

e-Table 2. Mineral compositions of rocks of the Klyuchevskaya group of volcanoes.

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KAM-08-A1	Kamen	Dike	Spectrum 1	Clinopyroxene	48.303	0.773	6.067	9.282	13.857	0.329	19.806			0.540		98.956
KAM-08-A1	Kamen	Dike	Spectrum 2	Clinopyroxene	50.366	0.734	3.946	9.187	15.239		19.723			0.419		99.615
KAM-08-A1	Kamen	Dike	Spectrum 3	Clinopyroxene	49.204	0.831	5.610	7.663	14.735		21.079			0.419		99.541
KAM-08-A1	Kamen	Dike	Spectrum 4	Clinopyroxene	50.860	0.357	3.501	9.121	15.841	0.306	19.305			0.448		99.738
KAM-08-A1	Kamen	Dike	Spectrum 5	Clinopyroxene	50.683	0.582	3.183	9.140	15.394	0.348	20.240			0.454		100.024
KAM-08-A1	Kamen	Dike	Spectrum 6	Clinopyroxene	51.059	0.587	3.354	8.795	15.955		19.488			0.462		99.699
KAM-08-A1	Kamen	Dike	Spectrum 7	Clinopyroxene	49.822	0.685	5.045	8.015	14.840		20.108		0.291	0.462		99.269
KAM-08-A1	Kamen	Dike	Spectrum 8	Clinopyroxene	50.220	0.631	4.489	8.701	15.353		19.746			0.537		99.678
KAM-08-A1	Kamen	Dike	Spectrum 9	Clinopyroxene	48.334	0.896	6.614	9.355	13.575	0.281	20.078			0.467		99.600
KAM-08-A1	Kamen	Dike	Spectrum 10	Clinopyroxene	51.953	0.592	1.887	9.615	16.181	0.453	18.764			0.270		99.714
KAM-08-A1	Kamen	Dike	Spectrum 11	Clinopyroxene	51.791	0.588	2.208	9.490	16.016	0.399	19.073			0.376		99.941
KAM-08-A1	Kamen	Dike	Spectrum 12	Clinopyroxene	48.687	0.743	5.934	8.388	14.319	0.251	20.612			0.449		99.383
KAM-08-A1	Kamen	Dike	Spectrum 13	Clinopyroxene	50.780	0.535	4.488	8.341	15.486		20.127			0.387		100.144
KAM-08-A1	Kamen	Dike	Spectrum 14	Clinopyroxene	48.703	1.009	6.625	9.255	13.969		19.833			0.489		99.881
KAM-08-A1	Kamen	Dike	Spectrum 15	Clinopyroxene	51.135	0.574	3.688	9.789	16.193	0.362	17.888			0.442		100.071
KAM-08-A1	Kamen	Dike	Spectrum 16	Clinopyroxene	50.002	0.810	5.267	9.529	15.102		19.109			0.609		100.429
KAM-08-A1	Kamen	Dike	Spectrum 17	Clinopyroxene	51.394	0.599	3.385	9.297	15.959	0.448	18.736			0.451		100.269
KAM-08-A1	Kamen	Dike	Spectrum 18	Clinopyroxene	51.231	0.587	3.902	9.123	15.847		19.339			0.413		100.441
KAM-08-A1	Kamen	Dike	Spectrum 19	Clinopyroxene	51.181	0.765	2.728	9.344	15.371		19.552			0.472		99.414
KAM-08-A1	Kamen	Dike	Spectrum 1	Olivin	37.942			27.317	35.872	0.652	0.240					102.023
KAM-08-A1	Kamen	Dike	Spectrum 2	Olivin	37.722			25.050	36.842	0.363						99.977
KAM-08-A1	Kamen	Dike	Spectrum 3	Olivin	37.136			28.605	32.651	0.487						98.880
KAM-08-A1	Kamen	Dike	Spectrum 4	Olivin	38.320			26.108	36.442	0.427	0.226					101.521
KAM-08-A1	Kamen	Dike	Spectrum 5	Olivin	37.959	0.253		27.010	34.911	0.473	0.273					100.879
KAM-08-A1	Kamen	Dike	Spectrum 6	Olivin	37.731			26.188	36.408	0.421	0.174					100.922
KAM-08-A1	Kamen	Dike	Spectrum 7	Olivin	39.056			19.476	41.204	0.284						100.019
KAM-08-A1	Kamen	Dike	Spectrum 8	Olivin	38.382			23.871	38.168	0.355						100.776
KAM-08-A1	Kamen	Dike	Spectrum 9	Olivin	38.001			24.539	36.778	0.457	0.225					100.001
KAM-08-A1	Kamen	Dike	Spectrum 10	Olivin	38.561			19.985	40.355	0.244	0.217					99.363
KAM-08-A1	Kamen	Dike	Spectrum 11	Olivin	38.224			20.022	40.837	0.375						99.458
