Supplementary material 2. U-Pb age results

					Isotopic ratios							Ages (Ma)				
Location	*Sample*	*Rock type*	*Grain#*	*Analysis*	$^{207}Pb/^{206}Pb$	1σ	$^{207}Pb/^{235}U$	1σ	$^{206}Pb/^{238}U$	1σ	rho	$^{207}Pb/^{235}U$	1σ	$^{206}Pb/^{238}U$	1σ	*% of conc*
Adamello	Mat4	Amph-gabbro	Zrn5	Oc10b005	0.0477	0.0006	0.0457	0.0006	0.0069	0.0001	0.97	45.4	0.6	44.6	0.5	1.8%
Adamello	Mat4	Amph-gabbro	Zrn6	Oc10b006	0.0475	0.0009	0.0458	0.0008	0.0070	0.0001	0.66	45.4	0.8	44.8	0.5	1.4%
Adamello	Mat4	Amph-gabbro	Zrn6	Oc10b007	0.0470	0.0007	0.0457	0.0007	0.0071	0.0001	0.84	45.4	0.7	45.3	0.5	0.2%
Adamello	Mat4	Amph-gabbro	Zrn7	Oc10b008	0.0479	0.0009	0.0405	0.0007	0.0061	0.0001	0.66	40.3	0.7	39.4	0.5	2.3%
Adamello	Mat4	Amph-gabbro	Zrn7	Oc10b009	0.0469	0.0011	0.0427	0.0009	0.0066	0.0001	0.56	42.4	0.9	42.4	0.5	0.0%
Adamello	Mat4	Amph-gabbro	Zrn8	Oc10b010	0.0468	0.0007	0.0415	0.0006	0.0064	0.0001	0.76	41.2	0.6	41.3	0.5	-0.2%
Adamello	Mat4	Amph-gabbro	Zrn8	Oc10b011	0.0461	0.0006	0.0429	0.0005	0.0067	0.0001	0.93	42.6	0.5	43.3	0.5	-1.6%
Adamello	Mat4	Amph-gabbro	Zrn9	Oc10b012	0.0472	0.0007	0.0426	0.0006	0.0065	0.0001	0.78	42.4	0.6	42.0	0.5	0.9%
Adamello	Mat4	Amph-gabbro	Zrn9	Oc10b013	0.0475	0.0006	0.0439	0.0006	0.0067	0.0001	0.90	43.6	0.6	43.0	0.5	1.3%
Adamello	Mat4	Amph-gabbro	Zrn10	Oc10b014	0.0461	0.0018	0.0404	0.0015	0.0064	0.0001	0.40	40.2	1.5	40.8	0.6	-1.5%
Adamello	Mat4	Amph-gabbro	Zrn10	Oc10b015	0.0459	0.0009	0.0421	0.0008	0.0067	0.0001	0.66	41.9	0.8	42.8	0.5	-2.2%
Adamello	Mat4	Amph-gabbro	Zrn11	Oc10b016	0.0479	0.0007	0.0411	0.0005	0.0062	0.0001	0.89	40.9	0.5	39.9	0.5	2.4%
Adamello	Mat4	Amph-gabbro	Zrn11	Oc10b017	0.0457	0.0007	0.0415	0.0006	0.0066	0.0001	0.79	41.3	0.6	42.3	0.5	-2.4%
Adamello	Mat4	Amph-gabbro	Zrn12	Oc10b018	0.0467	0.0008	0.0415	0.0007	0.0064	0.0001	0.73	41.2	0.7	41.1	0.5	0.3%
Adamello	Mat4	Amph-gabbro	Zrn13	Oc10b019	0.0471	0.0006	0.0416	0.0005	0.0064	0.0001	0.97	41.4	0.5	41.2	0.5	0.4%
Adamello	Mat4	Amph-gabbro	Zrn13	Oc10b020	0.0460	0.0006	0.0393	0.0005	0.0062	0.0001	0.91	39.1	0.5	39.8	0.5	-1.7%
Adamello	Mat4	Amph-gabbro	Zrn14	Oc10b021	0.0466	0.0011	0.0409	0.0010	0.0064	0.0001	0.55	40.7	0.9	40.9	0.5	-0.3%
Adamello	Mat4	Amph-gabbro	Zrn14	Oc10b022	0.0465	0.0008	0.0413	0.0007	0.0065	0.0001	0.69	41.1	0.7	41.4	0.5	-0.8%
