EMPA of feldspar pairs, MAC-246: 01/24/17-01/25/17

15 kV, 10 nA, 2μm spot

SAMPLE	SiO₂	P₂O₅	Al₂O₃	FeO	CaO	Na₂O	K₂O	Rb₂O	Cs₂O	TOTAL	Si	P	Al	Fe	Ca	Na	K	Rb	Cs	Sum	xAb	xOr	xAn	T-Ab	T-Or	T-An	T-Convrg	Comment
Day-1 (01/24/17)																												
Cold End (edge of segment-1)																												
Cold End-Pl1	69.328	0.440	20.322	0.013	0.168	9.780	0.929	0.260	0.013	101.254	2.984	0.016	1.031	0.000	0.008	0.816	0.051	0.007	0.000	4.914	0.933	0.058	0.009	543.01	544.75	544.75	**Failed**	Avg=544.17
Cold End-Kf1	62.881	0.342	18.873	0.048	0.010	2.895	12.244	0.463	0.000	97.758	2.948	0.014	1.043	0.002	0.001	0.263	0.732	0.014	0.000	5.015	0.264	0.735	0.001					
Cold End-Pl2	68.163	0.728	20.483	0.000	0.096	10.692	0.726	0.167	0.000	101.056	2.947	0.027	1.044	0.000	0.004	0.896	0.040	0.005	0.000	4.962	0.953	0.043	0.005	513.94	507.68	507.68	**509.77**	
Cold End-Kf2	61.915	0.749	19.195	0.016	0.000	2.722	12.637	0.601	0.000	97.836	2.909	0.030	1.063	0.001	0.000	0.248	0.757	0.018	0.000	5.026	0.247	0.753	0.000					
Cold End-Pl3	67.835	0.906	20.719	0.000	0.194	10.338	0.903	0.237	0.027	101.160	2.932	0.033	1.055	0.000	0.009	0.866	0.050	0.007	0.001	4.952	0.936	0.054	0.010	495.82	495.82	495.82	**495.82**	
Cold End-Kf3	60.626	0.673	19.051	0.002	0.000	2.427	12.508	0.637	0.035	95.959	2.906	0.027	1.076	0.000	0.000	0.226	0.765	0.020	0.001	5.020	0.228	0.772	0.000					
Middle of Segment-1																												
mid-Seg1 Pl-1	66.989	0.462	19.785	0.001	0.122	10.586	0.681	0.221	0.025	98.872	2.963	0.017	1.032	0.000	0.006	0.908	0.038	0.006	0.000	4.971	0.954	0.040	0.006	546.53	529.54	546.53	**Failed**	Avg=531.00
mid-Seg1 Kf-1	61.651	0.383	18.464	0.025	0.013	2.935	11.978	0.369	0.000	95.818	2.946	0.016	1.040	0.001	0.001	0.272	0.730	0.011	0.000	5.017	0.271	0.728	0.001					
mid-Seg1 Pl-2	67.968	0.615	19.935	0.026	0.096	10.237	1.023	0.274	0.004	100.179	2.967	0.023	1.026	0.001	0.005	0.866	0.057	0.008	0.000	4.952	0.934	0.061	0.005	533.48	533.48	533.48	**533.48**	
mid-Seg1 Kf-2	62.312	0.516	18.634	0.018	0.008	2.863	11.977	0.505	0.021	96.853	2.945	0.021	1.038	0.001	0.000	0.262	0.722	0.015	0.000	5.005	0.266	0.733	0.000					
mid-Seg1 Pl-3	64.764	0.346	19.972	0.071	0.074	10.501	1.292	0.230	0.004	97.256	2.931	0.013	1.065	0.003	0.004	0.921	0.075	0.007	0.000	5.018	0.922	0.075	0.004	526.69	526.69	526.69	**526.69**	
mid-Seg1 Pl-3	63.497	0.366	19.339	0.025	0.060	10.087	1.727	0.261	0.023	95.385	2.936	0.014	1.054	0.001	0.003	0.904	0.102	0.008	0.000	5.023	0.896	0.101	0.003	531.84	552.56	531.84	**538.74**	
