Table DR.2a Lu-Hf Isotope data.

Sample	(176Yb + 176Lu) / 176Hf (%)	Volts Hf
Sample 17AVI02		
- 17AVI02 Spot 175	21.2	4.3
- 17AVI02 Spot 269	41.5	5.3
- 17AVI02 Spot 301	34.1	4.1
- 17AVI02 Spot 134	40.0	3.9
- 17AVI02 Spot 289	18.9	3.4
- 17AVI02 Spot 10	16.2	3.7
- 17AVI02 Spot 272	54.7	2.8
- 17AVI02 Spot 133	23.3	3.5
- 17AVI02 Spot 63	19.2	3.5
- 17AVI02 Spot 293	35.1	4.0
- 17AVI02 Spot 275	50.6	2.7
- 17AVI02 Spot 185	24.6	3.4
- 17AVI02 Spot 163	35.2	3.1
- 17AVI02 Spot 115	24.3	3.7
- 17AVI02 Spot 101	28.1	4.1
- 17AVI02 Spot 300	38.1	3.4
- 17AVI02 Spot 9	28.2	3.4
- 17AVI02 Spot 299	37.4	4.0
- 17AVI02 Spot 120	30.6	3.7
- 17AVI02 Spot 222	43.8	4.3
- 17AVI02 Spot 126	27.3	4.3
- 17AVI02 Spot 194	21.8	4.1
- 17AVI02 Spot 87	41.7	3.9
- 17AVI02 Spot 214	24.9	3.9
- 17AVI02 Spot 6	37.0	3.8
- 17AVI02 Spot 128	20.6	3.7
- 17AVI02 Spot 112	41.3	5.2
- 17AVI02 Spot 75	19.5	3.5
- 17AVI02 Spot 40	41.6	4.0
- 17AVI02 Spot 94	30.6	3.8
- 17AVI02 Spot 197	51.8	4.0
- 17AVI02 Spot 80	34.4	3.7
- 17AVI02 Spot 153	16.2	4.4
- 17AVI02 Spot 38	59.1	3.1
- 17AVI02 Spot 179	44.7	3.4
- 17AVI02 Spot 231	25.5	3.9
Sample 17AVI03		
- 17AVI03 Spot 39	100.4	3.8
- 17AVI03 Spot 214	27.9	4.4
- 17AVI03 Spot 47	27.2	4.2
- 17AVI03 Spot 119	21.7	3.7

-A 17AVI03 Spot 9	53.5	4.7
- 17AVI03 Spot 68	17.8	4.1
- 17AVI03 Spot 256	16.0	4.4
- 17AVI03 Spot 111	23.8	4.3
- 17AVI03 Spot 21	41.6	4.2
- 17AVI03 Spot 1	23.1	4.6
-A 17AVI03 Spot 69	19.7	4.2
- 17AVI03 Spot 202	10.9	8.8
- 17AVI03 Spot 227	95.4	4.6
- 17AVI03 Spot 116	44.3	3.8
- 17AVI03 Spot 5	41.5	4.2
- 17AVI03 Spot 153	52.3	4.7
- 17AVI03 Spot 179	25.0	4.4
- 17AVI03 Spot 126	37.6	4.5
- 17AVI03 Spot 35	12.5	5.1
- 17AVI03 Spot 313	45.1	4.8
- 17AVI03 Spot 145	107.2	4.0
- 17AVI03 Spot 172	37.1	4.4
- 17AVI03 Spot 230	71.3	4.4
- 17AVI03 Spot 167	37.9	3.1
-A 17AVI03 Spot 70	86.8	4.8
-A 17AVI03 Spot 8	74.1	4.9
- 17AVI03 Spot 19	35.0	5.0
- 17AVI03 Spot 312	72.2	4.7
- 17AVI03 Spot 63	50.2	4.5
- 17AVI03 Spot 190	14.2	6.0
- 17AVI03 Spot 238	66.1	4.8
- 17AVI03 Spot 84	39.1	4.3
- 17AVI03 Spot 294	42.6	3.9
- 17AVI03 Spot 54	28.5	4.0
- 17AVI03 Spot 241	113.2	3.1
-A 17AVI03 Spot 96	27.3	3.8
- 17AVI03 Spot 200	33.6	4.3
- 17AVI03 Spot 2	16.9	3.3
- 17AVI03 Spot 315	5.6	5.5
- 17AVI03 Spot 26	96.3	3.4
-A 17AVI03 Spot 68	38.2	5.0
- 17AVI03 Spot 114	39.3	4.0
- 17AVI03 Spot 159	31.9	3.4
- 17AVI03 Spot 51	26.3	4.7
- 17AVI03 Spot 10 R2	0.0	6.1
-A 17AVI03 Spot 97	12.8	5.0
-A 17AVI03 Spot 88	7.2	5.3
- 17AVI03 Spot 279	9.5	3.2
- 17AVI03 Spot 11 c2	1.5	6.9
- 17AVI03 Spot 101	19.8	5.1
-A 17AVI03 Spot 104	72.1	3.3
-A 17AVI03 Spot 25	25.2	4.3

- 17AVI03 Spot 236	14.5	6.4
-A 17AVI03 Spot 43	19.4	5.5
- 17AVI03 Spot 62	24.4	3.4
- 17AVI03 Spot 88	22.8	4.5
- 17AVI03 Spot 306	27.6	5.3
-A 17AVI03 Spot 33	20.5	4.6

Notes:

Spot names beginning with "-A" were analyzed from sample

Sample 17AVI04		
- 17AVI04 Spot 281	30.2	4.5
- 17AVI04 Spot 266	26.0	4.9
- 17AVI04 Spot 298	40.8	4.5
- 17AVI04 Spot 292	31.0	5.3
- 17AVI04 Spot 305	37.9	4.6
- 17AVI04 Spot 201	21.4	4.7
- 17AVI04 Spot 123	29.8	3.4
- 17AVI04 Spot 155	37.4	4.2
- 17AVI04 Spot 120	46.2	5.4
- 17AVI04 Spot 279	29.3	4.6
- 17AVI04 Spot 193	23.6	4.6
- 17AVI04 Spot 188	23.7	5.1
- 17AVI04 Spot 88	29.4	5.3
- 17AVI04 Spot 131	43.3	5.1
- 17AVI04 Spot 314	84.9	3.8
- 17AVI04 Spot 56	19.4	4.8
- 17AVI04 Spot 178	32.5	4.7
- 17AVI04 Spot 261	22.9	4.7
- 17AVI04 Spot 274	31.4	4.8
- 17AVI04 Spot 61	24.4	5.0
- 17AVI04 Spot 165	33.9	4.7
- 17AVI04 Spot 55	28.8	4.9
- 17AVI04 Spot 190	27.3	4.9
- 17AVI04 Spot 176	30.7	5.0
- 17AVI04 Spot 250	32.5	4.8
- 17AVI04 Spot 137	30.4	5.7
- 17AVI04 Spot 182	35.6	3.7
- 17AVI04 Spot 23	80.6	5.4
- 17AVI04 Spot 45	40.2	4.3
- 17AVI04 Spot 285	29.8	4.2
- 17AVI04 Spot 181	39.4	4.9
- 17AVI04 Spot 30	47.9	8.3
- 17AVI04 Spot 234	77.6	4.0
- 17AVI04 Spot 59	8.8	5.9
- 17AVI04 Spot 134	8.8	5.7
- 17AVI04 Spot 307	15.2	4.5

Sample 17AVI05

- 17AVI05 Spot 71	27.9	4.7
- 17AVI05 Spot 132 c2	25.4	4.5
- 17AVI05 Spot 147	34.8	4.3
- 17AVI05 Spot 135 r6	80.4	3.9
- 17AVI05 Spot 70	27.3	3.8
- 17AVI05 Spot 138	27.9	4.0
- 17AVI05 Spot 56	25.9	4.2
- 17AVI05 Spot 22	39.7	4.1
- 17AVI05 Spot 120	34.6	3.3
- 17AVI05 Spot 142	34.9	4.3
- 17AVI05 Spot 73	34.4	4.0
- 17AVI05 Spot 63	27.7	4.4
- 17AVI05 Spot 78	50.4	5.0
- 17AVI05 Spot 121	39.6	4.8
- 17AVI05 Spot 50	56.2	5.2
- 17AVI05 Spot 59	33.2	4.4
- 17AVI05 Spot 36	32.2	4.9
- 17AVI05 Spot 34 r4	40.1	4.8
- 17AVI05 Spot 46	27.4	4.6
- 17AVI05 Spot 40	47.0	2.9
- 17AVI05 Spot 8	29.0	4.5
- 17AVI05 Spot 32 c1	40.0	4.6
- 17AVI05 Spot 80	27.4	4.7
- 17AVI05 Spot 143	43.7	4.4
- 17AVI05 Spot 38	14.7	4.7
- 17AVI05 Spot 79	26.1	4.8
- 17AVI05 Spot 1	88.3	4.5
- 17AVI05 Spot 115	37.0	5.1
- 17AVI05 Spot 24	27.8	4.8
- 17AVI05 Spot 28	40.5	4.4
- 17AVI05 Spot 55	43.9	4.8
- 17AVI05 Spot 37	8.0	5.7
- 17AVI05 Spot 131	15.4	3.6

