

TABLE S9: 91500 LA-ICPMS U-Pb ZIRCON GEOCHRONOLOGY

Zircon #	Composition				Ages											% Disc.	
	U (ppm)	206Pb/204Pb	U/Th	206Pb/207Pb (2σ)	207Pb/235U (2σ)	206Pb/238U (2σ)	2σ (2σ)	Error Corr.	206Pb/238U (Ma)	2σ (Ma)	207Pb/235U (Ma)	2σ (Ma)	206Pb/207Pb (Ma)	2σ (Ma)			
91500 no CA Run 1																	
91500-1	72	11484	2.85	13.430	26.9	1.828	4.0	0.17811	3.0	0.756	1056.6	29.7	1055.5	26.5	1053.1	53.2	-0.3
91500-2	74	14269	2.83	13.400	26.8	1.857	3.9	0.18055	2.8	0.719	1070.0	27.4	1065.9	25.5	1057.6	54.0	-1.2
91500-3	63	14357	2.87	13.542	27.1	1.811	3.8	0.17793	2.9	0.763	1055.6	27.9	1049.3	24.6	1036.3	49.0	-1.9
91500-5	77	14029	2.82	13.374	26.7	1.836	3.9	0.17812	2.9	0.752	1056.7	28.2	1058.3	25.3	1061.5	51.1	0.5
91500-6	77	7620	2.91	13.393	26.8	1.796	4.7	0.17451	3.5	0.758	1036.9	34.0	1043.9	30.5	1058.7	61.3	2.1
91500-8	66	76895	2.99	13.564	27.1	1.810	6.9	0.17810	5.2	0.749	1056.6	50.5	1049.0	45.2	1033.1	92.5	-2.3
91500-9	67	5890	2.81	13.682	27.4	1.755	3.2	0.17427	2.7	0.860	1035.6	26.1	1029.2	20.5	1015.5	32.7	-2.0
91500-10	75	6004	2.92	13.085	26.2	1.834	6.8	0.17416	3.5	0.518	1035.0	33.7	1057.8	44.7	1105.3	116.3	6.4
91500-11	68	9787	2.87	13.730	27.5	1.778	4.6	0.17715	3.6	0.778	1051.4	35.0	1037.5	30.2	1008.4	59.1	-4.3
91500-12	71	22374	3.02	13.585	27.2	1.772	4.5	0.17469	3.1	0.690	1037.9	29.8	1035.3	29.2	1029.9	65.9	-0.8
91500-13	58	4784	2.92	13.689	27.4	1.784	4.7	0.17722	3.1	0.660	1051.7	30.1	1039.7	30.6	1014.5	71.6	-3.7
91500-14	72	6618	2.90	13.740	27.5	1.754	5.6	0.17491	3.8	0.683	1039.1	36.6	1028.8	36.1	1006.9	82.7	-3.2
91500-15	73	10448	3.01	13.706	27.4	1.775	6.7	0.17651	5.3	0.790	1047.9	51.5	1036.3	43.7	1012.0	83.6	-3.6
91500 no CA Run 1 (discordant)																	
91500-4	72	5414	2.90	13.859	27.7	1.747	6.2	0.17564	3.5	0.567	1043.1	33.7	1025.9	39.8	989.5	103.3	-5.4
91500-7	78	8783	2.71	13.964	27.9	1.743	2.9	0.17662	2.2	0.737	1048.5	21.0	1024.6	19.0	974.1	40.6	-7.6
91500 no CA Run 2																	
91500 10	60	432045	2.99	13.34	2.9	1.857	4.9	0.17976	3.9	0.804	1065.7	38.8	1065.9	32	1066.4	58.7	0.1
91500 11	46	63264	3.16	13.46	3.3	1.8465	5.1	0.18028	3.9	0.762	1068.5	38	1062.2	33	1049.2	66.2	-1.8
91500 12	53	285731	3.25	13.26	3	1.851	4.8	0.17811	3.8	0.788	1056.7	37	1063.8	32	1078.4	59.5	2.0
91500 13	76	54142	2.94	13.4	2.8	1.8462	4.1	0.17948	3.1	0.742	1064.1	30.2	1062.1	27	1058	56	-0.6
91500 14	65	114360	2.94	13.62	3.1	1.7752	6.2	0.17539	5.3	0.861	1041.7	51.4	1036.4	40	1025.2	63.7	-1.6
91500 15	71	213814	2.91	13.37	2.8	1.8394	3.5	0.17841	2.2	0.628	1058.3	21.7	1059.7	23	1062.4	55.4	0.4
91500 16	63	81913	3.12	13.39	2.5	1.811	3.8	0.17594	2.8	0.735	1044.7	26.6	1049.4	25	1059.3	51.2	1.4
91500 17	63	31127	3.04	13.54	2.5	1.7943	4	0.17631	3.2	0.789	1046.8	30.8	1043.4	26	1036.3	50.3	-1.0
91500 18	62	366302	2.92	13.4	2.3	1.8673	4.5	0.1816	3.9	0.862	1075.7	38.8	1069.6	30	1057	46.4	-1.8