mid-Seg1 Kf-3	62.225	0.319	18.507	0.020	0.008	2.841	12.429	0.519	0.000	96.868	2.951	0.013	1.034	0.001	0.000	0.261	0.752	0.016	0.000	5.028	0.258	0.742	0.000					
Middle of Segment-2																												
mid-Seg2 Pl-1	66.091	0.547	19.929	0.035	0.097	10.705	0.922	0.191	0.024	98.541	2.942	0.021	1.045	0.001	0.005	0.924	0.052	0.005	0.000	4.996	0.942	0.053	0.005					
mid-Seg2 Kf-1	60.103	0.397	19.085	0.003	0.000	2.876	12.346	0.595	0.013	95.418	2.903	0.016	1.086	0.000	0.000	0.269	0.761	0.018	0.000	5.054	0.261	0.739	0.000	527.36	523.90	527.36	**526.21**	
mid-Seg2 Kf-1	59.083	0.416	19.180	0.000	0.024	2.880	12.306	0.589	0.000	94.478	2.885	0.017	1.104	0.000	0.001	0.273	0.767	0.018	0.000	5.066	0.262	0.737	0.001	550.04	534.49	542.32	**542.28**	
mid-Seg2 Pl-2	64.349	0.748	20.168	0.016	0.140	10.284	1.468	0.298	0.014	97.485	2.907	0.029	1.074	0.001	0.007	0.901	0.085	0.009	0.000	5.011	0.908	0.085	0.007	522.44	527.74	522.44	**Failed**	Avg = 524.2
mid-Seg2 Kf-2	59.763	0.593	19.438	0.012	0.004	2.713	12.510	0.612	0.000	95.644	2.881	0.024	1.104	0.000	0.000	0.254	0.769	0.019	0.000	5.052	0.248	0.752	0.000					
Middle of Segment-3																												
mid-Seg3 Pl-1	63.330	0.591	20.030	0.040	0.334	10.530	0.738	0.238	0.004	95.835	2.904	0.023	1.082	0.002	0.016	0.936	0.043	0.007	0.000	5.014	0.940	0.043	0.016	546.32	522.45	546.32	**538.37**	
mid-Seg3 Kf-1	59.164	0.477	18.927	0.021	0.031	2.871	12.219	0.380	0.000	94.089	2.894	0.020	1.091	0.001	0.002	0.272	0.762	0.012	0.000	5.054	0.263	0.736	0.002					
mid-Seg3 Pl-2	64.450	0.392	20.274	0.033	0.221	10.378	1.109	0.266	0.014	97.137	2.918	0.015	1.082	0.001	0.011	0.911	0.064	0.008	0.000	5.010	0.924	0.065	0.011	585.66	580.63	585.66	**583.98**	uncertainty used: 0.03
mid-Seg3 Kf-2	58.374	0.592	20.025	0.040	0.048	3.490	11.504	0.281	0.016	94.369	2.842	0.024	1.149	0.002	0.002	0.329	0.715	0.009	0.000	5.073	0.315	0.683	0.002					
mid-Seg3 Pl-3u	63.667	0.505	20.201	0.014	0.344	10.712	0.713	0.260	0.000	96.416	2.904	0.019	1.086	0.001	0.017	0.947	0.041	0.008	0.000	5.022	0.942	0.041	0.017					
mid-Seg3 Kf-3u	58.341	0.499	19.420	0.015	0.011	3.122	12.000	0.520	0.000	93.930	2.864	0.021	1.124	0.001	0.001	0.297	0.752	0.016	0.000	5.075	0.283	0.716	0.001	554.67	525.31	554.67	**544.88**	
mid-Seg3 Kf-3u	59.449	0.500	19.170	0.036	0.000	3.053	12.198	0.365	0.023	94.795	2.887	0.021	1.097	0.000	0.000	0.287	0.756	0.011	0.000	5.061	0.276	0.724	0.000	541.77	520.61	541.77	**534.72**	
Middle of Segment-4																												
mid-Seg4u Pl-1	65.753	0.446	20.011	0.004	0.146	10.279	1.164	0.231	0.017	98.049	2.942	0.017	1.055	0.000	0.007	0.892	0.066	0.007	0.000	4.987	0.924	0.069	0.007	531.20	531.20	531.20	**Failed**	avg = 531.20