Adamello	Mat4	Amph-gabbro	Zrn15	Oc10b023	0.0466	0.0012	0.0395	0.0010	0.0062	0.0001	0.51	39.3	1.0	39.5	0.5	-0.5%
Adamello	Mat4	Amph-gabbro	Zrn15	Oc10b024	0.0460	0.0021	0.0404	0.0018	0.0064	0.0001	0.34	40.2	1.8	41.0	0.6	-1.9%
Adamello	Mat4	Amph-gabbro	Zrn16	Oc10b028	0.0466	0.0006	0.0408	0.0006	0.0064	0.0001	0.90	40.6	0.6	40.8	0.5	-0.4%
Adamello	Mat4	Amph-gabbro	Zrn16	Oc10b029	0.0481	0.0008	0.0426	0.0007	0.0064	0.0001	0.75	42.4	0.7	41.3	0.5	2.6%
Adamello	Mat4	Amph-gabbro	Zrn17	Oc10b030	0.0465	0.0006	0.0419	0.0005	0.0065	0.0001	0.99	41.6	0.5	42.0	0.5	-0.7%
Adamello	Mat4	Amph-gabbro	Zrn17	Oc10b031	0.0460	0.0008	0.0406	0.0007	0.0064	0.0001	0.68	40.4	0.7	41.3	0.5	-2.2%
Adamello	Mat4	Amph-gabbro	Zrn18	Oc10b032	0.0473	0.0006	0.0412	0.0005	0.0063	0.0001	0.97	41.0	0.5	40.7	0.5	0.8%
Adamello	Mat4	Amph-gabbro	Zrn18	Oc10b033	0.0474	0.0007	0.0393	0.0005	0.0060	0.0001	0.83	39.2	0.5	38.7	0.4	1.2%
Adamello	Mat4	Amph-gabbro	Zrn19	Oc10b034	0.0480	0.0006	0.0454	0.0006	0.0069	0.0001	0.89	45.1	0.6	44.1	0.5	2.3%
Adamello	Mat4	Amph-gabbro	Zrn19	Oc10b035	0.0469	0.0009	0.0466	0.0009	0.0072	0.0001	0.68	46.2	0.9	46.3	0.6	-0.2%
Adamello	Mat4	Amph-gabbro	Zrn20	Oc10b036	0.0479	0.0008	0.0510	0.0009	0.0077	0.0001	0.70	50.5	0.9	49.5	0.6	2.0%
Adamello	Mat4	Amph-gabbro	Zrn20	Oc10b037	0.0452	0.0012	0.0405	0.0010	0.0065	0.0001	0.50	40.3	1.0	41.8	0.5	-3.8%
Adamello	Mat4	Amph-gabbro	Zrn20	Oc10b038	0.0525	0.0009	0.0446	0.0008	0.0062	0.0001	0.69	44.3	0.8	39.6	0.5	10.6%
Adamello	Mat4	Amph-gabbro	Zrn21	Oc10b039	0.0468	0.0015	0.0458	0.0015	0.0071	0.0001	0.40	45.4	1.5	45.9	0.6	-0.9%
Adamello	Mat4	Amph-gabbro	Zrn21	Oc10b040	0.0479	0.0010	0.0412	0.0008	0.0063	0.0001	0.64	41.0	0.8	40.2	0.5	2.1%
Adamello	Mat4	Amph-gabbro	Zrn24	Oc10b041	0.0473	0.0009	0.0437	0.0008	0.0067	0.0001	0.63	43.4	0.8	43.1	0.5	0.7%
Adamello	Mat4	Amph-gabbro	Zrn24	Oc10b042	0.0469	0.0006	0.0430	0.0006	0.0067	0.0001	0.89	42.7	0.6	42.7	0.5	0.0%
Adamello	Mat4	Amph-gabbro	Zrn25	Oc10b043	0.0479	0.0007	0.0423	0.0005	0.0064	0.0001	0.83	42.1	0.5	41.2	0.4	2.2%
Adamello	Mat4	Amph-gabbro	Zrn25	Oc10b044	0.0476	0.0013	0.0438	0.0011	0.0067	0.0001	0.48	43.6	1.1	42.9	0.5	1.5%
Adamello	Mat4	Amph-gabbro	Zrn26	Oc10b045	0.0469	0.0007	0.0458	0.0007	0.0071	0.0001	0.74	45.4	0.7	45.5	0.5	-0.1%
Adamello	Mat4	Amph-gabbro	Zrn26	Oc10b046	0.0479	0.0019	0.0443	0.0017	0.0067	0.0001	0.35	44.0	1.7	43.2	0.6	1.8%
