	1





Site name	Uncalibrated radiocarbon age	Error	Calibrated radiocarbon age	Error	Ref.
Dill Farm	8050	90	8920	150	1
Dirty Shame Rockshelter	8994.608	41.62469	10130	90	1
DjPm-79	8560	160	9620	210	1
DjPo-81	8594.382	169.5997	9670	220	1
Domebo	10960	30	12910	30	2
Double Adobe	9350	160	10630	260	1
Double P	8555	200	9610	270	1
Dust Cave	8470	50	9490	30	1
Dust Cave	8790.191	47.96828	9830	110	1
Dust Cave	9921.765	45.5554	11360	90	1
Dust Cave	10167.95	16.13508	11870	80	1
Dust Devil Cave (NA7613)	8762.095	90.64461	9830	190	1
Dutchess Quarry Cave No. 8	8290	100	9270	140	1
Dyer Elk	9200	280	10400	410	1
Eagle Cave	8677.637	62.17997	9660	90	1
Eagle Shelter	9775	90	11120	160	1
East Wenatchee	11125	130	13050	110	2
Echo Bay (1128T)	9270	100	10460	140	1
Echo Bay (1128T)	9640	70	10990	150	1
Edgar	8860	170	9930	230	1
EgPs-48	8250	130	9230	160	1
EiBl-5	8010	110	8870	160	1
ElTa-18	9940	50	11420	130	1
Enoch Fork Rockshelter	8740	130	9830	210	1
Enoch Fork Rockshelter	10960	240	12900	220	1
Eppley Rockshelter	10743.16	79.2624	12770	70	1
Esker	10060	60	11600	160	1
False Cougar Cave	8255	120	9240	160	1
False Cougar Cave	10530	140	12460	240	1
FcQa-8	8030	200	8940	270	1
Ferry	8160	200	9070	280	1
Filemile Rapids/Roadcut	9785	220	11240	390	1
Finley	9165.545	54.54851	10350	80	1
Fishbone Cave	11200	250	13130	200	1
Fishing Bridge	8940	60	10060	110	1
Flaming Arrow	9937.348	66.89647	11430	140	1
Flooded Cave	10000	200	11620	330	1
Folsom	10890.61	48.61214	12880	30	1
Fort Langley	8368.118	45.5554	9390	60	1
Fort Rock Cave	8765.07	69.21389	9800	140	1
Fort Rock Cave	9043.587	118.2531	10160	190	1
Fossil Lake	10176.56	82.32913	11830	180	1
Gap	8449.438	127.1997	9410	130	1
Gardepe	9380	100	10620	150	1
Glenrose Cannery	8150	250	9050	320	1
Gore Creek	8340	115	9310	140	1
Graham Cave	8830	250	9920	290	1
Graham Cave	9520.358	173.133	10840	250	1
Grey-Taylor	8600	245	9680	330	1
Grimes Burial Shelter	9470	60	10810	180	1
Guest mammoth	9840	190	11320	360	1
Handprint Cave	10740	70	12780	60	1
Hanson	9285	90	10470	130	1
Hanson	10231.65	88.21438	11960	190	1
Harney Lake	8680	55	9660	80	1
Hastqin	8260	100	9250	140	1
Hatwai	9554.661	76.72611	10910	150	1
Hatwai	10355.65	117.6748	12250	250	1
Hawkwood	8330	330	9280	430	1
Headquarters	8300	140	9260	170	1
Hebior	12531.43	26.0133	14680	180	1
Hedden	10550	43	12560	120	3
Heisler mastodon	11465	77.78175	13330	70	1
Hell Gap	8590	350	9640	460	1
Hell Gap	8600	600	9680	770	1