mid-Seg4u Kf-1	59.834	0.448	19.532	0.014	0.000	2.868	12.308	0.430	0.004	95.438	2.885	0.018	1.110	0.001	0.000	0.268	0.757	0.013	0.000	5.052	0.262	0.738	0.000					
mid-Seg4u Pl-2	62.188	0.598	20.888	0.017	0.200	10.466	1.133	0.286	0.000	95.776	2.863	0.023	1.133	0.001	0.010	0.934	0.067	0.008	0.000	5.040	0.924	0.066	0.010					
mid-Seg4u Kf-2	58.976	0.573	19.612	0.026	0.000	2.774	12.464	0.347	0.022	94.794	2.866	0.024	1.123	0.001	0.000	0.261	0.773	0.011	0.000	5.060	0.253	0.747	0.000	525.12	525.12	525.12	**Failed**	avg=525.15
mid-Seg4u Kf-2	59.130	0.608	19.238	0.014	0.002	2.774	12.411	0.506	0.000	94.683	2.878	0.025	1.104	0.001	0.000	0.262	0.771	0.016	0.000	5.056	0.254	0.746	0.000	515.30	514.49	514.49	**514.76**	
mid-Seg4l Pl-3	64.029	0.522	20.246	0.003	0.139	10.479	0.688	0.356	0.030	96.492	2.913	0.020	1.086	0.000	0.007	0.924	0.040	0.010	0.001	5.001	0.952	0.041	0.007	537.26	513.68	537.26	**Failed**	avg=529.40
mid-Seg4l Kf-3	61.012	0.535	19.920	0.011	0.026	2.929	12.269	0.453	0.026	97.180	2.884	0.021	1.110	0.000	0.001	0.268	0.740	0.014	0.001	5.040	0.266	0.733	0.001					
mid-Seg4l Pl-4	65.286	0.572	20.542	0.011	0.106	10.419	1.151	0.187	0.004	98.278	2.916	0.022	1.081	0.000	0.005	0.902	0.066	0.005	0.000	4.998	0.927	0.067	0.005	522.23	522.23	522.23	**522.23**	
mid-Seg4l Kf-4	59.957	0.495	19.522	0.023	0.000	2.794	12.501	0.544	0.031	95.865	2.883	0.020	1.106	0.001	0.000	0.260	0.767	0.017	0.001	5.056	0.254	0.746	0.000					
Day-2 (01/25/17)																												
Middle of Segment-5																												
M246-midSeg-5L Pl-1	67.000	0.513	19.510	0.000	0.223	11.695	0.945	0.227	0.045	100.158	2.948	0.019	1.012	0.000	0.011	0.998	0.053	0.006	0.001	5.047	0.940	0.050	0.010	584.45	534.69	584.46	**Failed**	avg=567.87
M246-midSeg-5L Kf-1	64.743	0.505	18.345	0.027	0.015	3.861	10.959	0.353	0.000	98.809	2.979	0.020	0.995	0.001	0.001	0.344	0.643	0.010	0.000	4.993	0.348	0.651	0.001					
M246-midSeg-5L Pl-2	68.070	0.473	19.057	0.013	0.326	11.841	0.721	0.269	0.000	100.771	2.972	0.017	0.981	0.000	0.015	1.002	0.040	0.008	0.000	5.036	0.948	0.038	0.014	570.18	517.80	580.81	**553.14**	
M246-midSeg-5L Kf-2	63.750	0.562	18.432	0.000	0.026	3.446	11.518	0.205	0.030	97.969	2.964	0.022	1.010	0.000	0.001	0.311	0.683	0.006	0.001	4.998	0.312	0.687	0.001					
M246-midSeg-5L Pl-3	67.963	0.462	19.738	0.026	0.306	11.567	1.104	0.264	0.000	101.430	2.953	0.017	1.011	0.001	0.014	0.974	0.061	0.007	0.000	5.038	0.928	0.058	0.014	586.10	550.94	596.10	**Failed**	avg=574.38