Bergell	VS01	Amph-diorite	Zrn1	VS01 01	0.0499	0.0010	0.0328	0.0007	0.0048	0.0001	1.48	32.8	0.6	30.7	0.9	6.4%
Bergell	VS01	Amph-diorite	Zrn2	VS01 02	0.0435	0.0014	0.0290	0.0009	0.0049	0.0002	1.02	29.0	0.9	31.2	1.0	-7.6%
Bergell	VS01	Amph-diorite	Zrn3	VS01 03	0.0499	0.0017	0.0316	0.0010	0.0046	0.0002	1.02	31.6	1.0	29.5	1.0	6.6%
Bergell	VS01	Amph-diorite	Zrn4	VS01 04	0.0461	0.0044	0.0278	0.0025	0.0044	0.0002	0.41	28.0	2.0	28.0	1.0	0.0%
Bergell	VS01	Amph-diorite	Zrn5	VS01 05	0.0461	0.0020	0.0288	0.0009	0.0045	0.0001	0.97	28.9	0.9	29.2	0.9	-1.0%
Bergell	VS01	Amph-diorite	Zrn6	VS01 06	0.0497	0.0017	0.0327	0.0011	0.0048	0.0002	0.95	33.0	1.0	30.8	1.0	6.7%
Bergell	VS01	Amph-diorite	Zrn7	VS01 07	0.0524	0.0014	0.0327	0.0008	0.0045	0.0001	1.25	32.6	0.8	29.1	0.9	10.7%
Bergell	VS01	Amph-diorite	Zrn8	VS01 08	0.0447	0.0022	0.0294	0.0014	0.0048	0.0002	0.71	29.0	1.0	31.0	1.0	-6.9%
Bergell	VS01	Amph-diorite	Zrn9	VS01 09	0.0460	0.0010	0.0303	0.0006	0.0048	0.0001	1.48	30.3	0.6	30.7	0.9	-1.3%
Bergell	VS01	Amph-diorite	Zrn10	VS01 10	0.0461	0.0020	0.0298	0.0009	0.0047	0.0001	0.94	29.8	0.9	30.1	0.9	-1.0%
Bergell	VS01	Amph-diorite	Zrn11	VS01 11	0.0486	0.0008	0.0322	0.0005	0.0048	0.0001	1.87	32.2	0.5	30.9	0.9	4.0%
Bergell	VS01	Amph-diorite	Zrn12	VS01 12	0.0450	0.0011	0.0302	0.0007	0.0049	0.0002	1.33	30.2	0.7	31.3	1.0	-3.6%
Bergell	VS01	Amph-diorite	Zrn13	VS01 13	0.0461	0.0028	0.0301	0.0016	0.0047	0.0001	0.57	30.0	2.0	30.5	0.9	-1.7%
Bergell	VS01	Amph-diorite	Zrn14	VS01 14	0.0474	0.0010	0.0314	0.0006	0.0048	0.0002	1.56	31.4	0.6	30.9	1.0	1.6%
Bergell	VS01	Amph-diorite	Zrn15	VS01 15	0.0472	0.0010	0.0305	0.0006	0.0047	0.0001	1.45	30.5	0.6	30.2	0.9	1.0%
Bergell	VS01	Amph-diorite	Zrn16	VS01 16	0.0486	0.0008	0.0330	0.0005	0.0049	0.0002	1.89	32.9	0.5	31.7	1.0	3.6%
Bergell	VS01	Amph-diorite	Zrn17	VS01 17	0.0478	0.0019	0.0311	0.0012	0.0047	0.0002	0.89	31.0	1.0	30.0	1.0	3.2%
Bergell	VS01	Amph-diorite	Zrn18	VS01 18	0.0473	0.0013	0.0318	0.0008	0.0049	0.0002	1.22	31.8	0.8	31.4	1.0	1.3%
Bergell	VS01	Amph-diorite	Zrn19	VS01 19	0.0484	0.0013	0.0322	0.0008	0.0048	0.0002	1.21	32.2	0.8	31.0	1.0	3.7%
Bergell	VS01	Amph-diorite	Zrn20	VS01 20	0.0486	0.0021	0.0328	0.0013	0.0049	0.0002	0.83	33.0	1.0	31.0	1.0	6.1%
Bergell	VS01	Amph-diorite	Zrn21	VS01 21	0.0485	0.0009	0.0342	0.0006	0.0051	0.0002	1.64	34.1	0.6	32.9	1.0	3.5%