Sample 17AVI08		
- 17AVI08 Spot 314	26.7	4.3
- 17AVI08 Spot 51	31.5	4.9
- 17AVI08 Spot 201	38.0	5.2
- 17AVI08 Spot 298	45.7	6.2
- 17AVI08 Spot 172	30.2	4.8
- 17AVI08 Spot 222	51.2	5.2
- 17AVI08 Spot 32	44.9	5.1
- 17AVI08 Spot 146	56.4	4.7
- 17AVI08 Spot 161	45.9	4.9
- 17AVI08 Spot 138	48.5	5.0
- 17AVI08 Spot 35	65.0	4.4
- 17AVI08 Spot 181	30.5	5.4
- 17AVI08 Spot 315	48.9	5.4

- 17AVI08 Spot 246	15.8	5.9
- 17AVI08 Spot 174	31.3	5.0
- 17AVI08 Spot 252	52.2	3.5
- 17AVI08 Spot 112	24.2	5.0
- 17AVI08 Spot 15	15.8	5.5
- 17AVI08 Spot 121	16.6	5.5
- 17AVI08 Spot 43	35.0	5.0
- 17AVI08 Spot 188	21.2	5.1
- 17AVI08 Spot 139	30.9	5.2
- 17AVI08 Spot 293	22.6	5.4
- 17AVI08 Spot 169	32.2	5.5
- 17AVI08 Spot 189	73.8	5.1
- 17AVI08 Spot 44	41.8	5.0
- 17AVI08 Spot 163	23.3	4.8
- 17AVI08 Spot 2	19.6	3.9
- 17AVI08 Spot 173	36.6	4.9
- 17AVI08 Spot 25	24.1	4.9
- 17AVI08 Spot 250	21.5	5.0
- 17AVI08 Spot 198	25.9	5.1
- 17AVI08 Spot 133	20.5	5.4
- 17AVI08 Spot 97	24.9	6.3
- 17AVI08 Spot 179	32.8	4.6
- 17AVI08 Spot 28	43.1	5.1
- 17AVI08 Spot 101	26.8	4.9
- 17AVI08 Spot 111	13.4	4.9
- 17AVI08 Spot 212	17.7	5.4
- 17AVI08 Spot 210	29.0	4.2
- 17AVI08 Spot 202	38.2	5.8
- 17AVI08 Spot 227	8.5	4.7

Notes for tables:

1 Data reduction methodology is from Woodhead et al. (:
2 Analytical methods described in detail by Gehrels and
3 (176Yb + 176Lu) / 176Hf (%) expresses the proportion
4 Volts Hf is the sum of voltages of all Hf isotopes.
5 176Hf/177Hf is the measured 176Hf/177Hf, corrected f
6 ^{176}Lu/^{177}Hf is the intensity of 176Lu, calculated from the
Fractionatio
7 176Hf/177Hf (T) is the 176Hf/177Hf corrected to the tir
8 E-Hf (0) is the present-day epsilon Hf value using 176H
9 E-Hf (T) is the epsilon Hf value at the time of crystalliza
10 U-Pb ages are based on 206/238 for ages younger tha
11 Isotope ratios as follows:

180/177
179/177
178/177
176/177
174/177

176/175
176/171
173/171
172/171

Notes for plots:

1 DM array is from Vervoort and Blichert-Toft (1999), usi
2 CHUR is from Bouvier et al. (2008), using 176Hf/177H
3 Hf isotope evolution lines assume an average value of

Values are f

4 Uncertainties shown at 2-sigma.

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176Hf/177Hf	± (1s)	176Lu/177Hf	176Hf/177Hf (T)	E-Hf (0)
0.282861	0.000021	0.001571	0.282851	2.7
0.282888	0.000018	0.003196	0.282868	3.6
0.282881	0.000022	0.002526	0.282865	3.4
0.282892	0.000019	0.002987	0.282873	3.8
0.282942	0.000036	0.001521	0.282932	5.5
0.282969	0.000018	0.001264	0.282961	6.5
0.283079	0.000025	0.004401	0.283051	10.4
0.282901	0.000021	0.001707	0.282890	4.1
0.282918	0.000017	0.001403	0.282910	4.7
0.282877	0.000021	0.002497	0.282861	3.2
0.282927	0.000027	0.004004	0.282902	5.0
0.282934	0.000025	0.001801	0.282922	5.3
0.282755	0.000028	0.003222	0.282734	-1.1
0.282909	0.000022	0.001810	0.282898	4.4
0.282159	0.000024	0.001961	0.282147	-22.1
0.282959	0.000022	0.002798	0.282941	6.2
0.282969	0.000024	0.002088	0.282956	6.5
0.282995	0.000019	0.002872	0.282976	7.4
0.282945	0.000028	0.002802	0.282928	5.7
0.282958	0.000020	0.003203	0.282938	6.1
0.282923	0.000017	0.002170	0.282910	4.9
0.282948	0.000019	0.001689	0.282938	5.8
0.282910	0.000019	0.003057	0.282891	4.4
0.282925	0.000024	0.001821	0.282913	4.9
0.282866	0.000022	0.002690	0.282848	2.8
0.282974	0.000015	0.001582	0.282964	6.7
0.282913	0.000022	0.003542	0.282890	4.5
0.283007	0.000023	0.001472	0.282997	7.8
0.282877	0.000018	0.003068	0.282858	3.3
0.282945	0.000020	0.002325	0.282930	5.7
0.283046	0.000021	0.004069	0.283020	9.2
0.282255	0.000023	0.002186	0.282241	-18.7
0.282979	0.000030	0.001381	0.282970	6.9
0.282957	0.000030	0.004465	0.282928	6.1
0.283030	0.000025	0.003453	0.283007	8.7
0.282918	0.000020	0.001960	0.282905	4.7
0.282955	0.000025	0.006118	0.282918	6.0
0.282911	0.000025	0.001900	0.282899	4.5
0.282908	0.000019	0.001731	0.282898	4.4
0.282858	0.000019	0.001630	0.282848	2.6

0.282946	0.000024	0.003812	0.282922	5.7
0.282905	0.000019	0.001376	0.282897	4.2
0.282929	0.000015	0.001235	0.282921	5.1
0.282985	0.000019	0.001697	0.282975	7.1
0.282939	0.000024	0.002753	0.282922	5.4
0.282965	0.000013	0.001533	0.282956	6.4
0.282882	0.000017	0.001506	0.282873	3.4
0.282853	0.000016	0.000880	0.282847	2.4
0.283065	0.000035	0.006413	0.283024	9.9
0.282106	0.000026	0.002933	0.282087	-24.0
0.282959	0.000018	0.002593	0.282943	6.2
0.282922	0.000020	0.002954	0.282903	4.9
0.282855	0.000021	0.001909	0.282843	2.5
0.282922	0.000017	0.002524	0.282905	4.8
0.282981	0.000017	0.000882	0.282976	6.9
0.282892	0.000020	0.002986	0.282873	3.8
0.282866	0.000031	0.006202	0.282826	2.8
0.282906	0.000019	0.002447	0.282890	4.3
0.283012	0.000020	0.004017	0.282986	8.0
0.282986	0.000026	0.002724	0.282969	7.1
0.282916	0.000023	0.005420	0.282881	4.6
0.282900	0.000022	0.005126	0.282867	4.1
0.282956	0.000018	0.002189	0.282941	6.0
0.282878	0.000022	0.004725	0.282847	3.3
0.282869	0.000022	0.003163	0.282849	3.0
0.282996	0.000015	0.001102	0.282989	7.5
0.282858	0.000026	0.003859	0.282833	2.6
0.282886	0.000019	0.002717	0.282868	3.6
0.282917	0.000021	0.002836	0.282898	4.7
0.282828	0.000020	0.002154	0.282814	1.5
0.282758	0.000027	0.006234	0.282716	-1.0
0.282863	0.000022	0.001890	0.282851	2.8
0.283010	0.000020	0.002807	0.282991	8.0
0.282733	0.000018	0.001020	0.282727	-1.8
0.282932	0.000018	0.000438	0.282929	5.2
0.282794	0.000025	0.005776	0.282754	0.3
0.282938	0.000019	0.002523	0.282920	5.4
0.282779	0.000018	0.002669	0.282760	-0.2
0.283026	0.000028	0.002273	0.283010	8.5
0.282932	0.000020	0.001658	0.282919	5.2
0.282272	0.000017	0.000001	0.282272	-18.1
0.281899	0.000016	0.000908	0.281890	-31.3
0.282109	0.000021	0.000451	0.282105	-23.9
0.281891	0.000023	0.000734	0.281883	-31.6
0.282324	0.000016	0.000083	0.282324	-16.3
0.282407	0.000016	0.001101	0.282393	-13.4
0.282378	0.000023	0.003579	0.282331	-14.4
0.282411	0.000020	0.001649	0.282389	-13.2

