

TABLE S6: R33 LA-ICPMS U-Pb ZIRCON GEOCHRONOLOGY

Composition										Ages							
Zircon #	U (ppm)	206Pb/204Pb	U/Th	206Pb/207Pb	2σ (%)	207Pb/235U	2σ (%)	206Pb/238U	2σ (%)	Error Corr.	206Pb/238U	2σ (Ma)	207Pb/235U	2σ (Ma)	206Pb/207Pb	2σ (Ma)	% Disc.
R33 no CA Run 1																	
R33-1	111	34248	1.54	18.621	5.6	0.5081	15.7	0.06864	14.7	0.934	428.0	60.8	417.1	53.8	357.6	126.3	-19.7
R33-10	242	6686	1.64	17.950	3.1	0.5099	4.3	0.06641	3.0	0.693	414.5	11.9	418.4	14.6	439.9	68.3	5.8
R33-11	552	13907	1.47	18.333	2.0	0.4942	3.5	0.06574	2.8	0.816	410.5	11.3	407.8	11.7	392.7	45.2	-4.5
R33-12	101	12207	1.61	17.336	6.1	0.5192	7.3	0.06531	4.0	0.547	407.8	15.7	424.6	25.2	516.8	133.4	21.1
R33-13	79	5544	2.02	17.046	6.6	0.5294	8.8	0.06548	5.7	0.655	408.9	22.7	431.4	30.8	553.7	144.3	26.2
R33-14	114	5476	1.73	17.498	5.3	0.5099	6.0	0.06474	2.8	0.463	404.4	10.8	418.4	20.5	496.4	116.8	18.5
R33-15	220	4403	1.08	18.132	4.8	0.5058	5.9	0.06655	3.4	0.570	415.3	13.5	415.6	20.1	417.3	107.9	0.5
R33-2	172	9048	1.67	19.038	4.1	0.4818	5.3	0.06655	3.3	0.627	415.3	13.3	399.3	17.4	307.3	93.6	-35.1
R33-3	678	16589	1.57	18.140	2.5	0.5029	4.3	0.06619	3.4	0.805	413.2	13.8	413.6	14.6	416.4	56.8	0.8
R33-4	163	5856	1.65	18.608	3.4	0.5175	4.6	0.06988	3.0	0.670	435.4	12.8	423.5	15.8	359.2	76.2	-21.2
R33-6	281	13597	1.56	18.723	3.2	0.5257	5.0	0.07141	3.9	0.779	444.6	16.9	428.9	17.6	345.3	71.6	-28.8
R33-7	1789	#####	1.32	17.861	1.7	0.5198	2.8	0.06737	2.2	0.782	420.3	8.9	425.0	9.7	451.0	38.7	6.8
R33-8	148	10891	1.34	18.222	3.1	0.5098	4.7	0.06741	3.5	0.749	420.5	14.3	418.3	16.1	406.2	69.4	-3.5
R33-9	269	12352	1.57	18.364	3.0	0.5003	4.7	0.06666	3.5	0.760	416.0	14.3	411.9	15.8	388.8	68.2	-7.0
R33 no CA Run 2																	
R33 1	296	7E+05	1.1	18.348	2.8	0.5049	3.7	0.06722	2.4	0.656	419.4	9.9	415	12.7	390.8	63.1	-7.3
R33 10	225	86117	0.85	18.252	2.6	0.5206	4.2	0.06895	3.3	0.79	429.8	13.7	425.6	14.5	402.6	57.2	-6.8
R33 11	72	56454	1.5	17.775	3.7	0.5122	5.3	0.06606	3.8	0.717	412.4	15.1	419.9	18.1	461.5	81.2	10.6
R33 12	147	28252	1.38	18.416	3.7	0.5006	4.4	0.06689	2.4	0.545	417.4	9.7	412.1	14.9	382.5	82.9	-9.1
R33 13	236	2E+05	1.66	18.118	2.8	0.5187	3.7	0.06819	2.5	0.667	425.2	10.2	424.3	12.9	419.1	62	-1.5
R33 14	154	2E+05	1.36	18.83	2.9	0.5037	4.2	0.06882	3	0.714	429	12.4	414.2	14.2	332.3	66.5	-29.1
R33 15	117	22168	1.38	18.207	3.2	0.5144	4.5	0.06796	3.2	0.712	423.9	13.2	421.4	15.7	408.1	71.3	-3.9
R33 16	117	22031	0.87	17.015	4.8	0.5637	6.5	0.06959	4.3	0.662	433.7	17.9	453.9	23.6	557.7	105.6	22.2
R33 17	196	73853	1.62	18.092	2.7	0.5173	3.4	0.06791	2	0.603	423.5	8.3	423.3	11.6	422.2	59.7	-0.3
R33 18	101	20741	1.36	18.266	3.5	0.4946	5	0.06555	3.6	0.721	409.3	14.3	408	16.8	400.8	77.4	-2.1