Bergell	VS04	Amph-diorite	Zrn1	VS04 01	0.0489	0.0020	0.0313	0.0012	0.0046	0.0002	0.86	31.0	1.0	29.8	1.0	3.9%
Bergell	VS04	Amph-diorite	Zrn2	VS04 02	0.0477	0.0011	0.0316	0.0007	0.0048	0.0002	1.47	31.6	0.7	30.9	1.0	2.2%
Bergell	VS04	Amph-diorite	Zrn3	VS04 03	0.0461	0.0027	0.0293	0.0014	0.0046	0.0002	0.70	29.0	1.0	29.7	1.0	-2.4%
Bergell	VS04	Amph-diorite	Zrn4	VS04 04	0.0470	0.0011	0.0312	0.0007	0.0048	0.0002	1.37	31.2	0.7	31.0	1.0	0.6%
Bergell	VS04	Amph-diorite	Zrn5	VS04 05	0.0503	0.0015	0.0331	0.0009	0.0048	0.0002	1.13	33.0	0.9	30.7	1.0	7.0%
Bergell	VS04	Amph-diorite	Zrn6	VS04 06	0.0471	0.0011	0.0306	0.0007	0.0047	0.0001	1.38	30.6	0.7	30.3	0.9	1.0%
Bergell	VS04	Amph-diorite	Zrn7	VS04 07	0.0521	0.0009	0.0364	0.0006	0.0051	0.0002	1.74	36.3	0.6	32.5	1.0	10.5%
Bergell	VS04	Amph-diorite	Zrn8	VS04 08	0.0501	0.0011	0.0332	0.0007	0.0048	0.0002	1.50	33.2	0.7	30.9	1.0	6.9%
Bergell	VS04	Amph-diorite	Zrn9	VS04 09	0.0463	0.0017	0.0306	0.0011	0.0048	0.0002	0.90	31.0	1.0	30.8	1.0	0.6%
Bergell	VS04	Amph-diorite	Zrn10	VS04 10	0.0470	0.0015	0.0312	0.0010	0.0048	0.0002	1.01	31.2	0.9	30.9	1.0	1.0%
Bergell	VS04	Amph-diorite	Zrn11	VS04 11	0.0499	0.0013	0.0328	0.0008	0.0048	0.0002	1.26	32.8	0.8	30.6	1.0	6.7%
Bergell	VS04	Amph-diorite	Zrn12	VS04 12	0.0493	0.0020	0.0311	0.0012	0.0046	0.0002	0.87	31.0	1.0	29.4	1.0	5.2%
Bergell	VS04	Amph-diorite	Zrn13	VS04 13	0.0473	0.0009	0.0316	0.0006	0.0048	0.0001	1.66	31.6	0.5	31.1	0.9	1.6%
Bergell	VS04	Amph-diorite	Zrn14	VS04 14	0.0475	0.0017	0.0303	0.0010	0.0046	0.0002	0.97	30.3	1.0	29.8	1.0	1.7%
Bergell	VS04	Amph-diorite	Zrn15	VS04 15	0.0464	0.0020	0.0303	0.0010	0.0047	0.0001	0.93	30.3	0.9	30.5	0.9	-0.7%
Bergell	VS04	Amph-diorite	Zrn16	VS04 16	0.0461	0.0027	0.0294	0.0014	0.0046	0.0002	0.71	29.0	1.0	30.0	1.0	-3.4%
Bergell	VS04	Amph-diorite	Zrn17	VS04 17	0.0483	0.0011	0.0311	0.0007	0.0047	0.0001	1.41	31.1	0.6	30.1	0.9	3.2%
Bergell	VS04	Amph-diorite	Zrn18	VS04 18	0.0476	0.0009	0.0312	0.0005	0.0048	0.0001	1.70	31.2	0.5	30.5	0.9	2.2%
Bergell	VS04	Amph-diorite	Zrn19	VS04 19	0.0470	0.0013	0.0319	0.0008	0.0049	0.0002	1.16	31.9	0.8	31.7	1.0	0.6%
Bergell	VS04	Amph-diorite	Zrn20	VS04 20	0.0461	0.0018	0.0305	0.0008	0.0048	0.0001	1.15	30.5	0.8	30.9	0.9	-1.3%
Bergell	VS04	Amph-diorite	Zrn21	VS04 21	0.0513	0.0019	0.0321	0.0007	0.0045	0.0001	1.40	32.1	0.7	29.2	0.9	9.0%