KAM-08-A1	Kamen	Dike	Spectrum 12	Olivin	37.925			25.454	35.608	0.476						99.462
KAM-08-A1	Kamen	Dike	Spectrum 13	Olivin	37.756			25.992	35.937	0.703	0.147					100.534
KAM-08-A1	Kamen	Dike	Spectrum 14	Olivin	37.796			26.000	35.821	0.417						100.035
KAM-08-A1	Kamen	Dike	Spectrum 15	Olivin	37.987			25.571	36.425	0.523	0.197					100.704
KAM-08-A1	Kamen	Dike	Spectrum 16	Olivin	37.888			25.841	35.714	0.523						99.967
KAM-08-A1	Kamen	Dike	Spectrum 17	Olivin	37.754			25.519	36.293	0.509	0.161					100.236
KAM-08-A1	Kamen	Dike	Spectrum 18	Olivin	37.603			24.027	37.057	0.520						99.207
KAM-08-A1	Kamen	Dike	Spectrum 19	Olivin	38.441			20.642	40.485	0.229	0.174					99.971
KAM-08-A1	Kamen	Dike	Spectrum 20	Olivin	37.639			25.796	35.862	0.458	0.234					99.990
KAM-08-A1	Kamen	Dike	Spectrum 21	Olivin	37.691			24.612	36.211	0.311	0.191					99.015
KAM-08-A1	Kamen	Dike	Spectrum 22	Olivin	37.193			26.109	34.805	0.471	0.208					98.787
KAM-08-A1	Kamen	Dike	Spectrum 23	Olivin	38.450			20.748	39.802		0.140					99.140
KAM-08-A1	Kamen	Dike	Spectrum 24	Olivin	39.138			19.460	41.024	0.257						99.879
KAM-08-A1	Kamen	Dike	Spectrum 25	Olivin	37.310		0.233	25.313	35.315	0.464	0.171					98.806

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KAM-08-A1	Kamen	Dike	Spectrum 26	Olivin	38.621			21.660	39.801	0.367						100.450
KAM-08-A1	Kamen	Dike	Spectrum 27	Olivin	38.505			20.500	40.264		0.180					99.449
KAM-08-A1	Kamen	Dike	Spectrum 28	Olivin	39.132			19.621	40.798		0.169					99.721
KAM-08-A1	Kamen	Dike	Spectrum 29	Olivin	36.841			28.857	33.478	0.484						99.660
KAM-08-A1	Kamen	Dike	Spectrum 30	Olivin	38.685			19.689	40.017							98.391
KAM-08-A1	Kamen	Dike	Spectrum 31	Olivin	37.866			24.641	37.360	0.508						100.374
KAM-08-A1	Kamen	Dike	Spectrum 1	Plagioclase	46.219		33.571	0.752			17.046			1.805		99.393
KAM-08-A1	Kamen	Dike	Spectrum 2	Plagioclase	47.071		33.937	0.828			17.192			1.786		100.814
KAM-08-A1	Kamen	Dike	Spectrum 3	Plagioclase	47.663		33.216	0.618			16.660			2.037		100.194
KAM-08-A1	Kamen	Dike	Spectrum 4	Plagioclase	46.231		34.123	0.611			17.748			1.455		100.169
KAM-08-A1	Kamen	Dike	Spectrum 5	Plagioclase	46.957		32.271	0.769			16.064			2.384		98.446
KAM-08-A1	Kamen	Dike	Spectrum 6	Plagioclase	46.608		33.108	0.716			17.321			1.778		99.532
KAM-08-A1	Kamen	Dike	Spectrum 7	Plagioclase	47.493		33.288	0.575			16.872			1.991		100.219
KAM-08-A1	Kamen	Dike	Spectrum 8	Plagioclase	47.315		33.097	0.516			16.962			2.210		100.101
KAM-08-A1	Kamen	Dike	Spectrum 9	Plagioclase	47.130		33.253	0.713			16.752			2.002		99.849
KAM-08-A1	Kamen	Dike	Spectrum 10	Plagioclase	46.240		34.390	0.568			17.821			1.682		100.702
KAM-08-01	Kamen	Monogenetic cone	Spectrum 1	Clinopyroxene	52.326	0.369	2.418	8.055	17.594	0.243	18.013		0.601	0.341		99.959
KAM-08-01	Kamen	Monogenetic cone	Spectrum 2	Clinopyroxene	51.349	0.467	2.603	7.895	16.644		18.984		0.550	0.599		99.092
KAM-08-01	Kamen	Monogenetic cone	Spectrum 3	Clinopyroxene	52.888	0.388	1.860	8.331	17.940	0.368	18.383			0.376		100.535
