

## Appendix 1

Sample no. & spot no.	Grain no. & position	$^{206}\text{Pb}/^{238}\text{U}$	$^{207}\text{Pb}/^{235}\text{U}$	$^{238}\text{U}-^{206}\text{Pb}$ age (Ma)	$^{235}\text{U}-^{207}\text{Pb}$ age (Ma)	Th/U	$^{206}\text{PbC} (\%)$
Sample 1203D (R37017)							
1203D-1	1 rim	0.03564 ± 0.00093	0.2392 ± 0.0182	225.7 ± 5.9	217.8 ± 16.6	0.48	0.00
1203D-2	1 core	0.03582 ± 0.00085	0.2565 ± 0.0138	226.9 ± 5.4	231.8 ± 12.5	0.51	0.00
1203D-3	2 rim	0.03478 ± 0.00080	0.2366 ± 0.0111	220.4 ± 5.0	215.6 ± 10.1	0.44	0.00
1203D-4	2 core	0.03641 ± 0.00088	0.2550 ± 0.0150	230.5 ± 5.6	230.6 ± 13.6	0.15	0.00
1203D-5	3 rim	0.03653 ± 0.00081	0.2546 ± 0.0102	231.3 ± 5.2	230.3 ± 9.2	0.21	0.05
1203D-6	3 core	0.03932 ± 0.00108	0.2670 ± 0.0230	248.6 ± 6.9	240.3 ± 20.7	0.16	0.00
1203D-7	4 core	0.37247 ± 0.00838	6.2748 ± 0.1871	2041.0 ± 45.9	2014.9 ± 60.1	0.64	0.00
1203D-9	5 rim	0.03580 ± 0.00166	0.2647 ± 0.0266	226.8 ± 10.5	238.4 ± 23.9	0.16	0.00
1203D-10	6 rim	0.03787 ± 0.00176	0.2652 ± 0.0277	239.6 ± 11.1	238.9 ± 24.9	0.42	0.46
1203D-11	7 rim	0.03726 ± 0.00169	0.2648 ± 0.0167	235.8 ± 10.7	238.5 ± 15.1	0.25	0.08
1203D-12	7 core	0.03531 ± 0.00162	0.2686 ± 0.0209	223.7 ± 10.3	241.6 ± 18.8	0.23	0.19
1203D-13	8 rim	0.03526 ± 0.00164	0.2597 ± 0.0270	223.4 ± 10.4	234.4 ± 24.4	0.42	0.00
1203D-16	11 core	0.03577 ± 0.00164	0.2649 ± 0.0205	226.5 ± 10.4	238.6 ± 18.4	0.53	0.18
1203D-17	12 core	0.03664 ± 0.00114	0.2555 ± 0.0154	232.0 ± 7.2	231.0 ± 13.9	0.47	0.55
1203D-18	13 rim	0.03717 ± 0.00122	0.2652 ± 0.0205	235.3 ± 7.7	238.9 ± 18.5	0.34	0.00
1203D-19	13 core	0.34684 ± 0.01041	5.7180 ± 0.2394	1919.5 ± 57.6	1934.0 ± 81.0	0.50	0.00
1203D-21	15 rim	0.03898 ± 0.00119	0.2735 ± 0.0147	246.5 ± 7.6	245.5 ± 13.2	0.35	0.16
1203D-22	15 core	0.03692 ± 0.00117	0.2432 ± 0.0164	233.7 ± 7.4	221.0 ± 14.9	0.44	0.56
1203D-23	16 rim	0.03610 ± 0.00112	0.2542 ± 0.0149	228.6 ± 7.1	230.0 ± 13.5	0.34	0.05
1203D-24	17 rim	0.03532 ± 0.00108	0.2558 ± 0.0132	223.8 ± 6.8	231.3 ± 11.9	0.34	0.13
1203D-25	18 rim	0.03881 ± 0.00082	0.3855 ± 0.0151	245.4 ± 5.2	331.1 ± 13.0	0.17	2.67
1203D-26	18 core	0.03627 ± 0.00082	0.2500 ± 0.0142	229.7 ± 5.2	226.5 ± 12.9	0.47	0.44
