

Pennsylvanian-Early Permian time scale

281	z3	0.351	0.7438	99.46%	53	0.33	3425	0.111	0.053088	0.154	0.391073	0.185	0.053427	0.060	0.643	332.6	3.5	335.15	0.53	335.53	0.20
282	z1	0.383	1.1386	99.53%	62	0.44	3963	0.121	0.053082	0.129	0.390766	0.162	0.053391	0.059	0.686	332.3	2.9	334.93	0.46	335.31	0.19
283	z13	1.029	0.8910	99.22%	44	0.58	2387	0.325	0.053112	0.200	0.390531	0.235	0.053329	0.072	0.597	333.6	4.5	334.76	0.67	334.93	0.24
284	z14	0.675	1.1959	98.98%	31	1.02	1815	0.213	0.053094	0.256	0.389909	0.287	0.053261	0.051	0.656	332.8	5.8	334.30	0.82	334.51	0.16
285	z15	1.312	1.2101	99.45%	67	0.55	3411	0.414	0.053142	0.144	0.390177	0.173	0.053250	0.049	0.679	334.9	3.3	334.50	0.49	334.45	0.16
286	z12	1.020	1.0495	99.13%	39	0.76	2138	0.322	0.053072	0.223	0.389418	0.252	0.053217	0.048	0.657	331.9	5.1	333.94	0.72	334.24	0.16
287	z9	0.778	4.8008	99.77%	142	0.91	8130	0.246	0.053141	0.072	0.389589	0.108	0.053171	0.049	0.835	334.8	1.6	334.07	0.31	333.96	0.16
288	z11	0.553	3.7825	99.76%	130	0.74	7884	0.174	0.053126	0.072	0.389468	0.107	0.053170	0.045	0.847	334.2	1.6	333.98	0.30	333.95	0.15
289	z17	0.545	3.5434	99.52%	64	1.39	3893	0.172	0.053200	0.097	0.389829	0.129	0.053145	0.049	0.765	337.3	2.2	334.24	0.37	333.80	0.16
290	z10	0.573	4.4028	99.73%	113	0.99	6795	0.181	0.053177	0.082	0.389621	0.114	0.053140	0.045	0.810	336.3	1.9	334.09	0.33	333.77	0.15

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292 **Notes:**

293 (a) z1, z2, etc. are labels for individual analyzed zircon grains treated by annealing and chemical abrasion [Mattinson, 2005]; “b” suffix denotes crystals from a
294 second mineral separate of the same sample collection; “m” suffix denotes analyses done in the Massachusetts Institute of Technology Isotope Geology Lab;
295 bold labels denote analyses used in the weighted mean age calculations.

296 (b) Model Th/U ratio calculated from radiogenic $^{208}\text{Pb}/^{206}\text{Pb}$ ratio and $^{207}\text{Pb}/^{235}\text{U}$ date.

297 (c) Pb* and Pbc are radiogenic and common Pb, respectively. mol % $^{206}\text{Pb}^*$ is with respect to radiogenic, blank and initial common Pb.

298 (d) Measured ratio corrected for spike contribution and instrumental fractionation only. BSU analyses were spiked with the ET535 mixed tracer; MIT analyses
299 were spiked with the MIT1L mixed tracer. Fractionation correction is 0.22 ± 0.02 (1σ) %/atomic mass unit for BSU and 0.25 ± 0.02 (1σ) %/atomic mass unit for
300 MIT single-collector Daly analyses, based on analysis of NBS-981 and NBS-982.

301 (e) Ratios corrected for fractionation, spike contribution, common Pb, and initial disequilibrium in $^{230}\text{Th}/^{238}\text{U}$. All common Pb is assigned to procedural blank
302 with a composition of $^{206}\text{Pb}/^{204}\text{Pb} = 18.60 \pm 0.80\%$; $^{207}\text{Pb}/^{204}\text{Pb} = 15.69 \pm 0.32\%$; $^{208}\text{Pb}/^{204}\text{Pb} = 38.51 \pm 0.74\%$ (1σ) for BSU analyses, and $^{206}\text{Pb}/^{204}\text{Pb} = 18.27 \pm$
303 0.80% ; $^{207}\text{Pb}/^{204}\text{Pb} = 15.59 \pm 0.32\%$; $^{208}\text{Pb}/^{204}\text{Pb} = 38.12 \pm 0.74\%$ (1σ) for MIT analyses. $^{206}\text{Pb}/^{238}\text{U}$ and $^{207}\text{Pb}/^{206}\text{Pb}$ ratios are corrected for initial disequilibrium
304 in $^{230}\text{Th}/^{238}\text{U}$ using a melt Th/U = 3.

305 (f) Errors are 2σ , propagated using algorithms of [Schmitz and Schoene, 2007].

306 (g) Calculations based on the decay constants of [Jaffey *et al.*, 1971]. $^{206}\text{Pb}/^{238}\text{U}$ and $^{207}\text{Pb}/^{206}\text{Pb}$ dates corrected for initial disequilibrium in $^{230}\text{Th}/^{238}\text{U}$ using a
307 melt Th/U = 3.