0.281951	0.000020	0.000801	0.281936	-29.5
0.282209	0.000019	0.001164	0.282185	-20.4
0.282080	0.000028	0.001560	0.282037	-24.9
0.281933	0.000016	0.001367	0.281890	-30.1
0.281611	0.000019	0.001681	0.281543	-41.5
0.281039	0.000019	0.001566	0.280958	-61.8

: mount 17AVI03a

0.283014	0.000037	0.002545	0.282999	8.1
0.282947	0.000016	0.001999	0.282935	5.7
0.283013	0.000022	0.002944	0.282995	8.1
0.282979	0.000021	0.002529	0.282963	6.9
0.282921	0.000025	0.002754	0.282904	4.8
0.282911	0.000021	0.001618	0.282901	4.5
0.282781	0.000025	0.002688	0.282764	-0.1
0.283046	0.000024	0.003286	0.283026	9.2
0.282895	0.000022	0.002742	0.282878	3.9
0.282926	0.000018	0.002256	0.282912	5.0
0.282926	0.000020	0.001822	0.282914	5.0
0.283013	0.000019	0.001642	0.283003	8.1
0.282994	0.000020	0.002033	0.282982	7.4
0.282918	0.000019	0.002763	0.282900	4.7
0.282926	0.000036	0.006093	0.282888	5.0
0.282901	0.000017	0.001497	0.282892	4.1
0.282896	0.000022	0.002409	0.282881	3.9
0.282946	0.000016	0.001735	0.282935	5.7
0.282931	0.000019	0.002338	0.282917	5.2
0.282970	0.000019	0.001806	0.282959	6.5
0.282986	0.000037	0.003095	0.282967	7.1
0.282888	0.000024	0.002157	0.282874	3.6
0.282949	0.000019	0.002118	0.282936	5.8
0.282970	0.000024	0.002423	0.282954	6.5
0.282893	0.000020	0.002477	0.282877	3.8
0.282907	0.000016	0.002281	0.282893	4.3
0.282944	0.000025	0.002387	0.282929	5.6
0.282942	0.000021	0.004449	0.282914	5.6
0.282941	0.000023	0.003024	0.282922	5.5
0.283029	0.000026	0.002409	0.283013	8.6
0.282976	0.000018	0.002938	0.282957	6.8
0.283008	0.000021	0.003695	0.282984	7.9
0.283016	0.000020	0.005713	0.282976	8.2
0.282346	0.000020	0.000500	0.282342	-15.5
0.282324	0.000021	0.000618	0.282313	-16.3
0.281020	0.000015	0.000942	0.280970	-62.4

0.282969	0.000017	0.002257	0.282960	6.5
0.282963	0.000015	0.001794	0.282952	6.3
0.282972	0.000017	0.002494	0.282957	6.6
0.282975	0.000023	0.004873	0.282945	6.7
0.282970	0.000021	0.002170	0.282957	6.5
0.282988	0.000022	0.001858	0.282976	7.2
0.282936	0.000019	0.001847	0.282925	5.3
0.282999	0.000022	0.002713	0.282982	7.6
0.282996	0.000022	0.002856	0.282979	7.5
0.282945	0.000022	0.002460	0.282930	5.7
0.282993	0.000021	0.002629	0.282977	7.4
0.282956	0.000022	0.001978	0.282944	6.1
0.283015	0.000022	0.003458	0.282993	8.1
0.282963	0.000027	0.002959	0.282945	6.3
0.283006	0.000024	0.004444	0.282978	7.8
0.283007	0.000020	0.002778	0.282990	7.9
0.282917	0.000025	0.002303	0.282903	4.7
0.282972	0.000019	0.002822	0.282954	6.6
0.282937	0.000018	0.002035	0.282925	5.4
0.282754	0.000040	0.003879	0.282729	-1.1
0.282984	0.000020	0.002070	0.282971	7.0
0.282907	0.000022	0.002851	0.282889	4.3
0.282968	0.000020	0.001974	0.282956	6.5
0.283012	0.000018	0.002976	0.282993	8.0
0.283014	0.000020	0.000996	0.283007	8.1
0.282981	0.000020	0.001836	0.282969	6.9
0.282898	0.000023	0.005363	0.282863	4.0
0.282953	0.000016	0.002677	0.282936	6.0
0.282958	0.000028	0.001755	0.282946	6.1
0.283020	0.000020	0.002851	0.283001	8.3
0.282980	0.000019	0.003098	0.282959	6.9
0.281874	0.000019	0.000546	0.281857	-32.2
0.281251	0.000025	0.001016	0.281197	-54.3

0.282928	0.000018	0.001755	0.282922	5.1
0.282958	0.000016	0.002010	0.282946	6.1
0.283060	0.000023	0.002989	0.283043	9.7
0.282942	0.000015	0.003003	0.282925	5.6
0.282942	0.000019	0.001966	0.282931	5.5
0.282992	0.000020	0.003545	0.282972	7.3
0.282986	0.000021	0.002835	0.282970	7.1
0.282958	0.000024	0.003646	0.282937	6.1
0.282940	0.000025	0.002873	0.282924	5.5
0.282979	0.000016	0.003083	0.282962	6.9
0.283109	0.000029	0.004631	0.283082	11.5
0.282955	0.000027	0.002014	0.282943	6.0
0.282957	0.000014	0.003011	0.282940	6.1

0.282951	0.000017	0.001263	0.282944	5.9
0.282918	0.000021	0.002047	0.282906	4.7
0.282744	0.000030	0.003510	0.282723	-1.5
0.282978	0.000017	0.001613	0.282969	6.8
0.282968	0.000018	0.001134	0.282961	6.5
0.282880	0.000016	0.001166	0.282873	3.3
0.282996	0.000017	0.002230	0.282982	7.4
0.282945	0.000019	0.001376	0.282937	5.6
0.282962	0.000016	0.002097	0.282950	6.3
0.282939	0.000016	0.001471	0.282931	5.5
0.282956	0.000019	0.002028	0.282944	6.1
0.283028	0.000018	0.004752	0.283000	8.6
0.282995	0.000021	0.002637	0.282979	7.4
0.282997	0.000023	0.001597	0.282987	7.5
0.282655	0.000026	0.001600	0.282645	-4.6
0.282992	0.000019	0.002308	0.282978	7.3
0.282977	0.000020	0.001620	0.282968	6.8
0.282937	0.000015	0.001498	0.282929	5.4
0.282971	0.000019	0.001673	0.282961	6.6
0.283002	0.000021	0.001340	0.282994	7.7
0.283056	0.000020	0.002332	0.283042	9.6
0.283019	0.000023	0.002283	0.283005	8.3
0.282967	0.000020	0.002723	0.282950	6.4
0.282904	0.000015	0.001726	0.282894	4.2
0.282935	0.000016	0.000917	0.282929	5.3
0.282969	0.000017	0.001287	0.282961	6.5
0.282851	0.000022	0.001864	0.282839	2.3
0.282994	0.000021	0.002830	0.282974	7.4
0.282288	0.000021	0.000569	0.282277	-17.6

2004)
Pecha (2014)
of 176 due to 176Yb + 176Lu versus the proportion due to 176Hf, in %.

for fractionation and interfences. Shown with uncertainty expressed at 1-sigma.
measured instensity of 175Lu and 176Lu/175Lu=0.02653 (from Patchett, 1983), compared to the me
n of Lu isotopes is assumed to be the same as fractionation of Yb isotopes.
ne of crystallization using a decay constant of 1.867e-11 (from Scherer et al., 2001 and Soderland et
Hf/177Hf=0.282785 and 176Lu/177Hf=0.0336 (from Bouvier et al., 2008). The uncertainty is expresse
ation. The uncertainty is expressed at 1-sigma.
in ~1.0 Ga, and on 206/207 for ages older than ~1.0 Ga. This age cutoff may be slightly different for e

1.8866600	Patchett (1983)
0.7325000	Patchett & Tatsumoto (1980)
1.4671800	Patchett (1983)
0.2821600	Patchett (1983)
0.0087100	Patchett (1983)

0.0265300	Patchett (1983)
0.9016910	Vervoort et al. (2004)
1.1323569	Vervoort et al. (2004)
1.5317360	Vervoort et al. (2004)

ng 176Hf/177Hf=0.283225 and 176Lu/177Hf=0.0383
f=0.282785 and 176Lu/177Hf=0.0336.
176Lu/177Hf=0.0115 and a range of 176Lu/177Hf=0.0036 to 176Lu/177Hf=0.0193.
rom the average and 2-sigma range of values reported by Vervoort and Patchett (1996) and Vervoort

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E-Hf (0) ± (1s)	E-Hf (T)	Age (Ma)
0.7	9.6	324
0.6	10.3	328
0.8	10.2	329
0.7	10.5	331
1.3	12.6	332
0.6	13.6	333
0.9	16.8	333
0.7	11.1	333
0.6	11.8	334
0.7	10.2	336
0.9	11.6	336
0.9	12.3	336
1.0	5.7	336
0.8	11.5	337
0.8	-15.1	338
0.8	13.1	338
0.8	13.6	338
0.7	14.3	339
1.0	12.6	339
0.7	13.0	339
0.6	12.0	340
0.7	13.0	340
0.7	11.3	340
0.9	12.1	341
0.8	9.8	341
0.5	13.9	341
0.8	11.3	341
0.8	15.1	342
0.6	10.2	342
0.7	12.8	343
0.7	16.0	344
0.8	-11.6	346
1.0	14.2	346
1.1	12.8	348
0.9	15.7	353
0.7	12.2	356