KAM-08-01	Kamen	Monogenetic cone	Spectrum 4	Clinopyroxene	52.176	0.751	3.111	8.700	17.390	0.300	18.581		0.230	0.406		101.645
KAM-08-01	Kamen	Monogenetic cone	Spectrum 5	Clinopyroxene	52.771	0.351	2.510	7.787	17.805	0.277	18.233		0.639	0.341		100.714
KAM-08-01	Kamen	Monogenetic cone	Spectrum 6	Clinopyroxene	51.878	0.462	2.887	7.940	17.529		18.505		0.483	0.236		99.921
KAM-08-01	Kamen	Monogenetic cone	Spectrum 7	Clinopyroxene	52.624	0.354	2.123	8.551	17.568	0.252	17.306			0.445		99.222
KAM-08-01	Kamen	Monogenetic cone	Spectrum 8	Clinopyroxene	52.895	0.388	2.904	8.574	17.737		17.735			0.416		100.649
KAM-08-01	Kamen	Monogenetic cone	Spectrum 9	Clinopyroxene	52.376	0.515	2.527	7.704	17.702		18.126		0.616	0.276		99.841
KAM-08-01	Kamen	Monogenetic cone	Spectrum 10	Clinopyroxene	52.481	0.433	2.317	8.124	17.358		18.393		0.404	0.458		99.967
KAM-08-01	Kamen	Monogenetic cone	Spectrum 11	Clinopyroxene	52.830	0.529	2.104	9.263	18.339	0.323	16.863		0.359	0.376		100.987
KAM-08-01	Kamen	Monogenetic cone	Spectrum 12	Clinopyroxene	51.731	0.595	2.882	9.778	16.903	0.280	17.725			0.405		100.299
KAM-08-01	Kamen	Monogenetic cone	Spectrum 13	Clinopyroxene	53.057	0.608	2.642	9.131	17.269		17.607			0.465		100.777
KAM-08-01	Kamen	Monogenetic cone	Spectrum 14	Clinopyroxene	52.175	0.588	2.780	7.876	17.487	0.258	17.701			0.389		99.254
KAM-08-01	Kamen	Monogenetic cone	Spectrum 15	Clinopyroxene	51.817	0.507	2.979	8.859	16.766		18.247			0.397		99.572
KAM-08-01	Kamen	Monogenetic cone	Spectrum 16	Clinopyroxene	52.280	0.682	2.557	8.612	17.565	0.303	17.774		0.413	0.378		100.564
KAM-08-01	Kamen	Monogenetic cone	Spectrum 17	Clinopyroxene	52.850	0.439	2.104	8.265	17.844	0.293	18.379		0.320	0.357		100.852
KAM-08-01	Kamen	Monogenetic cone	Spectrum 18	Clinopyroxene	53.331	0.462	2.496	10.782	17.072	0.381	17.343			0.363		102.231
KAM-08-01	Kamen	Monogenetic cone	Spectrum 19	Clinopyroxene	52.433	0.521	3.212	8.190	17.330	0.348	18.764		0.521	0.338		101.657
KAM-08-01	Kamen	Monogenetic cone	Spectrum 20	Clinopyroxene	52.028	0.707	2.912	8.043	17.243	0.370	18.246		0.569	0.409		100.528
KAM-08-01	Kamen	Monogenetic cone	Spectrum 1	Olivin	40.161			12.969	46.691		0.230					100.051
KAM-08-01	Kamen	Monogenetic cone	Spectrum 2	Olivin	39.777			13.081	46.274	0.259	0.194					99.584
KAM-08-01	Kamen	Monogenetic cone	Spectrum 3	Olivin	38.712			20.025	40.853		0.238					99.828
KAM-08-01	Kamen	Monogenetic cone	Spectrum 4	Olivin	38.733			17.968	42.030		0.224					98.955
KAM-08-01	Kamen	Monogenetic cone	Spectrum 5	Olivin	38.387			20.458	39.811							98.656
KAM-08-01	Kamen	Monogenetic cone	Spectrum 6	Olivin	37.909			24.033	37.008	0.419	0.239					99.607
KAM-08-01	Kamen	Monogenetic cone	Spectrum 7	Olivin	40.748			10.938	47.816	0.219	0.139					99.860
KAM-08-01	Kamen	Monogenetic cone	Spectrum 8	Olivin	39.722			16.649	43.821	0.401	0.228					100.820
KAM-08-01	Kamen	Monogenetic cone	Spectrum 9	Olivin	39.208			16.938	42.941	0.233	0.265	0.534				100.120

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KAM-08-01	Kamen	Monogenetic cone	Spectrum 10	Olivin	37.013			26.075	34.700	0.356	0.238					98.382