91500 19	64	46412	3.03	13.52	3.4	1.8152	5	0.1781	3.6	0.731	1056.6	35.4	1051	33	1039.3	68.5	-1.7
91500 2	72	69741	2.96	13.58	3.2	1.8127	4.2	0.17864	2.7	0.646	1059.6	26.6	1050.1	28	1030.3	64.9	-2.8
91500 20	57	100000	2.97	13.48	3.8	1.8916	5.5	0.18501	4	0.723	1094.3	39.9	1078.2	36	1045.7	76.5	-4.6
91500 21	62	144706	3.05	13.61	2.3	1.778	4.4	0.1756	3.7	0.846	1042.9	35.9	1037.5	29	1026	47.5	-1.6
91500 22	63	495552	2.98	13.36	2.8	1.8378	5.2	0.17815	4.4	0.839	1056.8	42.5	1059.1	34	1063.7	57	0.6
91500 23	50	52834	3.13	13.44	2.9	1.8341	4.8	0.17889	3.8	0.798	1060.9	37.2	1057.7	31	1051.2	58	-0.9
91500 24	50	175805	3.27	13.57	3.1	1.8075	5.5	0.17793	4.6	0.83	1055.7	44.6	1048.2	36	1032.6	62.2	-2.2
91500 25	69	64128	2.86	13.52	2.1	1.8272	3	0.17926	2.2	0.736	1062.9	22	1055.3	20	1039.5	41.7	-2.3
91500 26	75	312938	2.86	13.52	2.2	1.8254	4.8	0.1791	4.2	0.883	1062	41.2	1054.6	31	1039.3	45.2	-2.2
91500 27	49	29356	3.07	13.7	3.7	1.8016	6	0.17904	4.8	0.787	1061.7	46.5	1046	39	1013.4	75.4	-4.8
91500 28	56	157634	3.02	13.55	2.4	1.8049	4.1	0.17742	3.3	0.81	1052.9	31.9	1047.2	27	1035.4	48.1	-1.7
91500 29	59	81428	3	13.57	2.7	1.7999	4.2	0.17728	3.2	0.774	1052.1	31.5	1045.4	27	1031.6	53.8	-2.0
91500 3	51	110996	3.18	13.54	3.2	1.8003	4.7	0.17684	3.4	0.724	1049.7	33	1045.6	31	1036.9	65.6	-1.2
91500 30	50	111474	3.2	13.1	2.4	1.8324	4.6	0.17418	3.9	0.85	1035.1	37.6	1057.1	30	1103	48.7	6.2
91500 4	85	36613	2.95	13.45	2.3	1.7723	3.7	0.1729	2.9	0.793	1028.1	27.9	1035.4	24	1050.9	45.5	2.2
91500 5	50	76415	3.33	13.54	2.2	1.7997	4	0.17684	3.4	0.841	1049.7	32.5	1045.3	26	1036.2	43.8	-1.3
91500 6	52	26391	3.26	13.55	2.7	1.783	4.8	0.17523	4	0.831	1040.9	38.7	1039.3	32	1035.9	54.5	-0.5
91500 7	64	118619	2.98	13.3	2.3	1.8132	4.6	0.17495	3.9	0.86	1039.3	37.8	1050.2	30	1073	46.9	3.1
91500 8	78	2036753	2.97	13.44	3	1.7733	4.6	0.17293	3.5	0.763	1028.2	33.2	1035.7	30	1051.7	59.7	2.2
91500 9	66	379323	2.96	13.61	2.8	1.7952	4.4	0.17731	3.4	0.77	1052.3	32.7	1043.7	29	1025.8	56.4	-2.6
91500 CA Run 1																	
91500-1	111	7828	2.76	13.519	2.1	1.734	3.8	0.17010	3.2	0.837	1012.7	29.6	1021.3	24.3	1039.7	41.8	2.6
91500-4	118	12666	2.78	13.318	3.2	1.724	6.1	0.16660	5.1	0.845	993.4	47.1	1017.5	38.9	1069.9	65.1	7.2
91500-5	102	6638	2.84	13.671	3.2	1.715	4.5	0.17010	3.3	0.716	1012.6	30.5	1014.1	29.2	1017.2	64.3	0.4
91500-6	93	34450	2.70	13.329	3.0	1.481	3.9	0.14321	2.6	0.652	862.8	20.7	922.5	23.9	1068.2	60.0	19.2
91500-7	118	14397	2.73	13.441	2.4	1.728	4.7	0.16855	4.0	0.855	1004.1	37.3	1019.1	30.2	1051.5	49.1	4.5
91500-8	112	25835	2.59	13.605	2.7	1.783	3.3	0.17597	1.9	0.565	1044.9	18.1	1039.1	21.6	1027.0	55.4	-1.7
91500-10	107	62285	2.75	13.710	2.1	1.747	3.9	0.17379	3.3	0.840	1033.0	31.3	1026.1	25.2	1011.4	42.8	-2.1
91500-11	105	13338	2.75	13.774	7.2	1.748	11.3	0.17468	8.7	0.768	1037.8	83.2	1026.3	73.1	1001.9	147.3	-3.6
91500-14	117	22529	2.74	13.542	2.2	1.735	3.4	0.17050	2.6	0.756	1014.9	24.2	1021.7	22.0	1036.4	45.1	2.1