0.9	11.8	319
0.9	11.3	326
0.7	11.3	328
0.7	9.5	328

0.9	12.2	328
0.7	11.3	329
0.5	12.1	329
0.7	14.1	331
0.8	12.2	332
0.5	13.5	334
0.6	10.6	334
0.6	9.7	337
1.2	16.0	337
0.9	-17.2	338
0.6	13.2	340
0.7	11.8	343
0.7	9.7	343
0.6	11.9	344
0.6	14.4	344
0.7	10.8	344
1.1	9.1	344
0.7	11.4	344
0.7	14.8	345
0.9	14.2	347
0.8	11.1	347
0.8	10.7	349
0.6	13.3	349
0.8	10.0	349
0.8	10.0	350
0.5	15.0	350
0.9	9.5	350
0.7	10.8	351
0.8	11.9	354
0.7	8.9	355
0.9	5.5	357
0.8	10.3	357
0.7	15.3	358
0.6	5.9	359
0.6	13.3	369
0.9	7.1	369
0.7	13.0	371
0.6	7.4	371
1.0	16.4	379
0.7	13.5	393
0.6	-8.3	442
0.6	-19.7	536
0.7	-12.1	537
0.8	-19.6	553
0.6	-3.3	586
0.6	1.3	682
0.8	-0.6	691
0.7	1.9	714

0.7	-7.2	1022
0.7	3.3	1094
1.0	6.5	1466
0.6	5.9	1666
0.7	4.4	2134
0.7	-3.7	2679

1.3	14.7	321
0.6	12.5	322
0.8	14.6	323
0.7	13.6	327
0.9	11.5	329
0.8	11.5	330
0.9	6.6	331
0.8	15.9	331
0.8	10.7	332
0.6	11.9	331
0.7	12.0	333
0.7	15.1	333
0.7	14.4	334
0.7	11.5	335
1.3	11.1	335
0.6	11.2	335
0.8	10.8	335
0.6	12.8	335
0.7	12.1	335
0.7	13.6	336
1.3	13.9	336
0.8	10.6	336
0.7	12.8	337
0.8	13.5	337
0.7	10.8	339
0.6	11.4	340
0.9	12.7	340
0.7	12.2	342
0.8	12.5	344
0.9	15.8	345
0.6	13.8	347
0.7	14.8	348
0.7	15.1	374
0.7	-4.7	492
0.7	4.4	942
0.5	-0.4	2802

0.6	10.9	211
0.5	13.2	326
0.6	13.3	327
0.8	12.9	327
0.7	13.4	327
0.8	14.1	327
0.7	12.2	328
0.8	14.3	329
0.8	14.2	329
0.8	12.5	329
0.7	14.1	330
0.8	13.0	330
0.8	14.7	331
1.0	13.0	332
0.8	14.3	334
0.7	14.7	334
0.9	11.6	335
0.7	13.4	335
0.6	12.4	337
1.4	5.6	338
0.7	14.1	339
0.8	11.2	340
0.7	13.7	342
0.6	15.0	342
0.7	15.5	343
0.7	14.2	343
0.8	10.4	344
0.6	13.1	347
1.0	13.5	349
0.7	15.5	351
0.7	14.0	351
0.7	3.5	1612
0.9	6.5	2749

0.6	8.7	172
0.6	12.4	299
0.8	15.8	300
0.5	11.9	312
0.7	11.9	302
0.7	13.3	303
0.7	13.3	306
0.9	12.2	306
0.9	11.7	307
0.6	13.1	308
1.0	17.4	308
0.9	12.5	308
0.5	12.4	310

0.6	12.5	310
0.7	11.2	310
1.1	4.8	312
0.6	13.5	313
0.7	13.2	313
0.6	10.1	313
0.6	14.0	314
0.7	12.3	314
0.6	12.8	314
0.6	12.1	314
0.7	12.6	314
0.6	14.6	315
0.7	13.9	315
0.8	14.2	318
0.9	2.1	318
0.7	14.0	320
0.7	13.6	320
0.5	12.2	320
0.7	13.4	322
0.7	14.6	323
0.7	16.3	325
0.8	15.1	327
0.7	13.1	327
0.5	11.2	328
0.6	12.4	330
0.6	13.6	333
0.8	9.9	360
0.7	14.7	361
0.8	5.0	1025

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Table DR.2b Lu-Hf Isotope data.

Sample	(176Yb + 176Lu) / 176Hf (%)	Volts Hf	176Hf/177Hf
Sample 17AVI06			
- 17AVI06 Spot 57	207Pb/206Pb	4.6	0.283113
- 17AVI06 Spot 48	38.6	4.3	0.283007
- 17AVI06 Spot 66	19.2	4.0	0.282943
- 17AVI06 Spot 141	13.5	3.9	0.283052
- 17AVI06 Spot 153	25.6	4.3	0.282927
- 17AVI06 Spot 62	17.1	4.2	0.282937
- 17AVI06 Spot 147	15.0	4.9	0.282994
- 17AVI06 Spot 17	22.0	4.0	0.283088
- 17AVI06 Spot 9	14.1	4.0	0.282965
- 17AVI06 Spot 79	33.0	3.9	0.283008
- 17AVI06 Spot 152	27.5	5.0	0.283001
- 17AVI06 Spot 174	25.7	4.1	0.282921
- 17AVI06 Spot 73	24.9	4.3	0.282946
- 17AVI06 Spot 21	15.7	4.7	0.282953
- 17AVI06 Spot 179	25.1	4.0	0.282769
- 17AVI06 Spot 43	30.0	4.0	0.282929
- 17AVI06 Spot 150	60.1	3.8	0.282914
- 17AVI06 Spot 173	38.8	3.5	0.282943
- 17AVI06 Spot 45	32.4	4.4	0.282881
- 17AVI06 Spot 70	41.7	4.4	0.282924
- 17AVI06 Spot 41	26.9	3.8	0.282773
- 17AVI06 Spot 44	17.5	4.5	0.282915
- 17AVI06 Spot 20	16.1	4.9	0.282973
- 17AVI06 Spot 78	20.5	3.7	0.282923
- 17AVI06 Spot 37	20.5	4.4	0.282953
- 17AVI06 Spot 46	20.7	4.3	0.282935
Sample 17AVI07A			
- 17AVI07A Spot 227	17.3	4.4	0.282995
- 17AVI07A Spot 124	17.8	3.9	0.282962
- 17AVI07A Spot 288	17.1	4.3	0.283021
- 17AVI07A Spot 92	26.5	4.0	0.283009
- 17AVI07A Spot 222	27.4	4.3	0.283016
- 17AVI07A Spot 149	20.2	4.6	0.282999
- 17AVI07A Spot 95	19.9	4.6	0.283002
- 17AVI07A Spot 205	19.1	4.5	0.283010
- 17AVI07A Spot 304	26.6	4.3	0.282986
- 17AVI07A Spot 240	21.7	4.4	0.283019
- 17AVI07A Spot 300	11.1	4.6	0.282990
- 17AVI07A Spot 31	20.4	4.1	0.282976
- 17AVI07A Spot 91	17.4	4.2	0.282991
- 17AVI07A Spot 98	10.4	4.7	0.282991

- 17AVI07A Spot 131	21.2	3.8	0.282827
- 17AVI07A Spot 236	21.3	4.3	0.282954
- 17AVI07A Spot 73	110.1	2.7	0.282948
- 17AVI07A Spot 101	8.3	5.2	0.282935
- 17AVI07A Spot 27	19.3	4.6	0.282899
- 17AVI07A Spot 310	17.7	4.4	0.282981
- 17AVI07A Spot 18	19.2	4.4	0.282941
- 17AVI07A Spot 97	6.7	3.8	0.282945
- 17AVI07A Spot 182	14.4	4.4	0.282938
- 17AVI07A Spot 257	20.1	4.2	0.282962
- 17AVI07A Spot 213	18.9	4.4	0.282972
- 17AVI07A Spot 19	22.3	4.4	0.282966
- 17AVI07A Spot 266	15.2	3.9	0.282953
- 17AVI07A Spot 185	20.7	4.0	0.283039
- 17AVI07A Spot 58	11.5	4.3	0.282943
- 17AVI07A Spot 85	22.6	4.3	0.283003
- 17AVI07A Spot 294	20.1	3.9	0.282931
- 17AVI07A Spot 154	28.6	3.7	0.282892
- 17AVI07A Spot 287	24.5	4.6	0.282931