KAM-08-01	Kamen	Monogenetic cone	Spectrum 11	Olivin	39.525			17.340	43.721		0.310	0.358				101.254
KAM-08-01	Kamen	Monogenetic cone	Spectrum 12	Olivin	40.713			13.414	47.106		0.192					101.425
KAM-08-01	Kamen	Monogenetic cone	Spectrum 13	Olivin	39.034			20.328	41.016	0.360	0.157					100.895
KAM-08-01	Kamen	Monogenetic cone	Spectrum 14	Olivin	40.882			10.070	49.855		0.166					100.973
KAM-08-01	Kamen	Monogenetic cone	Spectrum 15	Olivin	40.588			12.493	47.735		0.266					101.082
KAM-08-01	Kamen	Monogenetic cone	Spectrum 16	Olivin	40.075		0.215	11.987	47.126		0.181					99.584
KAM-08-01	Kamen	Monogenetic cone	Spectrum 17	Olivin	40.053			12.978	46.325		0.248					99.604
KAM-08-01	Kamen	Monogenetic cone	Spectrum 18	Olivin	40.450			13.176	47.327			0.386				101.339
KAM-08-01	Kamen	Monogenetic cone	Spectrum 19	Olivin	41.121			9.459	49.686		0.148	0.473				100.888
KAM-08-01	Kamen	Monogenetic cone	Spectrum 20	Olivin	39.624			17.877	42.340		0.163					100.005
KAM-08-01	Kamen	Monogenetic cone	Spectrum 21	Olivin	40.957			9.974	49.694	0.318	0.153					101.096
KAM-08-01	Kamen	Monogenetic cone	Spectrum 22	Olivin	40.502			10.796	48.459		0.345					100.101
KAM-08-01	Kamen	Monogenetic cone	Spectrum 23	Olivin	37.970			23.513	37.591	0.326						99.400
KAM-08-01	Kamen	Monogenetic cone	Spectrum 24	Olivin	40.639			13.305	47.619	0.275	0.145					101.983
KAM-08-01	Kamen	Monogenetic cone	Spectrum 25	Olivin	40.569			12.045	47.379	0.356						100.348
KAM-08-01	Kamen	Monogenetic cone	Spectrum 26	Olivin	38.589			20.470	39.819	0.262	0.191					99.331
KAM-08-01	Kamen	Monogenetic cone	Spectrum 27	Olivin	40.513			12.759	47.644		0.205	0.403				101.525
KAM-08-01	Kamen	Monogenetic cone	Spectrum 28	Olivin	40.493			12.647	47.067	0.256		0.454				100.917
KAM-08-01	Kamen	Monogenetic cone	Spectrum 29	Olivin	39.769		0.217	13.810	45.932	0.324	0.201					100.254
KAM-08-01	Kamen	Monogenetic cone	Spectrum 1	Plagioclase	53.094		29.261	0.773			12.541			4.564	0.346	100.579
KAM-08-01	Kamen	Monogenetic cone	Spectrum 2	Plagioclase	53.590		29.287	0.772	0.225		12.742			4.296	0.246	101.159
KAM-08-01	Kamen	Monogenetic cone	Spectrum 3	Plagioclase	51.203		30.944	0.665	0.204		13.945			3.395	0.133	100.489
KAM-08-01	Kamen	Monogenetic cone	Spectrum 4	Plagioclase	52.204		30.215	0.689	0.215		13.619			3.909	0.156	101.006
KAM-08-01	Kamen	Monogenetic cone	Spectrum 5	Plagioclase	53.336		29.582	0.851			12.605			4.489	0.471	101.334
KAM-08-01	Kamen	Monogenetic cone	Spectrum 6	Plagioclase	52.714		30.080	0.869	0.181		12.930			4.239	0.149	101.163
KAM-08-01	Kamen	Monogenetic cone	Spectrum 7	Plagioclase	53.969		28.722	0.798			12.084			4.657	0.316	100.546
KAM-08-01	Kamen	Monogenetic cone	Spectrum 8	Plagioclase	50.971		31.371	0.600			14.671			3.442	0.313	101.367
KAM-08-01	Kamen	Monogenetic cone	Spectrum 9	Plagioclase	52.464		30.109	0.521	0.362		13.539			3.908	0.206	101.110
KAM-08-01	Kamen	Monogenetic cone	Spectrum 10	Plagioclase	53.034		29.150	0.680	0.193		12.609			4.186	0.258	100.110
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 1	Clinopyroxene	51.881	0.546	1.971	8.088	17.529	0.249	17.883		0.315	0.215		98.676