R33 19	107	2E+05	1.61	17.832	3.7	0.519	4.8	0.06716	3.1	0.645	419	12.6	424.5	16.6	454.5	81.4	7.8
R33 2	153	55363	2.63	18.383	2.8	0.4946	4.1	0.06597	3.1	0.738	411.8	12.2	408	13.9	386.5	62.8	-6.5
R33 20	96	1E+06	1.89	17.879	2.9	0.5151	4.1	0.06683	3	0.721	417	12.1	421.9	14.3	448.6	63.8	7.0
R33 21	288	7E+05	1.1	18.052	2.6	0.5026	3.9	0.06583	2.9	0.747	411	11.7	413.4	13.4	427.2	58.3	3.8
R33 22	214	63222	1.07	18.223	2.7	0.5208	4.1	0.06886	3.1	0.754	429.3	13	425.7	14.4	406.2	61	-5.7
R33 23	111	32367	1.52	18.251	3.1	0.496	4.2	0.06569	2.9	0.68	410.1	11.4	409	14.2	402.7	69.1	-1.8
R33 24	138	1E+06	1.42	18.325	2.9	0.5023	4.1	0.06679	3	0.723	416.8	12.1	413.2	14.1	393.6	64.2	-5.9
R33 25	457	9E+05	1.7	18.253	2.5	0.515	3.7	0.06821	2.7	0.739	425.3	11.1	421.8	12.6	402.4	55.2	-5.7
R33 26	503	3E+05	1.53	17.988	2.2	0.5105	3.5	0.06664	2.7	0.774	415.9	11.1	418.8	12.2	435.1	50	4.4
R33 27	613	3E+05	1.42	18.089	2.2	0.5301	3	0.06958	2.1	0.689	433.6	8.7	431.9	10.6	422.6	48.9	-2.6
R33 28	68	5000	1.62	19.02	9.3	0.4871	10	0.06722	3.8	0.382	419.4	15.6	402.9	33.3	309.5	210.9	-35.5
R33 29	294	50470	1.66	18.175	2.6	0.5107	3.8	0.06735	2.8	0.737	420.2	11.5	418.9	13.1	412.1	57.8	-2.0
R33 3	201	2E+05	1.11	18.212	2.8	0.5093	3.9	0.0673	2.6	0.681	419.9	10.7	418	13.3	407.5	63.5	-3.0
R33 30	55	5000	2.16	19.572	10.4	0.4689	11.4	0.06659	4.6	0.401	415.6	18.4	390.4	36.9	244	240.7	-70.3
R33 4	132	2E+05	1.59	18.2	3.3	0.5122	5	0.06764	3.7	0.741	422	15	419.9	17.1	408.9	74.5	-3.2
R33 5	280	47163	2.51	17.934	2.4	0.5082	3.8	0.06613	3	0.776	412.8	11.9	417.2	13.1	441.8	53.7	6.6
R33 6	79	67169	2.37	18.127	3.6	0.5048	4.7	0.06639	3.1	0.657	414.4	12.5	414.9	16.1	417.9	79.9	0.8
R33 7	201	2E+05	1.72	18.105	2.6	0.5053	4.1	0.06638	3.2	0.783	414.3	13	415.3	14.1	420.7	57.5	1.5
R33 8	184	2E+05	1.24	17.784	3	0.504	3.9	0.06503	2.5	0.643	406.2	9.8	414.4	13.2	460.5	65.9	11.8
R33 9	355	1E+05	0.95	18.333	2.3	0.509	3.5	0.06771	2.6	0.74	422.3	10.5	417.8	11.9	392.7	52.5	-7.5
R33 CA Run 1																	
R33-1	173	8053	1.33	18.230	5.2	0.5105	6.5	0.06753	3.9	0.598	421.2	15.8	418.8	22.2	405.3	116.1	-3.9
R33-2	441	#####	1.58	17.777	3.8	0.5224	4.5	0.06739	2.5	0.544	420.4	10.0	426.8	15.7	461.4	83.8	8.9
R33-3	202	7029	1.26	18.836	5.0	0.4870	5.9	0.06656	3.1	0.526	415.4	12.4	402.9	19.5	331.6	113.3	-25.3
R33-4	235	4692	1.45	20.020	6.0	0.4849	16.6	0.07043	15.5	0.933	438.8	65.8	401.4	55.2	191.7	139.5	-128.9
R33-5	180	15002	1.44	18.436	3.4	0.5054	4.5	0.06761	3.0	0.657	421.7	12.2	415.4	15.5	380.1	76.8	-10.9
R33-6	410	6938	1.86	18.680	3.0	0.4979	4.0	0.06748	2.6	0.658	421.0	10.6	410.3	13.4	350.5	67.7	-20.1
R33-7	243	15063	1.24	18.652	2.7	0.4983	3.8	0.06744	2.7	0.705	420.7	11.0	410.6	12.9	353.8	61.3	-18.9