Sample 17AVI07B			
- 17AVI07B Spot 257	8.8	4.5	0.282930
- 17AVI07B Spot 259	6.1	4.5	0.282936
- 17AVI07B Spot 39	24.9	4.4	0.283094
- 17AVI07B Spot 19	25.1	4.7	0.282972
- 17AVI07B Spot 206	8.9	5.3	0.283023
- 17AVI07B Spot 258	16.6	4.2	0.282974
- 17AVI07B Spot 212	19.9	4.7	0.283013
- 17AVI07B Spot 250	16.3	4.6	0.283001
- 17AVI07B Spot 142	16.9	4.9	0.283028
- 17AVI07B Spot 175	22.3	4.6	0.283013
- 17AVI07B Spot 264	20.1	4.8	0.282979
- 17AVI07B Spot 43	12.2	4.6	0.283025
- 17AVI07B Spot 22	18.7	4.4	0.282991
- 17AVI07B Spot 262	22.3	4.3	0.282980
- 17AVI07B Spot 9	31.6	3.7	0.283079
- 17AVI07B Spot 178	15.5	5.3	0.282992
- 17AVI07B Spot 117	35.5	4.2	0.282959
- 17AVI07B Spot 313	27.2	4.2	0.282992
- 17AVI07B Spot 217	12.7	4.6	0.282940
- 17AVI07B Spot 102	11.7	4.5	0.282881
- 17AVI07B Spot 33	41.1	4.8	0.282905
- 17AVI07B Spot 295	17.6	4.5	0.282951
- 17AVI07B Spot 18	16.4	4.4	0.282923
- 17AVI07B Spot 157	27.7	4.4	0.282949
- 17AVI07B Spot 146	30.8	4.3	0.282931
- 17AVI07B Spot 234	11.7	5.1	0.282948
- 17AVI07B Spot 299	21.0	5.0	0.282981

- 17AVI07B Spot 61	8.7	4.6	0.282969
- 17AVI07B Spot 118	21.3	4.8	0.282929
- 17AVI07B Spot 99	19.9	4.6	0.282954
- 17AVI07B Spot 8	16.1	4.3	0.282989
- 17AVI07B Spot 230	20.3	4.6	0.282959
- 17AVI07B Spot 10	19.4	4.2	0.283010
- 17AVI07B Spot 202	15.4	4.4	0.282986
- 17AVI07B Spot 222	16.7	4.8	0.282981
- 17AVI07B Spot 156	22.7	5.1	0.282864
- 17AVI07B Spot 131	31.0	4.3	0.282885
- 17AVI07B Spot 91	16.5	4.5	0.282949
- 17AVI07B Spot 119	41.9	3.8	0.282864

Sample 17AVI09			
- 17AVI09 Spot 209	13.3	5.9	0.283072
- 17AVI09 Spot 66	7.3	6.6	0.282988
- 17AVI09 Spot 140 c2	8.5	6.3	0.282980
- 17AVI09 Spot 205	10.5	4.7	0.282966
- 17AVI09 Spot 134	8.7	6.4	0.283059
- 17AVI09 Spot 32	17.5	4.4	0.283075
- 17AVI09 Spot 116	11.0	5.7	0.282987
- 17AVI09 Spot 63	12.5	4.9	0.283005
- 17AVI09 Spot 271	9.3	4.3	0.282995
- 17AVI09 Spot 55	11.5	5.1	0.283059
- 17AVI09 Spot 171	19.4	5.6	0.283060
- 17AVI09 Spot 196	13.8	4.9	0.283098
- 17AVI09 Spot 313	25.4	5.5	0.283070
- 17AVI09 Spot 119	13.8	5.4	0.283078
- 17AVI09 Spot 137	24.6	6.1	0.283000
- 17AVI09 Spot 202	8.4	4.9	0.283087
- 17AVI09 Spot 36	6.9	6.3	0.283050
- 17AVI09 Spot 292	21.3	4.7	0.283061
- 17AVI09 Spot 267	14.7	6.1	0.283100
- 17AVI09 Spot 258	21.0	6.0	0.283042
- 17AVI09 Spot 159	22.2	6.4	0.282418
- 17AVI09 Spot 80	18.9	4.9	0.282955
- 17AVI09 Spot 14	16.5	5.8	0.282989
- 17AVI09 Spot 155	19.4	4.0	0.283017
- 17AVI09 Spot 104	21.2	4.2	0.282965
- 17AVI09 Spot 75	24.8	4.3	0.283015
- 17AVI09 Spot 289	11.8	6.0	0.283037
- 17AVI09 Spot 210	20.1	5.2	0.282977
- 17AVI09 Spot 302	11.8	4.0	0.283052
- 17AVI09 Spot 305	19.4	5.4	0.283037
- 17AVI09 Spot 67	35.4	4.2	0.282939
- 17AVI09 Spot 106	7.9	4.5	0.283067
- 17AVI09 Spot 114	5.4	6.0	0.283073
- 17AVI09 Spot 120	19.2	4.6	0.283104

- 17AVI09 Spot 221	12.5	4.5	0.283043
- 17AVI09 Spot 269	15.6	4.6	0.283002
- 17AVI09 Spot 296	11.7	4.7	0.283041
- 17AVI09 Spot 133	15.1	6.5	0.283168
- 17AVI09 Spot 297	9.9	5.4	0.283030
- 17AVI09 Spot 111	13.7	5.2	0.282987
- 17AVI09 Spot 228	16.6	4.8	0.283064
- 17AVI09 Spot 157	15.9	5.5	0.283007
- 17AVI09 Spot 199	9.7	4.8	0.282983
- 17AVI09 Spot 118	12.0	5.1	0.283020
- 17AVI09 Spot 54	12.5	4.9	0.282991
- 17AVI09 Spot 8	11.3	5.1	0.282993
- 17AVI09 Spot 54 R4	7.4	5.4	0.283055
- 17AVI09 Spot 281	19.9	4.6	0.283081
- 17AVI09 Spot 197	13.7	4.3	0.283033
- 17AVI09 Spot 152	5.6	4.8	0.282993
- 17AVI09 Spot 244	16.9	4.3	0.283007
- 17AVI09 Spot 95	11.8	5.2	0.282965
- 17AVI09 Spot 110	5.6	4.8	0.282980
- 17AVI09 Spot 192	8.9	5.1	0.283004
- 17AVI09 Spot 226	12.0	5.1	0.283018
- 17AVI09 Spot 1	16.5	5.1	0.283019
- 17AVI09 Spot 160	17.9	4.9	0.283047
- 17AVI09 Spot 180	12.5	4.7	0.282989
- 17AVI09 Spot 61	9.7	5.0	0.283029
- 17AVI09 Spot 4	15.1	5.4	0.283001
- 17AVI09 Spot 101	7.7	5.0	0.282961
- 17AVI09 Spot 266	14.7	4.9	0.283047
- 17AVI09 Spot 44	11.1	4.6	0.283048
- 17AVI09 Spot 214	8.9	5.4	0.282971
- 17AVI09 Spot 102	25.4	4.7	0.282983
- 17AVI09 Spot 117	28.9	5.3	0.283049
- 17AVI09 Spot 71	16.0	5.0	0.282962
- 17AVI09 Spot 92	7.2	4.4	0.283019
- 17AVI09 Spot 232	14.1	4.7	0.282912
- 17AVI09 Spot 166	9.3	4.5	0.282989
- 17AVI09 Spot 222	15.5	4.4	0.283007
- 17AVI09 Spot 15	13.6	4.7	0.283002
- 17AVI09 Spot 186	8.4	5.7	0.282933
- 17AVI09 Spot 283	16.7	5.0	0.282926
- 17AVI09 Spot 170	10.4	5.6	0.282948
- 17AVI09 Spot 47	15.3	3.9	0.282862
- 17AVI09 Spot 59	13.8	4.7	0.282934
- 17AVI09 Spot 284	11.5	4.7	0.282959
- 17AVI09 Spot 18	11.7	4.9	0.283071
- 17AVI09 Spot 229	10.4	4.2	0.282943
- 17AVI09 Spot 34 r3	5.6	5.5	0.282959
- 17AVI09 Spot 264	11.6	4.6	0.282937