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 2	Clinopyroxene	51.937	0.286	2.200	8.364	18.174	0.239	16.972		0.430	0.488		99.089
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 3	Clinopyroxene	50.870	0.447	2.871	8.045	17.193		18.173		0.688	0.362		98.649
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 4	Clinopyroxene	52.170	0.480	2.071	8.147	18.033	0.341	17.793		0.512	0.333		99.881
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 5	Clinopyroxene	51.667	0.482	2.048	7.884	17.775		17.588		0.507	0.672		98.622
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 6	Clinopyroxene	52.169	0.359	2.423	7.686	17.607	0.376	17.901		0.298	0.471		99.291
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 7	Clinopyroxene	51.913	0.607	2.896	9.073	17.162		17.862		0.390	0.285		100.189
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 8	Clinopyroxene	52.537	0.381	2.275	8.564	18.132	0.386	17.248			0.399		99.923
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 9	Clinopyroxene	52.759	0.502	1.903	9.275	18.146	0.280	16.534			0.290		99.689
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 10	Clinopyroxene	52.657	0.522	2.328	8.362	18.043	0.276	18.020		0.291	0.560		101.059
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 11	Clinopyroxene	52.937	0.269	2.214	7.981	18.267		17.965		0.620	0.440		100.693
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 12	Clinopyroxene	51.828	0.524	2.332	8.266	17.453	0.438	17.728			1.084		99.652
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 13	Clinopyroxene	52.116	0.531	2.548	8.151	17.318	0.341	18.638		0.337	0.222		100.202
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 14	Clinopyroxene	51.354	0.484	2.756	7.998	16.794	0.240	18.294		0.408	1.066	0.130	99.525
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 15	Clinopyroxene	52.231	0.483	2.702	7.531	16.882		18.872		0.700	0.389		99.790

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KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 16	Clinopyroxene	51.900	0.513	2.489	7.568	17.192	0.300	18.380		0.574	0.534		99.449
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 17	Clinopyroxene	52.843		2.029	7.637	17.655	0.368	18.404		0.472	0.253		99.662
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 18	Clinopyroxene	52.890	0.459	2.134	8.575	18.052	0.461	17.647		0.271	0.312		100.801
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 19	Clinopyroxene	52.656	0.333	2.281	8.052	17.975	0.385	17.562		0.668	0.356		100.268
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 20	Clinopyroxene	52.340	0.440	2.679	9.496	18.192	0.334	16.545			0.358		100.385
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 1	Olivin	40.612			11.671	47.492		0.176	0.464				100.415
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 2	Olivin	40.865			12.056	47.670		0.199					100.791
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 3	Olivin	40.783			11.612	48.000		0.182					100.578
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 4	Olivin	40.406			13.044	47.132		0.156					100.739