Bergell	VS17	Amph-gabbro	Zrn1	VS17 01	0.0478	0.0010	0.0312	0.0006	0.0047	0.0001	1.46	31.1	0.6	30.4	0.9	2.3%
Bergell	VS17	Amph-gabbro	Zrn2	VS17 02	0.0459	0.0010	0.0301	0.0006	0.0048	0.0001	1.41	30.1	0.6	30.6	0.9	-1.7%
Bergell	VS17	Amph-gabbro	Zrn3	VS17 03	0.0478	0.0028	0.0317	0.0016	0.0048	0.0002	0.63	32.0	2.0	30.9	1.0	3.4%
Bergell	VS17	Amph-gabbro	Zrn4	VS17 04	0.0449	0.0009	0.0302	0.0006	0.0049	0.0002	1.55	30.2	0.6	31.4	1.0	-4.0%
Bergell	VS17	Amph-gabbro	Zrn5	VS17 05	0.0470	0.0009	0.0329	0.0006	0.0051	0.0002	1.71	32.9	0.6	32.6	1.0	0.9%
Bergell	VS17	Amph-gabbro	Zrn6	VS17 06	0.0466	0.0008	0.0314	0.0005	0.0049	0.0001	1.77	31.4	0.5	31.4	0.9	0.0%
Bergell	VS17	Amph-gabbro	Zrn7	VS17 07	0.0450	0.0009	0.0305	0.0006	0.0049	0.0002	1.69	30.5	0.5	31.6	1.0	-3.6%
Bergell	VS17	Amph-gabbro	Zrn8	VS17 08	0.0500	0.0009	0.0335	0.0006	0.0049	0.0001	1.72	33.5	0.6	31.3	0.9	6.6%
Bergell	VS17	Amph-gabbro	Zrn9	VS17 09	0.0477	0.0008	0.0325	0.0005	0.0049	0.0002	1.90	32.5	0.5	31.8	1.0	2.2%
Bergell	VS17	Amph-gabbro	Zrn10	VS17 10	0.0473	0.0008	0.0315	0.0005	0.0048	0.0001	1.72	31.5	0.5	31.1	0.9	1.3%
Bergell	VS17	Amph-gabbro	Zrn11	VS17 11	0.0468	0.0008	0.0312	0.0005	0.0049	0.0001	1.73	31.2	0.5	31.2	0.9	0.0%
Bergell	VS17	Amph-gabbro	Zrn12	VS17 12	0.0494	0.0011	0.0331	0.0007	0.0049	0.0002	1.55	33.0	0.6	31.3	1.0	5.2%
Bergell	VS17	Amph-gabbro	Zrn13	VS17 13	0.0494	0.0011	0.0327	0.0007	0.0048	0.0001	1.40	32.7	0.7	30.9	0.9	5.5%
Bergell	VS17	Amph-gabbro	Zrn14	VS17 14	0.0467	0.0008	0.0319	0.0006	0.0050	0.0002	1.76	31.9	0.5	31.8	1.0	0.3%
Bergell	VS17	Amph-gabbro	Zrn15	VS17 15	0.0478	0.0009	0.0321	0.0006	0.0049	0.0001	1.65	32.0	0.6	31.3	0.9	2.2%
Bergell	VS17	Amph-gabbro	Zrn16	VS17 16	0.0465	0.0009	0.0320	0.0006	0.0050	0.0002	1.63	32.0	0.6	32.1	1.0	-0.3%
Bergell	VS17	Amph-gabbro	Zrn17	VS17 17	0.0458	0.0009	0.0305	0.0006	0.0048	0.0001	1.50	30.5	0.6	31.1	0.9	-2.0%
Bergell	VS17	Amph-gabbro	Zrn18	VS17 18	0.0464	0.0010	0.0314	0.0006	0.0049	0.0002	1.55	31.4	0.6	31.6	1.0	-0.6%
Bergell	VS17	Amph-gabbro	Zrn19	VS17 19	0.0473	0.0009	0.0315	0.0006	0.0048	0.0001	1.63	31.5	0.6	31.0	0.9	1.6%
Bergell	VS17	Amph-gabbro	Zrn20	VS17 20	0.0494	0.0008	0.0345	0.0005	0.0051	0.0002	1.93	34.4	0.5	32.5	1.0	5.5%
Bergell	VS17	Amph-gabbro	Zrn21	VS17 21	0.0455	0.0008	0.0329	0.0005	0.0053	0.0002	1.77	32.9	0.5	33.8	1.0	-2.7%