- 17AVI09 Spot 261	14.6	4.8	0.282982
- 17AVI09 Spot 187	7.6	5.5	0.282952
- 17AVI09 Spot 238	15.8	5.3	0.282958
- 17AVI09 Spot 41	19.1	4.4	0.282982
- 17AVI09 Spot 79	7.1	5.4	0.282967
- 17AVI09 Spot 58	16.9	4.6	0.282969
- 17AVI09 Spot 173	24.9	4.8	0.283002
- 17AVI09 Spot 294	9.1	5.2	0.282971
- 17AVI09 Spot 83	10.1	4.6	0.282920
- 17AVI09 Spot 230	7.7	5.7	0.283019
- 17AVI09 Spot 164	9.8	5.0	0.283004
- 17AVI09 Spot 236	15.8	4.6	0.283035
- 17AVI09 Spot 53	26.6	4.8	0.282995
- 17AVI09 Spot 64	10.0	4.7	0.282949
- 17AVI09 Spot 33 C3	19.2	4.5	0.282955
- 17AVI09 Spot 50	11.3	4.8	0.282938
- 17AVI09 Spot 136	12.1	4.8	0.282963
- 17AVI09 Spot 87	13.7	4.8	0.282932
- 17AVI09 Spot 184	18.5	5.0	0.282931
- 17AVI09 Spot 249	16.2	5.5	0.283016
- 17AVI09 Spot 259	12.8	5.8	0.283022
- 17AVI09 Spot 153	17.6	4.1	0.282973
- 17AVI09 Spot 135	13.8	5.9	0.282951
- 17AVI09 Spot 175	11.5	4.9	0.282954
- 17AVI09 Spot 253	21.5	4.1	0.282954
- 17AVI09 Spot 245	57.5	3.9	0.283031
- 17AVI09 Spot 62	41.5	4.3	0.282926
- 17AVI09 Spot 233	22.8	5.1	0.283057
- 17AVI09 Spot 99	30.1	4.7	0.283007
- 17AVI09 Spot 2	19.3	4.5	0.282929
- 17AVI09 Spot 74	31.2	4.2	0.283032
- 17AVI09 Spot 291	13.8	5.2	0.282849
- 17AVI09 Spot 268	35.1	4.4	0.282974
- 17AVI09 Spot 130	20.0	5.2	0.283014
- 17AVI09 Spot 65	27.2	4.4	0.282964
- 17AVI09 Spot 23	21.5	4.7	0.282986
- 17AVI09 Spot 98	17.1	5.1	0.282880
- 17AVI09 Spot 213	7.6	4.6	0.283021
- 17AVI09 Spot 307	70.0	3.6	0.282916
- 17AVI09 Spot 109	64.1	4.3	0.282974
- 17AVI09 Spot 31	33.1	4.1	0.282953
- 17AVI09 Spot 206	14.9	6.3	0.282508
- 17AVI09 Spot 282	26.9	4.1	0.282944
- 17AVI09 Spot 5	21.2	3.6	0.283081
- 17AVI09 Spot 200 c1	12.1	5.4	0.282952
- 17AVI09 Spot 198	16.1	5.5	0.283068
- 17AVI09 Spot 195	44.3	6.1	0.282946
- 17AVI09 Spot 28	69.9	3.7	0.282717

- 17AVI09 Spot 231	43.1	3.9	0.282764
- 17AVI09 Spot 10	62.1	5.1	0.282860
- 17AVI09 Spot 301	84.5	3.1	0.282917
- 17AVI09 Spot 278	16.1	5.1	0.282884
- 17AVI09 Spot 270	16.3	5.0	0.282854
- 17AVI09 Spot 212	34.8	4.7	0.282890
- 17AVI09 Spot 163	67.8	3.9	0.282815
- 17AVI09 Spot 70	89.2	5.0	0.282859
- 17AVI09 Spot 203	104.3	4.5	0.282756
- 17AVI09 Spot 24	78.2	4.8	0.282811
- 17AVI09 Spot 146	7.9	4.1	0.282805
- 17AVI09 Spot 122	0.7	5.7	0.282496

Notes for tables:

1 Data reduction methodology is from Woodhead et al. (2004)
2 Analytical methods described in detail by Gehrels and Pecha (2014)
3 (176Yb + 176Lu) / 176Hf (%) expresses the proportion of 176 due to 1
4 Volts Hf is the sum of voltages of all Hf isotopes.
5 176Hf/177Hf is the measured 176Hf/177Hf, corrected for fractionation
6 ^{176}Lu/^{177}Hf is the intensity of 176Lu, calculated from the measured inste
Fractionation of Lu isotopes is
7 176Hf/177Hf (T) is the 176Hf/177Hf corrected to the time of crystalliza
8 E-Hf (0) is the present-day epsilon Hf value using 176Hf/177Hf=0.282
9 E-Hf (T) is the epsilon Hf value at the time of crystallization. The uncer
10 U-Pb ages are based on 206/238 for ages younger than ~1.0 Ga, and
11 Isotope ratios as follows:

180/177	1.8866600
179/177	0.7325000
178/177	1.4671800
176/177	0.2821600
174/177	0.0087100
176/175	0.0265300
176/171	0.9016910
173/171	1.1323569
172/171	1.5317360

Notes for plots:

1 DM array is from Vervoort and Blichert-Toft (1999), using 176Hf/177H
2 CHUR is from Bouvier et al. (2008), using 176Hf/177Hf=0.282785 and
3 Hf isotope evolution lines assume an average value of 176Lu/177Hf=0
Values are from the average a
4 Uncertainties shown at 2-sigma.

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± (1s)	176Lu/177Hf	176Hf/177Hf (T)	E-Hf (0)	E-Hf (0) ± (1s)	E-Hf (T)
0.000019	0.000728	0.283111	11.6	0.7	13.5
0.000017	0.002469	0.282999	7.8	0.6	11.1
0.000018	0.001186	0.282940	5.6	0.6	9.1
0.000024	0.001184	0.283048	9.4	0.9	13.0
0.000018	0.001904	0.282920	5.0	0.6	9.0
0.000020	0.001279	0.282933	5.4	0.7	9.5
0.000016	0.001106	0.282990	7.4	0.6	11.6
0.000015	0.001856	0.283081	10.7	0.5	14.9
0.000016	0.001095	0.282961	6.4	0.6	10.8
0.000016	0.002427	0.282998	7.9	0.6	12.2
0.000017	0.002070	0.282992	7.6	0.6	12.3
0.000015	0.001781	0.282912	4.8	0.5	10.4
0.000014	0.001612	0.282936	5.7	0.5	12.3
0.000017	0.001125	0.282946	5.9	0.6	12.8
0.000023	0.001832	0.282758	-0.6	0.8	6.1
0.000018	0.002037	0.282917	5.1	0.6	11.8
0.000021	0.003530	0.282892	4.6	0.7	11.1
0.000018	0.002960	0.282924	5.6	0.6	12.5
0.000023	0.002442	0.282866	3.4	0.8	10.4
0.000020	0.002883	0.282906	4.9	0.7	11.9
0.000022	0.001957	0.282761	-0.4	0.8	6.8
0.000020	0.001384	0.282906	4.6	0.7	12.0
0.000018	0.001279	0.282965	6.6	0.6	14.1
0.000019	0.001601	0.282912	4.9	0.7	12.4
0.000018	0.001656	0.282941	5.9	0.6	13.6
0.000018	0.001392	0.282926	5.3	0.6	12.8
0.000019	0.001320	0.282991	7.4	0.7	10.8
0.000016	0.001231	0.282958	6.2	0.6	9.7
0.000017	0.001371	0.283017	8.4	0.6	11.9
0.000020	0.001776	0.283004	7.9	0.7	11.4
0.000018	0.001771	0.283011	8.2	0.6	11.7
0.000019	0.001338	0.282995	7.6	0.7	11.1
0.000016	0.001539	0.282997	7.7	0.6	11.2
0.000018	0.001243	0.283006	8.0	0.6	11.5
0.000018	0.001751	0.282980	7.1	0.6	10.6
0.000019	0.001523	0.283014	8.3	0.7	11.8
0.000016	0.000899	0.282987	7.2	0.6	10.9
0.000019	0.001357	0.282971	6.7	0.7	10.3
0.000017	0.001352	0.282987	7.3	0.6	10.9
0.000017	0.000861	0.282988	7.3	0.6	11.0

0.000017	0.001698	0.282821	1.5	0.6	5.3
0.000018	0.001498	0.282949	6.0	0.6	9.9
0.000034	0.007609	0.282920	5.8	1.2	9.1
0.000015	0.000571	0.282933	5.3	0.5	9.5
0.000020	0.001325	0.282894	4.0	0.7	8.2
0.000021	0.001384	0.282976	6.9	0.7	11.1
0.000021	0.001442	0.282936	5.5	0.7	9.7
0.000019	0.000572	0.282943	5.7	0.7	10.0
0.000016	0.000936	0.282935	5.4	0.6	9.7
0.000020	0.001552	0.282956	6.3	0.7	10.5
0.000024	0.001485	0.282966	6.6	0.8	10.9
0.000021	0.001756	0.282959	6.4	0.7	10.7
0.000013	0.001211	0.282949	5.9	0.4	10.4
0.000021	0.001813	0.283032	9.0	0.7	13.3
0.000017	0.000952	0.282940	5.6	0.6	10.2
0.000018	0.001757	0.282996	7.7	0.6	12.2
0.000021	0.001573	0.282925	5.2	0.7	9.8
0.000023	0.002102	0.282877	3.8	0.8	11.3
0.000016	0.001821	0.282919	5.2	0.6	12.8