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 5	Olivin	40.961			11.896	48.323	0.250	0.179					101.608
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 6	Olivin	38.092			21.189	39.505	0.295	0.206					99.286
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 7	Olivin	40.428			9.524	49.187		0.230					99.369
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 8	Olivin	39.885			11.826	47.660		0.149	0.399				99.920
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 9	Olivin	40.117			13.484	46.106							99.707
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 10	Olivin	39.737			13.469	45.895		0.203					99.305
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 11	Olivin	40.886			9.465	49.688		0.290					100.330
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 12	Olivin	40.209			12.317	46.533	0.283						99.342
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 13	Olivin	40.261			13.146	45.927		0.192	0.402				99.928
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 14	Olivin	40.223			12.824	46.946			0.598				100.591
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 15	Olivin	39.544			13.004	46.012		0.150					98.710
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 16	Olivin	40.493			12.258	46.746		0.293					99.790
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 17	Olivin	39.890			12.736	46.405	0.335	0.210					99.577
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 18	Olivin	40.281			9.535	48.877		0.231					98.924
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 19	Olivin	40.132			11.787	47.282	0.253		0.458				99.912
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 20	Olivin	38.095			20.737	39.743	0.359	0.192					99.126
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 21	Olivin	39.606			15.618	43.941	0.272	0.158					99.595
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 22	Olivin	40.851			9.807	49.048		0.206					99.913
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 23	Olivin	40.521			9.881	48.655		0.174					99.231
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 24	Olivin	39.829			11.406	47.276	0.313	0.194					99.018
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 25	Olivin	38.699			20.664	40.742	0.243	0.239					100.587
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 26	Olivin	39.804			12.209	47.005		0.205					99.222
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 27	Olivin	40.063			10.566	48.545		0.253					99.427
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 28	Olivin	38.327			20.620	39.885	0.261	0.174					99.266
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 29	Olivin	40.382			10.151	49.081		0.161					99.776
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 30	Olivin	38.613			16.995	42.779	0.256						98.642
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 1	Plagioclase	51.379		29.451	0.801	0.188		13.342			3.946	0.178	99.286
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 2	Plagioclase	52.818		29.163	0.706	0.216		12.744			4.228	0.218	100.093