R33-8	1317	36566	0.94	17.933	1.7	0.5052	4.0	0.06574	3.6	0.908	410.4	14.4	415.2	13.5	441.9	37.0	7.1
R33-9	187	#####	2.06	17.459	7.8	0.5458	12.5	0.06914	9.7	0.777	431.0	40.4	442.2	44.7	501.2	172.8	14.0
R33-10	357	13328	2.59	18.585	2.6	0.4923	4.0	0.06638	3.0	0.749	414.3	12.0	406.4	13.4	362.0	59.6	-14.4
R33-11	96	6625	1.91	12.979	12.0	0.7197	15.7	0.06777	10.1	0.647	422.7	41.5	550.5	66.6	1121.6	238.6	62.3
R33-12	187	5552	1.33	17.549	6.6	0.5338	7.6	0.06797	3.7	0.488	423.9	15.1	434.4	26.7	490.0	145.7	13.5
R33-14	200	10606	1.27	18.387	3.6	0.4968	4.8	0.06628	3.1	0.658	413.7	12.6	409.5	16.1	386.1	80.6	-7.1
R33-13	185	7356	1.32	19.053	3.8	0.4715	5.3	0.06518	3.7	0.701	407.0	14.7	392.2	17.3	305.6	86.5	-33.2
R33-15	627	#####	1.47	17.954	2.7	0.5189	4.3	0.06760	3.4	0.781	421.7	13.9	424.4	15.1	439.3	60.5	4.0
R33 CA Run 2																	
R33 1	425	3E+05	0.98	18.358	2.9	0.5046	3.7	0.06721	2.2	0.596	419.3	8.9	414.8	12.5	389.6	66.2	-7.6
R33 10	155	2E+05	2.23	18.14	3.9	0.5186	5	0.06826	3.1	0.618	425.7	12.7	424.2</				

R33 21	174	1E+05	1.81	17.994	4.1	0.5157	5	0.06733	2.9	0.572	420	11.7	422.2	17.3	434.4	91.7	3.3
R33 22	312	7E+05	1.42	18.037	2.9	0.5217	4	0.06828	2.8	0.685	425.8	11.4	426.3	14.1	429	65.6	0.7
R33 23	248	22594	1.26	18.414	3.7	0.5097	4.8	0.06809	3.1	0.648	424.7	12.8	418.2	16.5	382.8	82.3	-10.9
R33 24	152	33205	1.71	18.595	4	0.5014	4.9	0.06765	2.9	0.595	422	12	412.6	16.7	360.7	89.4	-17.0
R33 25	384	53527	1.28	18.34	2.8	0.5116	3.5	0.06808	2.1	0.59	424.6	8.5	419.5	12.1	391.7	63.6	-8.4
R33 26	375	75011	1.3	18.1	2.7	0.522	4	0.06855	2.9	0.741	427.4	12.1	426.5	13.8	421.3	59.2	-1.4
R33 27	253	44741	1.41	18.344	1.9	0.5064	3.3	0.0674	2.7	0.825	420.5	11.2	416	11.4	391.3	42.2	-7.5
R33 28	540	2E+05	1.55	18.364	2	0.5167	3.3	0.06886	2.6	0.802	429.3	11	423	11.4	388.8	44.2	-10.4
R33 29	711	2E+05	1.58	18.056	2.5	0.5132	3.6	0.06724	2.6	0.726	419.5	10.6	420.6	12.4	426.7	55.2	1.7
R33 3	259	43002	1.81	18.104	3	0.5188	4.6	0.06815	3.5	0.761	425	14.4	424.4	15.9	420.8	66.5	-1.0
R33 30	198	73164	1.23	18.544	2.4	0.5116	4.1	0.06883	3.4	0.817	429.1	14	419.5	14.1	367	53.4	-16.9
R33 4	732	3E+05	1.71	17.93	2.4	0.5172	3.4	0.06729	2.4	0.71	419.8	9.7	423.3	11.7	442.3	52.7	5.1
R33 5	100	56058	1.58	17.818	4.5	0.5224	5.9	0.06754	3.8	0.652	421.3	15.6	426.7	20.5	456.2	99.1	7.7
R33 7	379	1E+06	1.68	18.27	3	0.5156	3.8	0.06836	2.4	0.63	426.3	9.9	422.2	13.1	400.3	66.1	-6.5
R33 8	170	45687	1.3	18.238	3.6	0.5107	4.7	0.06758	3	0.641	421.6	12.2	418.9	16	404.3	80	-4.3
R33 9	693	3E+05	1.7	18	1.9	0.5136	3.2	0.06707	2.6	0.818	418.5	10.7	420.8	11.1	433.7	41.2	3.5
R33 CA Run 2 (discordant)																	
R33 6	166	4E+05	2.12	6.231	1.8	10.048	3.8	0.45425	3.3	0.88	2414.1	67.2	2439.2	35	2460.2	30.4	1.9