91500-15	99	97207	2.83	13.487	3.6	1.745	5.3	0.17073	3.9	0.728	1016.2	36.2	1025.2	34.2	1044.5	73.3	2.7
91500 CA Run 1 (discordant)																	
91500-2	106	5351	2.72	14.917	8.1	1.686	25.0	0.18246	23.6	0.946	1080.4	235.3	1003.1	###	837.9	168.2	-28.9
91500-3	96	3834	2.65	14.106	2.3	1.679	3.4	0.17184	2.5	0.728	1022.2	23.6	1000.6	21.8	953.4	48.0	-7.2
91500-9	126	4448	2.62	14.073	1.9	1.669	3.0	0.17040	2.3	0.760	1014.3	21.1	996.8	18.8	958.3	39.3	-5.9
91500-12	95	3186	2.69	20.118	3.9	0.954	5.2	0.13929	3.5	0.671	840.6	27.5	680.3	25.8	180.2	90.0	-366.5
91500-13	115	90638	2.90	11.984	2.6	1.875	7.0	0.16306	6.5	0.930	973.8	58.5	1072.4	46.1	1278.8	50.0	23.9
91500 CA Run 2																	
91500 1	116	40413	2.66	13.36	3.1	1.854	5.1	0.17969	4	0.782	1065.3	38.8	1064.8	33	1063.9	63.3	-0.1
91500 11	113	72735	2.55	13.54	2.1	1.8412	4.4	0.18088	3.9	0.88	1071.8	38.3	1063				

91500 21	99	120776	2.54	13.49	2.7	1.8585	4.6	0.18191	3.8	0.816	1077.4	37.4	1066.4	31	1044.1	53.9	-3.2
91500 22	86	663732	2.75	13.1	3.8	1.8774	5.6	0.17844	4.1	0.73	1058.4	39.7	1073.2	37	1103.2	76.2	4.1
91500 23	109	1487161	2.61	13.6	2.6	1.8144	6	0.17903	5.4	0.9	1061.7	52.4	1050.7	39	1027.8	52.6	-3.3
91500 24	96	124311	2.61	13.38	3	1.8858	5	0.18304	4	0.796	1083.6	39.8	1076.1	33	1061	61	-2.1
91500 25	112	246803	2.68	13.32	2.4	1.8478	4.4	0.17856	3.7	0.834	1059.1	35.9	1062.7	29	1069.9	48.8	1.0
91500 26	128	179489	2.55	13.47	2.7	1.8566	4.3	0.18149	3.3	0.78	1075.1	32.9	1065.8	28	1046.8	53.7	-2.7
91500 27	104	74513	2.67	13.64	2.9	1.8268	3.8	0.18075	2.5	0.663	1071.1	25.1	1055.1	25	1022.2	58.2	-4.8
91500 28	123	54210	2.63	13.26	3.2	1.8179	5	0.17487	3.8	0.77	1038.9	36.6	1051.9	32	1079.2	63.3	3.7
91500 29	117	299682	2.54	13.31	3.3	1.8572	4.7	0.17937	3.4	0.708	1063.5	32.9	1066	31	1071.1	67.2	0.7
91500 3	95	109347	2.79	13.34	2.4	1.8536	4.2	0.17943	3.4	0.821	1063.9	33.6	1064.7	28	1066.4	47.8	0.2
91500 30	101	48440	2.62	13.31	3	1.8578	4.8	0.1794	3.7	0.782	1063.7	36.6	1066.2	32	1071.3	59.7	0.7
91500 4	98	3027465	2.6	13.37	2.2	1.8863	4	0.18305	3.3	0.83	1083.6	33.3	1076.3	27	1061.4	45.1	-2.1
91500 5	122	87402	2.71	13.39	3.1	1.8043	5.1	0.17529	4	0.796	1041.2	38.7	1047	33	1059.2	61.6	1.7
91500 6	123	71895	2.65	13.31	2.5	1.8223	4.4	0.17602	3.7	0.825	1045.2	35.3	1053.5	29	1070.7	50.3	2.4
91500 7	106	407956	2.61	13.57	3.1	1.8209	4.9	0.1793	3.8	0.778	1063.2	37.1	1053	32	1031.9	61.8	-3.0
91500 8	102	38420	2.59	13.45	1.9	1.8531	4.3	0.1808	3.9	0.899	1071.3	38	1064.5	28	1050.7	37.8	-2.0
91500 9	112	95071	2.65	13.61	2.6	1.8379	5.1	0.18145	4.4	0.863	1074.9	43.4	1059.1	33	1026.7	52	-4.7
91500 CA Run 2 (discordant)																	
91500 10	101	30656	2.55	13.712	3.5	1.8289	5.4	0.18196	4.1	0.762	1077.7	40.7	1055.9	35.3	1011	70.6	-6.6
91500 14	88	22736	2.75	13.717	3.3	1.87	5	0.18612	3.7	0.747	1100.3	37.7	1070.5	33	1010.3	67.3	-8.9