0.000016	0.000611	0.282929	5.1	0.5	6.9
0.000014	0.000418	0.282936	5.3	0.5	7.2
0.000020	0.001822	0.283089	10.9	0.7	14.3
0.000017	0.001957	0.282966	6.6	0.6	10.0
0.000015	0.000692	0.283020	8.4	0.5	12.0
0.000020	0.001319	0.282970	6.7	0.7	10.2
0.000014	0.001655	0.283008	8.1	0.5	11.6
0.000017	0.001346	0.282996	7.6	0.6	11.2
0.000017	0.001293	0.283024	8.6	0.6	12.2
0.000015	0.001465	0.283009	8.1	0.5	11.7
0.000017	0.001623	0.282974	6.9	0.6	10.4
0.000022	0.000986	0.283022	8.5	0.8	12.1
0.000017	0.001549	0.282986	7.3	0.6	10.9
0.000013	0.001711	0.282975	6.9	0.5	10.5
0.000034	0.002423	0.283072	10.4	1.2	14.0
0.000015	0.001068	0.282988	7.3	0.5	11.0
0.000017	0.002460	0.282951	6.1	0.6	9.7
0.000018	0.001871	0.282986	7.3	0.6	11.0
0.000016	0.000987	0.282936	5.5	0.6	9.6
0.000013	0.000925	0.282878	3.4	0.5	7.5
0.000021	0.002919	0.282894	4.2	0.7	8.1
0.000021	0.001357	0.282946	5.9	0.7	10.0
0.000018	0.001275	0.282918	4.9	0.6	9.0
0.000022	0.002051	0.282942	5.8	0.8	9.9
0.000017	0.002326	0.282922	5.2	0.6	9.2
0.000016	0.000813	0.282945	5.8	0.6	10.0
0.000015	0.001563	0.282975	6.9	0.5	11.1

0.000017	0.000608	0.282967	6.5	0.6	10.9
0.000014	0.001605	0.282923	5.1	0.5	9.3
0.000019	0.001510	0.282948	6.0	0.7	10.2
0.000018	0.001347	0.282983	7.2	0.6	11.5
0.000010	0.001520	0.282954	6.2	0.4	10.5
0.000018	0.001558	0.283004	8.0	0.6	12.3
0.000016	0.001224	0.282981	7.1	0.6	11.5
0.000019	0.001344	0.282976	6.9	0.7	11.5
0.000020	0.001788	0.282854	2.8	0.7	9.6
0.000016	0.002336	0.282869	3.5	0.6	10.8
0.000017	0.001220	0.282940	5.8	0.6	13.5
0.000020	0.002820	0.282845	2.8	0.7	10.3

0.000016	0.000827	0.283071	10.1	0.5	11.9
0.000026	0.000807	0.282987	7.2	0.9	9.0
0.000015	0.000645	0.282979	6.9	0.5	8.7
0.000016	0.000716	0.282965	6.4	0.6	8.3
0.000016	0.000598	0.283058	9.7	0.6	11.6
0.000014	0.001056	0.283073	10.3	0.5	12.1
0.000015	0.000816	0.282986	7.2	0.5	9.1
0.000018	0.000764	0.283004	7.8	0.6	9.7
0.000016	0.000579	0.282994	7.4	0.6	9.4
0.000020	0.000706	0.283058	9.7	0.7	11.7
0.000015	0.001257	0.283058	9.7	0.5	11.7
0.000013	0.000839	0.283096	11.1	0.5	13.0
0.000016	0.001612	0.283067	10.1	0.6	12.0
0.000013	0.000853	0.283077	10.4	0.5	12.4
0.000017	0.001485	0.282998	7.6	0.6	9.6
0.000014	0.000526	0.283086	10.7	0.5	12.8
0.000015	0.000449	0.283050	9.4	0.5	11.5
0.000016	0.001390	0.283058	9.7	0.6	11.8
0.000020	0.000942	0.283098	11.1	0.7	13.3
0.000011	0.001220	0.283040	9.1	0.4	11.2
0.000017	0.001486	0.282415	-13.0	0.6	-10.7
0.000013	0.001396	0.282952	6.0	0.5	8.4
0.000020	0.001213	0.282987	7.2	0.7	9.7
0.000019	0.001535	0.283014	8.2	0.7	10.6
0.000017	0.001607	0.282962	6.4	0.6	8.8
0.000015	0.001839	0.283011	8.1	0.5	10.6
0.000014	0.000928	0.283035	8.9	0.5	11.5
0.000017	0.001496	0.282974	6.8	0.6	9.4
0.000015	0.000889	0.283050	9.5	0.5	12.1
0.000016	0.001428	0.283034	8.9	0.6	11.5
0.000019	0.002615	0.282933	5.5	0.7	8.0
0.000019	0.000519	0.283066	10.0	0.7	12.8
0.000014	0.000412	0.283072	10.2	0.5	13.0
0.000019	0.001573	0.283100	11.3	0.7	14.0

0.000015	0.000819	0.283041	9.1	0.5	11.9
0.000021	0.001090	0.282999	7.7	0.7	10.5
0.000024	0.000786	0.283039	9.0	0.8	11.9
0.000024	0.001295	0.283165	13.6	0.8	16.4
0.000018	0.000857	0.283028	8.7	0.6	11.6
0.000017	0.001020	0.282984	7.1	0.6	10.1
0.000019	0.001226	0.283060	9.9	0.7	12.8
0.000015	0.001190	0.283004	7.9	0.5	10.8
0.000014	0.000755	0.282981	7.0	0.5	10.0
0.000021	0.000903	0.283017	8.3	0.7	11.3
0.000019	0.000971	0.282988	7.3	0.7	10.3
0.000017	0.000893	0.282991	7.4	0.6	10.4
0.000018	0.000564	0.283053	9.5	0.6	12.6
0.000018	0.001501	0.283077	10.5	0.6	13.5
0.000012	0.001019	0.283030	8.8	0.4	11.8
0.000020	0.000435	0.282992	7.3	0.7	10.4
0.000018	0.001271	0.283004	7.9	0.6	10.9
0.000015	0.000891	0.282962	6.3	0.5	9.4
0.000016	0.000416	0.282979	6.9	0.6	10.0
0.000016	0.000660	0.283002	7.7	0.6	10.9
0.000019	0.000890	0.283016	8.2	0.7	11.3
0.000014	0.001195	0.283016	8.3	0.5	11.4
0.000017	0.001389	0.283043	9.3	0.6	12.3
0.000016	0.000984	0.282986	7.2	0.6	10.3
0.000014	0.000666	0.283027	8.6	0.5	11.8
0.000018	0.001112	0.282998	7.7	0.7	10.8
0.000018	0.000604	0.282959	6.2	0.6	9.4
0.000017	0.001143	0.283044	9.3	0.6	12.4
0.000021	0.000812	0.283046	9.3	0.7	12.5
0.000016	0.000668	0.282969	6.6	0.6	9.8
0.000021	0.001536	0.282979	7.0	0.7	10.1
0.000015	0.001819	0.283044	9.3	0.5	12.5
0.000019	0.000994	0.282959	6.3	0.7	9.5
0.000016	0.000544	0.283017	8.3	0.6	11.5
0.000019	0.001035	0.282909	4.5	0.7	7.7
0.000020	0.000604	0.282987	7.2	0.7	10.5
0.000022	0.001045	0.283004	7.8	0.8	11.1
0.000017	0.000950	0.282999	7.7	0.6	10.9
0.000011	0.000615	0.282931	5.2	0.4	8.5
0.000020	0.001030	0.282923	5.0	0.7	8.2
0.000017	0.000697	0.282946	5.8	0.6	9.1
0.000020	0.001016	0.282859	2.7	0.7	6.0
0.000017	0.000842	0.282931	5.3	0.6	8.6
0.000015	0.000793	0.282957	6.2	0.5	9.5
0.000020	0.000732	0.283069	10.1	0.7	13.4
0.000019	0.000788	0.282941	5.6	0.7	8.9
0.000017	0.000438	0.282958	6.2	0.6	9.5
0.000016	0.000753	0.282935	5.4	0.6	8.7

0.000016	0.000935	0.282980	7.0	0.6	10.3
0.000017	0.000602	0.282950	5.9	0.6	9.2
0.000014	0.001101	0.282954	6.1	0.5	9.4
0.000021	0.001413	0.282978	7.0	0.8	10.2
0.000017	0.000480	0.282965	6.4	0.6	9.8
0.000017	0.001015	0.282966	6.5	0.6	9.8
0.000021	0.001872	0.282997	7.7	0.7	10.9
0.000016	0.000570	0.282970	6.6	0.6	10.0
0.000015	0.000668	0.282918	4.8	0.5	8.1
0.000017	0.000520	0.283017	8.3	0.6	11.7
0.000019	0.000795	0.283001	7.7	0.7	11.1
0.000017	0.001168	0.283032	8.9	0.6	12.2
0.000024	0.001881	0.282989	7.4	0.9	10.7
0.000019	0.000644	0.282948	5.8	0.7	9.2
0.000019	0.001396	0.282951	6.0	0.7	9.3
0.000020	0.000867	0.282936	5.4	0.7	8.8
0.000018	0.000917	0.282960	6.3	0.6	9.7
0.000013	0.000874	0.282929	5.2	0.5	8.6
0.000017	0.001381	0.282927	5.2	0.6	8.5
0.000020	0.001045	0.283013	8.2	0.7	11.6
0.000014	0.000840	0.283020	8.4	0.5	11.8
0.000024	0.001305	0.282969	6.6	0.8	10.0
0.000017	0.001193	0.282947	5.9	0.6	9.3
0.000016	0.000788	0.282952	6.0	0.6	9.4
0.000021	0.001473	0.282950	6.0	0.8	9.4
0.000022	0.003645	0.283020	8.7	0.8	11.9
0.000020	0.002601	0.282918	5.0	0.7	8.3
0.000020	0.001661	0.283052	9.6	0.7	13.1
0.000019	0.001971	0.283001	7.8	0.7	11.3
0.000017	0.001414	0.282924	5.1	0.6	8.6
0.000022	0.002177	0.283025	8.7	0.8	12.2
0.000014	0.001051	0.282845	2.3	0.5	5.9
0.000019	0.002462	0.282966	6.7	0.7	10.2
0.000014	0.001373	0.283010	8.1	0.5	11.7
0.000022	0.002059	0.282958	6.3	0.8	9.9
0.000017	0.001453	0.282981	7.1	0.6	10.7
0.000015	0.001311	0.282875	3.3	0.5	7.0
0.000017	0.000510	0.283019	8.3	0.6	12.2
0.000025	0.004966	0.282899	4.6	0.9	7.9
0.000023	0.004474	0.282959	6.7	0.8	10.1
0.000018	0.002333	0.282945	6.0	0.7	9.7
0.000016	0.001097	0.282504	-9.8	0.6	-5.8
0.000022	0.001935	0.282937	5.6	0.8	9.5
0.000020	0.001585	0.283075	10.5	0.7	14.5
0.000014	0.000929	0.282949	5.9	0.5	10.4
0.000030	0.001089	0.283064	10.0	1.1	14.6
0.000014	0.003071	0.282931	5.7	0.5	11.1
0.000024	0.003456	0.282699	-2.4	0.8	3.1