Site name	Uncalibrated radiocarbon age	Error	Calibrated radiocarbon age	Error	Ref.
Paleo Crossing	10980	75	12950	70	2
Patrick	9410	290	10710	390	1
Paulina Lake	8503.828	34.23433	9510	30	1
Paulina Lake	9068.898	72.84	10260	80	1
Pee Wee Grande	8230	90	9220	130	1
Pendejo Cave	11509.83	88.70455	13380	90	1
Pendejo Cave	12355.39	50.31968	14360	180	1
Pictograph Cave	8580	80	9590	80	1
Pigeon Cliffs	8280	1000	9470	1210	1
Pigeon Roost Creek	8500	220	9520	300	1
Pine Bluffs	9880	130	11420	210	1
Pine Spring	9775	195	11210	350	1
Pinware Hill	8850	100	9930	180	1
Plainview	10070	500	11680	750	1
Pleasant Lake	10395	100	12320	220	1
Poland	10240	90	11980	200	1
Poole Inlet West (1359T)	8270	60	9270	110	1
Porter Hollow	10090	120	11680	250	1
Puckett	8655	127.2792	9730	170	1
Puckett	9790	160	11210	310	1
Pyramid Lake	9660	170	10990	230	1
Raddatz Rockshelter	11610	300	13510	280	1
Radiant 3	8690	690	9840	890	1
Rancho La Brea	9000	80	10100	130	1
Rancho Park North	8040	80	8900	130	1
Rancho Park North	8103.774	37.38054	9050	40	1
Rappuhn mastodon	10674.21	91.76629	12660	140	1
Rattlesnake Pass	9860	106.066	11380	170	1
Rawhide Butte	10550	350	12270	490	1
Rawhide Creek	10180	480	11830	690	1
Ray Long	9380	250	10680	350	1
Redfish Lake Overhang	8060	190	8970	270	1
Redfish Lake Overhang	10180	127.2792	11830	280	1
Rex Rodgers	9118	83	10320	100	1
Richard Beene	9825	84.85281	11280	100	1
Richardson Island (1127T)	8659.76	22.82609	9600	40	1
Richardson Island (1127T)	8874.017	25.22614	10030	90	1
Richardson Island (1127T)	9140.225	20.13468	10290	40	1
Richmond Hill	9360	120	10600	190	1
Rimouski	8150	130	9080	210	1
Rock Bar Alcove	8280	160	9240	190	1
Rock Creek Alcove	8660	80	9680	110	1
Rodgers Shelter	8065	212.132	8970	290	1
Rodgers Shelter	8100	140	9010	230	1
Rodgers Shelter	10267.63	294.25	12000	500	1
Rogers Ridge	8314.941	70.57228	9310	110	1
Rose Island	9133.568	117.0172	10340	130	1
Rumford Falls I	8850	140	9920	210	1
Rumford Falls V	9370	120	10620	200	1
Running Springs	9380	140	10670	250	1
Rush Bay Road	8450	550	9480	690	1
Russ	8220	420	9170	510	1
Russell Cave	8397.139	84.22967	9390	90	1
Russell Cave	9020	175	10120	260	1
Ryan's	9220	220	10440	300	1
San Jon	8360	210	9300	240	1
Sandal Shelter	8300	60	9300	110	1
Saskatoon Mountain	8130	130	9050	210	1
Saskatoon Mountain	8170	210	9080	290	1
Saskatoon Mountain	8620	620	9710	790	1
Saskatoon Mountain	9360.541	59.18364	10580	80	1
Saugus Quarry	8095	415	9020	470	1
Scaredy Cat Cave	8190	100	9180	130	1
Schaefer Mammoth	12368.8	21.2932	14360	150	1
Schiffer Cave	8430	113.1371	9400	120	1



Site name	Uncalibrated radiocarbon age	Error	Calibrated radiocarbon age	Error	Ref.
Schmidt	8100	500	9060	580	1
Seal Cave	9030	100	10140	160	1
Seal Cave	9440	50	10680	70	1
Second Lake (162R)	9455	450	10840	650	1
Sedgewick Bay (791T)	8080	60	8970	120	1
Seed Cave	8370	230	9320	270	1
Sentinel Gap	8880	70	9980	150	1
Sentinel Gap	10144.46	25.94093	11830	100	1
Sevier Desert	9570	430	11010	650	1
Sharrow	8524.136	53.47735	9510	30	1
Shawnee-Minisink	10935	15	12890	30	2
Sheaman	10618.49	98.31456	12600	160	1
Sheep Rock Shelter	8870	320	9990	390	1
Sheep Rock Spring	9315.256	25.55071	10530	40	1
Sheguiandah	9275.049	45.41937	10450	90	1
Shelton mastodon	9618.703	111.1554	10960	170	1
Sheriden Cave	10765.87	22.72554	12820	30	1
Sheriden Cave	10788.8	48	12830	30	1
Sheriden Cave	10847.12	44.60906	12860	30	1
Sheriden Cave	11536.86	40.64516	13380	50	1
Shinners Site A	8380	120	9340	140	1
Shinners Site A	9540	120	10880	190	1
Sibbald Creek	9570	320	10950	460	1
Silver Mound Rockshelter	9405	90	10670	150	1
Simonsen	8430	520	9450	660	1
Sinnock	8030	160	8920	230	1
Sister's Hill	9622.92	169.2641	10950	230	1
Site 243R	8754	35.77709	9760	90	1
Skyrocket	8550	150	9590	190	1
Skyrocket	9050	90	10180	150	1
Skyrocket	9410	250	10710	350	1
Sloth Hole	11050	50	12990	60	2
Smith Creek Cave	10859.64	44.13122	12860	30	1
Smith Mountain	8810	130	9890	210	1
Smith Mountain	10150	70	11790	170	1
Sommers	8700	65	9700	110	1
Southsider Cave	8890.99	155.082	9950	220	1
Spirit Cave	9333.994	19.32061	10550	30	1
Squaw Rockshelter	9480	160	10800	250	1
St. Albans	8250	100	9240	140	1
St. Albans	8253.851	88.7214	9240	130	1
St. Albans	8943.024	114.7836	10010	180	1
St. Louis	8400	70	9400	80	1
St. Louis	9150	40	10320	60	1
Stamp	9130	200	10280	290	1
Stamp	9660	140	10980	200	1
Standish	8170	90	9150	120	1
Stanfield-Worley Shelter	9260.052	182.7623	10510	230	1
State Road Ripple	11385	140	13260	130	1
Steel	9510	60	10870	160	1
Steel's Pass	9250	70	10420	110	1
Steel's Pass	10100	80	11690	210	1
Stick Man	8090	28.86751	9030	30	1
Stigenwalt	8274.736	115.3382	9250	150	1
Stonepine	9540	70	10900	150	1
Stucke Farm	9370	70	10590	90	1
Sunshine Locality	9873.115	38.41106	11280	40	1
Sunshine Locality	10502.91	26.82611	12520	100	1
Survey Point	12260	141.4214	14290	270	1
Swan Landing	8675	270	9770	330	1
Swan's Landing	8015	180	8910	250	1
Table Land	8498.941	32.21253	9510	20	1
Taylor	9814.195	35.14949	11230	30	1
Templeton	10190	300	11910	500	1
Thunderbird	9900	340	11470	570	1