1203D-27	19 core	0.03514 ± 0.00076	0.2454 ± 0.0120	222.6 ± 4.8	222.9 ± 10.9	0.54	0.00
1203D-28	19 rim	0.03564 ± 0.00077	0.2491 ± 0.0120	225.8 ± 4.9	225.8 ± 10.9	0.51	0.26
1203D-29	20 core	0.48359 ± 0.01086	11.3586 ± 0.4396	2542.9 ± 57.1	2552.9 ± 98.8	0.61	0.00
1203D-30	21 rim	0.03544 ± 0.00077	0.2441 ± 0.0121	224.5 ± 4.9	221.7 ± 11.0	0.44	0.16
1203D-31	22 rim	0.03812 ± 0.00083	0.2736 ± 0.0132	241.2 ± 5.2	245.5 ± 11.9	0.39	0.38
1203D-32	22 core	0.03707 ± 0.00089	0.2660 ± 0.0183	234.7 ± 5.7	239.5 ± 16.5	0.62	0.00
1203D-33	23 core	0.03606 ± 0.00156	0.2459 ± 0.0184	228.3 ± 9.9	223.2 ± 16.7	0.49	0.00
1203D-34	24 core	0.35599 ± 0.01473	6.1751 ± 0.2774	1963.1 ± 81.2	2000.9 ± 89.9	0.78	0.00
1203D-35	25 rim	0.03702 ± 0.00159	0.2783 ± 0.0191	234.3 ± 10.1	249.3 ± 17.1	0.22	0.85
1203D-37	27 rim	0.03725 ± 0.00159	0.2641 ± 0.0174	235.8 ± 10.0	238.0 ± 15.6	0.34	0.62
1203D-38	28 rim	0.03705 ± 0.00159	0.2438 ± 0.0170	234.5 ± 10.0	221.6 ± 15.4	0.55	0.00
1203D-39	29 rim	0.27593 ± 0.01159	3.7393 ± 0.1925	1570.8 ± 66.0	1579.8 ± 81.3	0.20	0.31
1203D-40	28 core	0.03811 ± 0.00163	0.2687 ± 0.0182	241.1 ± 10.3	241.7 ± 16.3	0.53	0.41
1203D-41	30 rim	0.03669 ± 0.00089	0.2521 ± 0.0159	232.3 ± 5.6	228.3 ± 14.4	0.42	0.25
1203D-42	30 core	0.16344 ± 0.00351	2.4085 ± 0.0749	975.8 ± 20.9	1245.1 ± 38.7	0.16	0.02
1203D-43	31 rim	0.03701 ± 0.00106	0.2662 ± 0.0246	234.3 ± 6.7	239.7 ± 22.2	0.13	0.00
1203D-44	31 core	0.03989 ± 0.00099	0.2741 ± 0.0187	252.2 ± 6.3	246.0 ± 16.8	0.73	2.00
1203D-45	32 rim	0.03630 ± 0.00100	0.2368 ± 0.0211	229.9 ± 6.3	215.8 ± 19.3	0.40	1.03
1203D-46	32 core	0.22228 ± 0.00477	3.4553 ± 0.1075	1293.9 ± 27.8	1517.0 ± 47.2	0.07	0.03
1203D-49	34 core	0.03517 ± 0.00165	0.2509 ± 0.0177	222.8 ± 10.5	227.3 ± 16.0	0.44	0.00
1203D-50	35 rim	0.04885 ± 0.00226	0.4887 ± 0.0283	307.5 ± 14.2	404.0 ± 23.4	0.41	0.00
1203D-51	35 core	0.26415 ± 0.01222	4.5080 ± 0.2513	1511.0 ± 69.9	1732.4 ± 96.6	0.67	0.00
1203D-52	36 rim	0.03615 ± 0.00169	0.2625 ± 0.0179	228.9 ± 10.7	236.7 ± 16.1	0.50	0.00
1203D-53	36 core	0.03465 ± 0.00162	0.2571 ± 0.0168	219.6 ± 10.2	232.3 ± 15.2	0.64	0.00
1203D-54	37 rim	0.03636 ± 0.00173	0.2694 ± 0.0210	230.2 ± 11.0	242.2 ± 18.9	0.32	0.00
1203D-55	38 rim	0.03593 ± 0.00170	0.2497 ± 0.0191	227.6 ± 10.8	226.3 ± 17.3	0.26	0.00