M246-midSeg-5L Kf-3	64.546	0.440	18.436	0.027	0.013	3.686	10.880	0.243	0.024	98.295	2.981	0.017	1.003	0.001	0.001	0.330	0.641	0.007	0.000	4.981	0.340	0.660	0.001					

EMPA of feldspar pairs, MAC-246: 01/24/17-01/25/17

15 kV, 10 nA, 2μm spot

SAMPLE	Weight Percent										Atoms per 8 Oxygen										Mole fractions			2-Fsp T (Elkins & Grove)				Comment
	SiO$_2$	P$_2$O$_5$	Al$_2$O$_3$	FeO	CaO	Na$_2$O	K$_2$O	Rb$_2$O	Cs$_2$O	TOTAL	Si	P	Al	Fe	Ca	Na	K	Rb	Cs	Sum	xAb	xOr	xAn	T-Ab	T-Or	T-An	T-Convrg	
Middle of Segment-6																												
M246-midSeg-6L Pl-1	65.980	0.614	19.831	0.031	0.469	11.526	0.919	0.225	0.005	99.600	2.921	0.023	1.035	0.001	0.022	0.989	0.052	0.006	0.000	5.051	0.930	0.049	0.021	616.71	550.93	616.71	**594.78**	
M246-midSeg-6L Kf-1	64.745	0.567	18.399	0.028	0.035	4.454	9.997	0.414	0.000	98.639	2.975	0.022	0.996	0.001	0.002	0.397	0.586	0.012	0.000	4.991	0.403	0.595	0.002					
M246-midSeg-6L Pl-2	67.307	0.352	19.655	0.046	0.334	11.680	0.933	0.287	0.009	100.604	2.950	0.013	1.015	0.002	0.016	0.993	0.052	0.008	0.000	5.049	0.936	0.049	0.015	631.38	538.78	631.38	**600.52**	
M246-midSeg-6L Kf-2	63.028	0.477	18.993	0.054	0.152	4.776	9.885	0.345	0.006	97.715	2.933	0.019	1.042	0.002	0.008	0.431	0.587	0.010	0.000	5.032	0.420	0.572	0.007					
M246-midSeg-6U Pl-3	68.112	0.498	19.498	0.048	0.542	11.422	0.815	0.286	0.008	101.228	2.961	0.018	0.999	0.002	0.025	0.963	0.045	0.008	0.000	5.021	0.932	0.044	0.024	612.07	546.71	612.05	**590.28**	
M246-midSeg-6U PKf3	63.875	0.492	18.263	0.016	0.078	4.425	10.061	0.293	0.002	97.504	2.971	0.019	1.001	0.001	0.004	0.399	0.597	0.009	0.000	5.001	0.399	0.597	0.004					
Middle of Segment-7																												
M246-midSeg-7L Pl-1	69.642	0.379	20.215	0.062	0.413	11.266	0.797	0.298	0.005	103.077	2.966	0.014	1.015	0.002	0.019	0.930	0.043	0.008	0.000	4.997	0.937	0.044	0.019	588.59	538.14	588.58	**571.78**	
M246-midSeg-7L Kf-1	65.017	0.436	18.934	0.043	0.016	3.869	10.817	0.350	0.000	99.484	2.968	0.017	1.019	0.002	0.001	0.342	0.630	0.010	0.000	4.989	0.352	0.647	0.001					
M246-midSeg-7L Pl-2	70.018	0.522	19.947	0.022	0.418	11.256	1.096	0.237	0.009	103.525	2.971	0.019	0.997	0.001	0.019	0.926	0.059	0.006	0.000	4.998	0.922	0.059	0.019	593.76	549.70	593.76	**579.07**	uncertainty used: 0.01
M246-midSeg-7L Kf-2	65.327	0.299	18.764	0.041	0.026	3.854	10.715	0.317	0.000	99.343	2.983	0.012	1.010	0.002	0.001	0.341	0.624	0.009	0.000	4.982	0.353	0.646	0.001					