Site name	Uncalibrated radiocarbon age	Error	Calibrated radiocarbon age	Error	Ref.
Titus	8070	100	8960	170	1
Tule Lake Shelter	11450	340	13380	310	1
Turkey Swamp	8739	165	9840	230	1
Two Moon Rockshelter	8570	60	9560	50	1
Two Moon Rockshelter	10060	60	11600	160	1
Union Pacific mammoth	11360	350	13300	320	1
Upper Shawnee Island	9330	545	10680	780	1
Vail	10530	103	12490	200	3
Varney Farm	8568.682	30.69978	9540	20	1
Vegan	8400	130	9350	150	1
Ventana Cave	9310.61	30.03141	10510	50	1
Ventana Cave	10390.87	80.93116	12320	190	1
Ventana Cave	11300	1200	13170	1620	1
Vermilion Lakes Loc. A (153R)	9644.239	98.23958	10980	170	1
Vermilion Lakes Loc. A (153R)	9921.711	46.151	11370	90	1
Vermilion Lakes Loc. A (153R)	10221.45	107.2899	11930	240	1
Vermilion Lakes Loc. A (153R)	10330.91	60.46298	12190	140	1
Vermilion Lakes Loc. A (153R)	10771.45	173.4714	12680	210	1
Vermilion Lakes Loc. B (502R)	9908.183	96.72582	11430	170	1
Wadleigh Falls	8630	150	9720	200	1
Wallmann mammoth	11080	300	13010	260	1
Walnut Street trench	8685	370	9750	460	1
Walter's Cave	8875	125	9940	200	1
Wapanucket 8	8638.183	58.256	9620	60	1
Ward's Point	8250	140	9220	170	1
Warm Mineral Spring	9337.465	195.9105	10640	300	1
Warm Mineral Spring	10980	160	12970	120	1
Wasden, Owl Cave	10328.02	49.51575	12190	130	1
Weirs Beach	9022.462	185.4239	10120	280	1
Weirs Beach	9615	225	10940	300	1
Welsch	8000	120	8860	170	1
Welsch	8090	110	9000	200	1
Welsch	8173.698	81.08696	9150	110	1
Welsch	8190	77.78175	9170	110	1
Welsch	8224.523	65.2698	9200	110	1
Welsch	8240	77.78175	9230	120	1
West Creek	9850	160	11350	280	1
Wewukiyephuh	10343.17	31.23475	12210	110	1
Whalen	9302.094	97.71764	10490	140	1
WHD Sage Creek	8230	540	9230	650	1
WHD Sage Creek	8527.09	179.2876	9560	240	1
Whipple	10376.7	176.8103	12220	340	1
Willard mastodon	9600	205	10920	270	1
Wilson Butte Cave	10440.33	66.89647	12380	180	1
Wilson-Leonard	8884.416	68.37635	9990	140	1
Wilson-Leonard	9555.039	66.11497	10910	150	1
Windy Mesa	8270	80	9260	130	1
Winger	9080	90	10270	110	1
Wizard Beach	9204.145	29.4534	10360	70	1
Wood Island	8040	90	8910	150	1
Wyght	8030	1970	9340	2370	1

1. Morlan RE (2005) CARD, Canadian Archaeological Radiocarbon Database (Canadian Museum of Civilization, Gatineau).
2. Waters MR, Stafford TW, Jr (2007) Redefining the age of Clovis: Implications for the peopling of the Americas. *Science* 315:1122–1126.
3. Hamilton MJ, Buchanan B (2007) Spatial gradients in Clovis-age radiocarbon dates across North America suggest rapid colonization from the north. *Proc Natl Acad Sci USA* 104:15625–15630.