1203D-56	39 core	0.22283 ± 0.01032	3.6592 ± 0.1992	1302.1 ± 60.0	1562.5 ± 85.1	0.09	0.00

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Sample 2901B (R37073)							
2901B-1	1 core	0.25140 ± 0.00327	4.7242 ± 0.1221	1445.7 ± 18.8	1771.5 ± 45.8	0.47	0.00
2901B-2	1 rim	0.03921 ± 0.00100	0.2802 ± 0.0302	247.9 ± 6.3	250.8 ± 27.0	0.35	0.00
2901B-3	2 core	0.03686 ± 0.00070	0.2614 ± 0.0189	233.4 ± 4.5	235.8 ± 17.0	0.52	0.00
2901B-4	2 rim	0.03858 ± 0.00068	0.2656 ± 0.0171	244.0 ± 4.3	239.1 ± 15.4	0.44	0.00
2901B-5	2 rim	0.03782 ± 0.00075	0.2586 ± 0.0202	239.3 ± 4.8	233.6 ± 18.2	0.37	0.00
2901B-6	3 core	0.03691 ± 0.00166	0.2981 ± 0.0600	233.6 ± 10.5	264.9 ± 53.3	0.57	0.00
2901B-7	3 rim	0.03767 ± 0.00066	0.3105 ± 0.0177	238.4 ± 4.2	274.5 ± 15.6	0.31	0.81
2901B-8	4 core	0.03859 ± 0.00071	0.2724 ± 0.0179	244.1 ± 4.5	244.6 ± 16.1	0.39	0.00
2901B-18	11 rim	0.03795 ± 0.00115	0.3346 ± 0.0169	240.1 ± 7.3	293.0 ± 14.8	0.47	0.69
2901B-19	12 rim	0.29206 ± 0.00868	4.6708 ± 0.1897	1651.8 ± 49.1	1762.0 ± 71.6	0.19	0.03
2901B-20	13 rim	0.03801 ± 0.00117	0.2631 ± 0.0155	240.5 ± 7.4	237.1 ± 13.9	0.25	0.30
2901B-21	13 core	0.03747 ± 0.00120	0.2734 ± 0.0199	237.2 ± 7.6	245.4 ± 17.9	0.16	0.12
2901B-22	14 rim	0.03560 ± 0.00113	0.3096 ± 0.0200	225.5 ± 7.1	273.9 ± 17.7	0.29	0.71
2901B-23	14 core	0.03812 ± 0.00120	0.2630 ± 0.0181	241.2 ± 7.6	237.1 ± 16.3	0.46	0.00
2901B-24	15 core	0.12987 ± 0.00403	1.7778 ± 0.0917	787.1 ± 24.4	1037.3 ± 53.5	0.03	0.00
2901B-25	15 rim	0.03882 ± 0.00120	0.2730 ± 0.0167	245.5 ± 7.6	245.1 ± 15.0	0.57	0.00
2901B-27	17 rim	0.03749 ± 0.00118	0.2532 ± 0.0215	237.2 ± 7.4	229.2 ± 19.5	0.94	0.00
2901B-28	18 core	0.03711 ± 0.00111	0.3609 ± 0.0231	234.9 ± 7.0	312.8 ± 20.0	0.59	1.22
2901B-29	18 rim	0.04084 ± 0.00145	0.4876 ± 0.0451	258.0 ± 9.1	403.3 ± 37.3	0.46	2.19
2901B-30	19 rim	0.03968 ± 0.00122	0.3218 ± 0.0241	250.9 ± 7.7	283.3 ± 21.2	0.29	1.37
2901B-31	20 rim	0.03939 ± 0.00119	0.2959 ± 0.0212	249.1 ± 7.5	263.2 ± 18.9	0.40	1.26
2901B-32	20 core	0.04245 ± 0.00133	0.3371 ± 0.0267	268.0 ± 8.4	294.9 ± 23.4	0.24	0.62
2901B-33	21 rim	0.03780 ± 0.00104	0.3510 ± 0.0153	239.2 ± 6.6	305.4 ± 13.3	0.55	2.42