M246-midSeg-7U Pl-3	69.097	0.358	19.977	0.007	0.419	11.436	1.053	0.197	0.001	102.544	2.963	0.013	1.010	0.000	0.019	0.951	0.058	0.005	0.000	5.019	0.925	0.056	0.019	605.92	554.17	605.92	**588.67**	
M246-midSeg-7U Kf-3	64.114	0.480	19.059	0.064	0.045	4.264	10.498	0.280	0.000	98.805	2.948	0.019	1.033	0.002	0.002	0.380	0.616	0.008	0.000	5.009	0.381	0.617	0.002					
M246-midSeg-7U Pl-4	70.025	0.508	19.999	0.058	0.409	11.047	1.030	0.224	0.000	103.300	2.973	0.018	1.001	0.002	0.019	0.909	0.056	0.006	0.000	4.985	0.924	0.057	0.019	644.05	556.13	644.05	**614.74**	
M246-midSeg-7U Kf-4	64.892	0.536	19.037	0.033	0.205	5.697	8.430	0.369	0.000	99.199	2.952	0.021	1.021	0.001	0.010	0.503	0.489	0.011	0.000	5.008	0.502	0.488	0.010					
Hot End (segment-8)																												
M246-Seg-8 Pl-1	68.860	0.186	20.102	0.066	0.756	11.702	0.540	0.258	0.000	102.470	2.957	0.007	1.017	0.002	0.035	0.974	0.030	0.007	0.000	5.030	0.938	0.028	0.033	606.74	515.02	606.74	**576.17**	
M246-Seg-8 Kf-1	65.266	0.364	19.126	0.087	0.049	4.517	10.395	0.229	0.012	100.045	2.961	0.014	1.023	0.003	0.002	0.397	0.602	0.007	0.000	5.009	0.397	0.601	0.002					
Middle of Segment-4																												
M246-midSeg-4U Pl-4	68.322	0.433	19.604	0.000	0.225	11.141	1.626	0.162	0.000	101.512	2.965	0.016	1.003	0.000	0.010	0.937	0.090	0.005	0.000	5.026	0.903	0.087	0.010	566.79	566.79	566.79	**566.79**	
M246-midSeg-4U Kf-4	64.340	0.523	18.364	0.014	0.009	3.399	11.373	0.345	0.001	98.367	2.976	0.020	1.001	0.001	0.000	0.305	0.671	0.010	0.000	4.985	0.312	0.687	0.000					
M246-midSeg-4L Pl-5	67.299	0.523	20.016	0.048	0.161	11.464	0.876	0.266	0.002	100.656	2.941	0.019	1.031	0.002	0.008	0.971	0.049	0.007	0.000	5.028	0.945	0.048	0.007	549.19	519.52	519.52	**529.41**	
M246-midSeg-4L Kf-5	63.466	0.449	18.725	0.000	0.000	3.180	11.598	0.357	0.037	97.812	2.959	0.018	1.029	0.000	0.000	0.287	0.690	0.011	0.001	4.994	0.294	0.706	0.000					
Middle of Segment-3																												
M246-midSeg-3L Pl-4	68.630	0.573	19.853	0.030	0.285	11.800	0.905	0.340	0.000	102.416	2.951	0.021	1.006	0.001	0.013	0.984	0.050	0.009	0.000	5.036	0.940	0.047	0.013	557.53	529.17	557.53	**548.08**	
M246-midSeg-3L Kf-4	63.236	0.516	18.741	0.007	0.000	3.295	11.709	0.414	0.009	97.928	2.950	0.020	1.030	0.000	0.000	0.298	0.697	0.012	0.000	5.008	0.300	0.700	0.000					
M246-midSeg-3L Pl-5	67.480	0.606	19.978	0.013	0.347	11.337	0.899	0.251	0.000	100.913	2.940	0.022	1.026	0.000	0.016	0.958	0.050	0.007	0.000	5.020	0.935	0.049	0.016	545.12	504.84	504.84	**518.26**	
M246-midSeg-3L Kf-5	62.817	0.465	18.570	0.004	0.023	3.183	11.687	0.418	0.014	97.182	2.953	0.019	1.029	0.000	0.001	0.290	0.701	0.013	0.000	5.006	0.292	0.706	0.001					