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 3	Plagioclase	52.383		28.972	0.562	0.224		12.761			4.019	0.263	99.184
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 4	Plagioclase	52.488		28.842	0.672	0.170		12.578			4.284	0.189	99.222
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 5	Plagioclase	52.203		29.271	0.603	0.205		13.000			3.997	0.137	99.417
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 6	Plagioclase	51.229		29.761	0.556	0.176		13.394			3.752	0.236	99.105
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 7	Plagioclase	52.595		28.567	0.713	0.184		12.820			3.958	0.155	98.992
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 8	Plagioclase	53.436		28.467	0.895	0.230		11.573			4.335	0.288	99.223
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 9	Plagioclase	52.998		29.408	0.665			12.729			4.156	0.249	100.205
KAM-08-67/1	Kamen	Monogenetic cone	Spectrum 10	Plagioclase	52.417		29.264	0.545	0.228		12.763			4.112	0.243	99.571

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
2310 Kamen	Stratovolcano		27cpx155	Clinopyroxene	51.240	0.431	4.110	6.810	15.780	0.201	20.790	0.000	0.194	0.349	0.012	99.917
2310 Kamen	Stratovolcano		27cpx170	Clinopyroxene	50.340	0.441	4.600	7.290	15.130	0.176	20.930	0.013	0.060	0.488	0.009	99.477
2310 Kamen	Stratovolcano		27cpx173	Clinopyroxene	49.620	0.761	4.860	8.490	14.340	0.270	20.800	0.000	0.035	0.364	0.000	99.539
2310 Kamen	Stratovolcano		27cpx197	Clinopyroxene	49.800	0.399	3.610	7.660	15.350	0.309	22.000	0.000	0.000	0.318	0.000	99.445
2310 Kamen	Stratovolcano		27cpx199	Clinopyroxene	49.210	0.978	4.390	8.620	14.520	0.235	20.650	0.000	0.021	0.481	0.014	99.119
2310 Kamen	Stratovolcano		27cpx208	Clinopyroxene	50.320	0.558	4.660	6.700	15.580	0.178	20.920	0.000	0.113	0.493	0.017	99.539
2310 Kamen	Stratovolcano		27cpx72	Clinopyroxene	50.910	0.546	4.350	6.410	15.550	0.132	21.250	0.008	0.303	0.383	0.000	99.842
2310 Kamen	Stratovolcano		27cpx73	Clinopyroxene	50.280	0.667	4.910	7.070	15.040	0.151	21.000	0.000	0.050	0.366	0.006	99.540
2310 Kamen	Stratovolcano		27cpx74	Clinopyroxene	50.730	0.620	4.800	6.970	15.280	0.153	21.030	0.007	0.153	0.384	0.000	100.127
2310 Kamen	Stratovolcano		27cpx75	Clinopyroxene	51.100	0.509	4.290	6.490	15.770	0.199	20.750	0.000	0.168	0.410	0.012	99.698
2310 Kamen	Stratovolcano		27cpx76	Clinopyroxene	50.620	0.536	4.800	6.880	15.350	0.166	21.040	0.013	0.246	0.385	0.015	100.050
2310 Kamen	Stratovolcano		27cpx77	Clinopyroxene	50.840	0.549	4.450	6.860	15.570	0.164	20.860	0.016	0.177	0.381	0.026	99.894
2310 Kamen	Stratovolcano		27cpx78	Clinopyroxene	51.030	0.741	2.700	11.430	15.110	0.372	17.730	0.000	0.011	0.398	0.000	99.523
2310 Kamen	Stratovolcano		27cpx79	Clinopyroxene	50.120	0.560	4.790	7.820	14.970	0.221	20.730	0.021	0.010	0.360	0.000	99.603
2310 Kamen	Stratovolcano		27cpx80	Clinopyroxene	51.800	0.426	3.070	6.490	16.270	0.212	21.070	0.012	0.175	0.271	0.011	99.807
2310 Kamen	Stratovolcano		27cpx81	Clinopyroxene	50.660	0.538	4.510	6.710	15.480	0.172	20.870	0.000	0.214	0.405	0.014	99.574