0.000023	0.002464	0.282750	-0.8	0.8	5.1
0.000019	0.003906	0.282839	2.7	0.7	8.3
0.000030	0.005214	0.282884	4.7	1.0	11.1
0.000016	0.001175	0.282877	3.5	0.6	11.0
0.000016	0.001272	0.282846	2.4	0.6	9.9
0.000026	0.002142	0.282875	3.7	0.9	11.0
0.000019	0.003898	0.282789	1.1	0.7	8.0
0.000021	0.005081	0.282825	2.6	0.7	9.3
0.000022	0.005760	0.282717	-1.0	0.8	5.6
0.000020	0.004506	0.282780	0.9	0.7	7.9
0.000020	0.000692	0.282800	0.7	0.7	9.4
0.000027	0.000057	0.282495	-10.2	1.0	1.6

76Yb + 176Lu versus the proportion due to 176Hf, in %.

and interfences. Shown with uncertainty expressed at 1-sigma.

ensity of 175Lu and 176Lu/175Lu=0.02653 (from Patchett, 1983), compared to the measured inten
assumed to be the same as fractionation of Yb isotopes.
tion using a decay constant of 1.867e-11 (from Scherer et al., 2001 and Soderland et al., 2004)
785 and 176Lu/177Hf=0.0336 (from Bouvier et al., 2008). The uncertainty is expressed at 1-sigma.
tainty is expressed at 1-sigma.
on 206/207 for ages older than ~1.0 Ga. This age cutoff may be slightly different for each sample.

Patchett (1983)
Patchett & Tatsumoto (1980)
Patchett (1983)
Patchett (1983)
Patchett (1983)
Patchett (1983)
Vervoort et al. (2004)
Vervoort et al. (2004)
Vervoort et al. (2004)

f=0.283225 and 176Lu/177Hf=0.0383
176Lu/177Hf=0.0336.
).0115 and a range of 176Lu/177Hf=0.0036 to 176Lu/177Hf=0.0193.
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Relationships between Lu-Hf and Sm-Nd isotopic systems in the global sedimentary system: Earth
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Age (Ma)
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sity of 177Hf.

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et Cosmochimica Acta, v. 60, p. 3717-3723
and Planetary Science Letters, v. 168, p. 79-99.
nalytical Research, v. 29 (2), p. 183-195.

)00721)

Table 2c. Sm-Lu Isotopic data and Converted Hf valu

Sample	Region	Age	Rock type	143Nd/144Nd	147Sm/144Nd
07TRHS020B	HS	180	FSIV	0.512840	0.154904
07TRHS018B	HS	200	GRIV	0.512865	0.141633
09TR110	BD	300	RHPR	0.512894	0.146872
08TRDR007A	DR	300	RHFL	0.512879	0.140921
07TRHS008B	HS	300	MFPR	0.512885	0.159463
07TRHS022B	HS	300	MFPR	0.512879	0.167587
07TRHS016C	HS	300	MFPR	0.512946	0.207639
7TR023	AL	00	BSAB	512774	0.130189
07TR011B	AL	300	BSBX	0.512790	0.162331
9TR125	NA	00	BSPL	0.512831	0.136638
HFB-94-02	HG	317	DIIV	0.512876	0.161560
7TR051A	AL	360	DCFL	0.512718	0.128585
07TR060B	AL	360	MFBX	0.512847	0.164731
07TR069B	AL	360	BSFL	0.512747	0.139149
07TR072A	AL	360	INFL	0.512757	0.142584
5M-386a	AL	360	BSFL	0.512710	0.133932
05M-386b	AL	360	FSLT	0.512757	0.153527
05M-366	CW	360	FSLT	0.512720	0.112148
05M-393	CW	360	FSXT	0.512768	0.132901
5M-394	CW	360	QFPR	0.512721	0.113798
05M-369	CW	360	FSLT	0.512727	0.131856
5M-356	CW	360	FSLT	0.512814	0.141870
09M309*	CW	360	QFPR	0.512751	0.126266
09M302*	CW	360	QFPR	0.512739	0.120518
05M352*	CW	360	QFPR	0.512774	0.134477

Notes from Ruks (2015):

All samples are from Universal Transverse Mercator (UTM) zone 10, exc
letter rock type codes consist of a two letter prefix followed by a two lette
intermediate; BS, basalt; MX, heterolithic; DI, diorite. Suffix codes include
TB, tuff breccia; BX, breccia; FB, flow breccia; AB, autobreccia; PL, pillov
Mississippian; MS, Mississippian; PN, Pennsylvanian; PM, Permian. Reg
HS, Hesquiat; HG, Haida Gwaii. Affinity codes include: CA, calc-alkaline;
*Samples are quartz-feldspar porhyries of the Saltspring Intrusions. aCal
0.1966 (Hamilton et al., 1983). bCalculated using the values of 143Nd/14

Notes:

ƐHf values are converted using the equation **(ƐHf(t)=1.36x ƐNd(t)+2.95)** ues

εNd(t=360)	εNd(t=317)	εNd(t=300)	εNd(t=200)	εNd(t=180)	T_{DM}
-	-	-	-	4.9	803.71
-	-	-	5.8	-	602.57
-	-	6.9	-	-	585.17
-	-	6.8	-	-	568.39
-	-	6.3	-	-	744.01
-	-	5.8	-	-	895.88
-	-	5.6	-	-	-
-	-	5.2	-	-	687.75
-	-	4.3	-	-	1068.23
-	-	6.1	-	-	631.42
-	6.1	-	-	-	800.38
4.7	-	-	-	-	774.24
5.5	-	-	-	-	944.70
4.8	-	-	-	-	823.77
4.8	-	-	-	-	841.91
4.3	-	-	-	-	841.53
4.3	-	-	-	-	996.59
5.5	-	-	-	-	645.39
5.5	-	-	-	-	720.34
5.4	-	-	-	-	654.56
4.7	-	-	-	-	788.29
5.9	-	-	-	-	714.60
5.5	-	-	-	-	695.41
5.5	-	-	-	-	672.81
5.5	-	-	-	-	723.61

ept for samples from the Hesquiat and Dragon areas, which are from UTM zone 9. Four
r suffix. Prefix codes include: FS, felsic; RH, rhyolite; DC, dacite; QF, quartz-feldspar; IN,
: IV, intrusvive; DI, dike; PR, porphyry; VO, volcanic; TF, tuff; XT, crystal tuff; LT, lapilli tuff;
v flow; FL, flow. Age codes include: PLD, Pre-Late Devonian; LDEM, Late Devonian-Early
ion codes include: CW, Cowichan; AL, Alberni; NA, Nanoose; DR, Dragon; BD, Bedingfield;
TR, transitional; TH, tholeiitic.
culated using 143Nd/144Nd of chondrite uniform reservoir (CHUR) = 0.512638 and 147Sm/144Nd =
4Nd = 0.513163 and 147Sm/144Nd = 0.2137 for the DM reservoir (Goldstein et al., 1984) .

, as described by Vervoort et al. (1999).

Sm(ppm)	Nd(ppm)
2.26	9.19
3.04	13.52
4.25	18.21
10.50	46.92
5.21	20.58
2.32	8.72
1.19	3.61
6.84	33.07
3.76	14.59
6.24	28.78
2.91	11.33
5.23	25.62
2.44	9.33
4.67	21.14
3.16	13.96
4.85	22.81
5.64	23.14
1.20	0.74
1.92	9.10
1.42	7.86
1.75	8.36
7.41	32.90
2.20	10.96
1.66	8.65
2.34	10.97

Converted Hf values
9.6
10.8
12.3
12.2
11.5
10.8
10.6
10.0
8.8
11.2
11.2
9.3
10.4
9.5
9.5
8.8
8.8
10.4
10.4
10.3
9.3
11.0
10.4
10.4
10.4