2901B-34	22 rim	0.03803 ± 0.00111	0.2828 ± 0.0178	240.6 ± 7.0	252.9 ± 15.9	0.48	0.00

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Sample 2901E (R37076)							
2901E-1	1 rim	0.03916 ± 0.00174	0.2775 ± 0.0225	247.6 ± 11.0	248.6 ± 20.1	0.35	0.00
2901E-2	2 rim	0.04051 ± 0.00179	0.2723 ± 0.0219	256.0 ± 11.3	244.5 ± 19.6	0.24	0.00
2901E-3	2 core	0.03830 ± 0.00176	0.2974 ± 0.0282	242.3 ± 11.1	264.3 ± 25.0	0.25	3.86
2901E-4	3 rim	0.03702 ± 0.00162	0.2607 ± 0.0194	234.3 ± 10.3	235.2 ± 17.5	0.44	0.00
2901E-5	3 core	0.04076 ± 0.00193	0.3021 ± 0.0330	257.5 ± 12.2	268.0 ± 29.3	0.14	0.00
2901E-6	4 rim	0.04013 ± 0.00180	0.2714 ± 0.0240	253.7 ± 11.4	243.8 ± 21.6	0.24	0.00
2901E-7	4 rim	0.04005 ± 0.00179	0.2696 ± 0.0226	253.2 ± 11.3	242.4 ± 20.4	0.43	0.32
2901E-8	4 rim	0.03941 ± 0.00176	0.2778 ± 0.0232	249.2 ± 11.1	248.9 ± 20.8	0.58	0.00
2901E-9	5 rim	0.03761 ± 0.00138	0.2868 ± 0.0217	238.0 ± 8.7	256.0 ± 19.4	0.26	0.00
2901E-10	5 core	0.03992 ± 0.00154	0.2686 ± 0.0262	252.3 ± 9.8	241.5 ± 23.6	0.16	0.46
2901E-11	6 rim	0.03914 ± 0.00147	0.2617 ± 0.0231	247.5 ± 9.3	236.0 ± 20.9	0.16	0.41
2901E-12	7 rim	0.03761 ± 0.00144	0.2617 ± 0.0242	238.0 ± 9.1	236.0 ± 21.8	0.39	1.66
2901E-13	7 core	0.03850 ± 0.00165	0.2928 ± 0.0366	243.5 ± 10.5	260.8 ± 32.6	0.20	0.00
2901E-14	8 rim	0.03676 ± 0.00140	0.2844 ± 0.0253	232.7 ± 8.9	254.1 ± 22.6	0.19	0.59
2901E-15	8 core	0.03880 ± 0.00161	0.2661 ± 0.0316	245.4 ± 10.2	239.5 ± 28.5	0.21	0.00
2901E-16	9 rim	0.03899 ± 0.00144	0.2716 ± 0.0219	246.6 ± 9.1	244.0 ± 19.7	0.47	0.00
2901E-17	10 rim	0.03937 ± 0.00173	0.2634 ± 0.0269	248.9 ± 10.9	237.4 ± 24.2	0.16	0.00
2901E-18	10 core	0.03794 ± 0.00158	0.2742 ± 0.0208	240.0 ± 10.0	246.1 ± 18.7	0.42	0.00
2901E-19	11 rim	0.03867 ± 0.00175	0.3081 ± 0.0329	244.6 ± 11.1	272.7 ± 29.1	0.15	0.00
2901E-20	11 core	0.03689 ± 0.00159	0.2470 ± 0.0227	233.5 ± 10.0	224.1 ± 20.6	0.55	0.02
2901E-21	12 core	0.04072 ± 0.00175	0.3056 ± 0.0270	257.3 ± 11.1	270.8 ± 23.9	0.13	0.00
2901E-22	12 rim	0.03817 ± 0.00167	0.2691 ± 0.0267	241.5 ± 10.6	242.0 ± 24.0	0.26	0.00
2901E-23	9 core	0.03904 ± 0.00176	0.2535 ± 0.0290	246.9 ± 11.1	229.4 ± 26.3	0.35	0.00
2901E-24	13 rim	0.03715 ± 0.00163	0.2508 ± 0.0254	235.2 ± 10.3	227.2 ± 23.0	0.15	0.00