Middle of Segment-2																												
M246-midSeg-2L Pl-5	69.412	0.567	19.289	0.010	0.074	11.856	0.722	0.234	0.015	102.180	2.982	0.021	0.977	0.000	0.003	0.987	0.040	0.006	0.000	5.016	0.958	0.038	0.003	545.12	504.84	504.84	**518.26**	
M246-midSeg-2L Kf-5	63.753	0.507	18.963	0.034	0.000	3.159	11.568	0.540	0.000	98.523	2.952	0.020	1.035	0.001	0.000	0.284	0.683	0.016	0.000	4.992	0.293	0.707	0.000					
M246-midSeg-2L Pl-6	66.429	0.492	19.539	0.030	0.062	11.401	1.107	0.250	0.000	99.310	2.946	0.018	1.021	0.001	0.003	0.980	0.063	0.007	0.000	5.040	0.937	0.060	0.003	561.29	531.46	561.29	**Failed**	Avg=551.35
M246-midSeg-2L Kf-6	62.803	0.484	18.255	0.034	0.010	3.260	11.416	0.513	0.012	96.787	2.963	0.019	1.015	0.001	0.001	0.298	0.687	0.016	0.000	5.001	0.302	0.697	0.001					
Middle of Segment-1																												
M246-midSeg-1L Pl-5	67.621	0.540	19.552	0.033	0.080	11.766	0.594	0.251	0.017	100.454	2.957	0.020	1.008	0.001	0.004	0.998	0.033	0.007	0.000	5.028	0.964	0.032	0.004					
M246-midSeg-1L Kf-5	61.955	0.529	18.634	0.049	0.000	2.914	12.212	0.535	0.035	96.862	2.936	0.021	1.041	0.002	0.000	0.268	0.738	0.016	0.001	5.023	0.266	0.734	0.000	526.77	491.45	526.77	**514.99**	
M246-midSeg-1L Kf-5	62.567	0.582	18.721	0.005	0.001	2.965	11.872	0.661	0.017	97.391	2.942	0.023	1.038	0.000	0.000	0.270	0.712	0.020	0.000	5.006	0.275	0.725	0.000	532.13	492.43	527.07	**517.21**	
M246-midSeg-1U Pl-6	66.542	0.540	19.613	0.001	0.087	11.639	0.759	0.214	0.000	99.396	2.944	0.020	1.023	0.000	0.004	0.998	0.043	0.006	0.000	5.038	0.955	0.041	0.004	536.38	508.54	536.37	**527.10**	
M246-midSeg-1U Kf-6	63.179	0.414	18.540	0.000	0.000	2.951	11.621	0.468	0.012	97.185	2.966	0.016	1.026	0.000	0.000	0.269	0.696	0.014	0.000	4.986	0.278	0.722	0.000					
Cold End (edge of segment-1)																												
M246-ColdEnd Pl-5	66.336	0.780	19.868	0.000	0.074	11.700	0.818	0.215	0.000	99.791	2.925	0.029	1.032	0.000	0.003	1.000	0.046	0.006	0.000	5.042	0.953	0.044	0.003	515.57	507.89	515.57	**513.01**	

EMPA of feldspar pairs, MAC-246: 01/24/17-01/25/17

15 kV, 10 nA, 2μm spot

SAMPLE	Weight Percent										Atoms per 8 Oxygen										Mole fractions			2-Fsp T (Elkins & Grove)				Comment
	SiO_2	P_2O_5	Al_2O_3	FeO	CaO	Na_2O	K_2O	Rb_2O	Cs_2O	TOTAL	Si	P	Al	Fe	Ca	Na	K	Rb	Cs	Sum	xAb	xOr	xAn	T-Ab	T-Or	T-An	T-Convrg	
M246-ColdEnd Kf-5	61.299	0.739	18.929	0.000	0.000	2.684	12.275	0.551	0.019	96.496	2.915	0.030	1.061	0.000	0.000	0.247	0.745	0.017	0.000	5.015	0.249	0.751	0.000					