2901E-25	14 rim	0.03696 ± 0.00169	0.2711 ± 0.0223	234.0 ± 10.7	243.6 ± 20.0	0.40	0.00
2901E-26	14 core	0.03745 ± 0.00170	0.2665 ± 0.0215	237.0 ± 10.8	239.9 ± 19.4	0.66	0.03
2901E-28	15 rim	0.03805 ± 0.00179	0.2635 ± 0.0259	240.7 ± 11.3	237.5 ± 23.3	0.27	1.18
2901E-29	16 rim	0.03837 ± 0.00180	0.2621 ± 0.0254	242.7 ± 11.4	236.4 ± 22.9	0.17	0.00
2901E-30	16 core	0.03828 ± 0.00186	0.2738 ± 0.0311	242.2 ± 11.8	245.7 ± 27.9	0.24	0.00
2901E-31	17 rim	0.03745 ± 0.00170	0.2644 ± 0.0212	237.0 ± 10.8	238.2 ± 19.1	0.49	0.37
2901E-32	17 core	0.04257 ± 0.00203	0.3219 ± 0.0333	268.8 ± 12.8	283.4 ± 29.3	0.15	0.32
2901E-33	18 rim	0.03880 ± 0.00178	0.2888 ± 0.0235	245.4 ± 11.3	257.6 ± 21.0	0.19	1.07
2901E-34	18 rim	0.03792 ± 0.00177	0.2840 ± 0.0257	239.9 ± 11.2	253.8 ± 23.0	0.16	1.13
2901E-35	18 core	0.03733 ± 0.00171	0.2525 ± 0.0213	236.3 ± 10.8	228.6 ± 19.3	0.14	0.56
2901E-36	18 core	0.03873 ± 0.00176	0.2661 ± 0.0208	245.0 ± 11.1	239.6 ± 18.8	0.57	0.15
2901E-37	19 rim	0.03718 ± 0.00179	0.2422 ± 0.0268	235.3 ± 11.3	220.2 ± 24.3	0.15	0.00
2901E-38	19 core	0.03681 ± 0.00174	0.2403 ± 0.0242	233.0 ± 11.0	218.7 ± 22.0	0.30	0.14
2901E-39	20 rim	0.03863 ± 0.00188	0.2797 ± 0.0317	244.3 ± 11.9	250.4 ± 28.4	0.14	0.00
2901E-40	21 rim	0.03636 ± 0.00173	0.2806 ± 0.0278	230.2 ± 11.0	251.1 ± 24.9	0.14	0.66
2901E-41	21 core	0.03978 ± 0.00191	0.2517 ± 0.0282	251.5 ± 12.1	228.0 ± 25.5	0.21	0.75
2901E-42	22 rim	0.03862 ± 0.00086	0.2905 ± 0.0212	244.3 ± 5.4	259.0 ± 18.9	0.19	0.05
2901E-43	22 core	0.03818 ± 0.00102	0.2618 ± 0.0272	241.5 ± 6.5	236.1 ± 24.5	0.18	0.00
2901E-44	22 rim	0.03727 ± 0.00098	0.2599 ± 0.0262	235.9 ± 6.2	234.6 ± 23.6	0.21	0.34
2901E-45	23 rim	0.03817 ± 0.00093	0.3770 ± 0.0288	241.5 ± 5.9	324.9 ± 24.8	0.12	1.60
2901E-46	23 rim	0.03709 ± 0.00095	0.2390 ± 0.0239	234.8 ± 6.0	217.6 ± 21.7	0.14	1.03
2901E-47	24 rim	0.03779 ± 0.00094	0.2445 ± 0.0234	239.1 ± 6.0	222.1 ± 21.3	0.15	0.00
2901E-48	24 core	0.03872 ± 0.00097	0.2810 ± 0.0256	244.9 ± 6.1	251.5 ± 22.9	0.22	0.00
2901E-49	25 rim	0.03689 ± 0.00076	0.2572 ± 0.0167	233.5 ± 4.8	232.4 ± 15.1	0.40	0.00
2901E-50	26 rim	0.03895 ± 0.00084	0.2707 ± 0.0194	246.3 ± 5.3	243.2 ± 17.4	0.23	0.54