2310 Kamen	Stratovolcano		27cpx82	Clinopyroxene	50.580	0.537	4.310	7.650	15.320	0.204	20.910	0.000	0.178	0.338	0.009	100.035
2310 Kamen	Stratovolcano		27cpx83	Clinopyroxene	50.730	0.473	3.970	5.740	15.730	0.134	21.740	0.014	0.699	0.276	0.009	99.514
2310 Kamen	Stratovolcano		27cpx84	Clinopyroxene	50.210	0.687	4.420	7.270	15.230	0.147	21.090	0.000	0.022	0.317	0.000	99.392
2310 Kamen	Stratovolcano		27cpx85	Clinopyroxene	51.350	0.368	3.490	7.330	15.320	0.229	21.310	0.000	0.306	0.413	0.000	100.116
2310 Kamen	Stratovolcano		27cpx86	Clinopyroxene	49.800	0.489	4.580	7.830	14.650	0.204	21.480	0.000	0.023	0.345	0.012	99.414
2310 Kamen	Stratovolcano		27cpx87	Clinopyroxene	51.670	0.365	3.510	6.480	16.570	0.146	20.660	0.000	0.175	0.351	0.000	99.928
2310 Kamen	Stratovolcano		27cpx88	Clinopyroxene	51.390	0.406	3.630	5.830	16.060	0.147	21.560	0.000	0.647	0.275	0.000	99.945
2310 Kamen	Stratovolcano		27cpx89	Clinopyroxene	50.750	0.522	3.990	6.830	15.920	0.206	21.020	0.012	0.405	0.317	0.000	99.973
2310 Kamen	Stratovolcano		27cpx90	Clinopyroxene	51.340	0.430	3.540	5.890	16.190	0.159	21.490	0.000	0.557	0.299	0.000	99.895
2310 Kamen	Stratovolcano		27cpx91	Clinopyroxene	51.220	0.417	4.080	6.470	15.950	0.157	20.970	0.000	0.212	0.371	0.000	99.847
2310 Kamen	Stratovolcano		27cpx92	Clinopyroxene	51.380	0.404	3.770	6.300	16.260	0.136	21.230	0.016	0.171	0.356	0.000	100.022
2310 Kamen	Stratovolcano		27cpx93	Clinopyroxene	50.410	0.541	4.320	6.860	15.490	0.154	21.260	0.000	0.152	0.338	0.000	99.525
2310 Kamen	Stratovolcano		27cpx94	Clinopyroxene	50.620	0.599	4.350	6.830	15.480	0.192	21.170	0.000	0.269	0.330	0.015	99.855
2310 Kamen	Stratovolcano		27cpx95	Clinopyroxene	51.300	0.481	3.990	6.520	15.940	0.197	21.100	0.000	0.153	0.317	0.000	99.998
2310 Kamen	Stratovolcano		27cpx96	Clinopyroxene	51.070	0.501	3.380	5.680	16.030	0.116	22.500	0.000	0.292	0.246	0.008	99.824
2310 Kamen	Stratovolcano		27cpx97	Clinopyroxene	51.600	0.403	3.340	5.790	16.340	0.179	21.180	0.000	0.271	0.321	0.000	99.425
2310 Kamen	Stratovolcano		27cpx98	Clinopyroxene	50.290	0.579	4.600	6.970	15.510	0.145	21.220	0.028	0.199	0.388	0.000	99.929
2310 Kamen	Stratovolcano		27cpx99	Clinopyroxene	51.050	0.436	3.970	6.370	16.290	0.143	20.660	0.010	0.342	0.422	0.006	99.700
2310 Kamen	Stratovolcano		27cpx100	Clinopyroxene	52.260	0.296	2.780	5.190	16.940	0.151	21.150	0.015	0.697	0.328	0.000	99.807
2310 Kamen	Stratovolcano		27cpx101	Clinopyroxene	50.680	0.526	4.650	6.890	15.790	0.141	20.590	0.000	0.126	0.393	0.009	99.796
2310 Kamen	Stratovolcano		27cpx102	Clinopyroxene	49.180	0.609	5.600	7.760	14.720	0.201	20.570	0.014	0.093	0.400	0.000	99.149
2310 Kamen	Stratovolcano		27cpx103	Clinopyroxene	51.530	0.542	2.960	6.900	15.910	0.228	21.610	0.000	0.124	0.224	0.019	100.047
2310 Kamen	Stratovolcano		27cpx104	Clinopyroxene	49.520	0.752	5.260	7.310	14.760	0.136	21.280	0.000	0.309	0.309	0.000	99.637
2310 Kamen	Stratovolcano		27cpx105	Clinopyroxene	50.060	0.770	3.650	8.210	14.990	0.233	20.890	0.032	0.022	0.298	0.028	99.182
2310 Kamen	Stratovolcano		27cpx106	Clinopyroxene	51.420	0.351	3.330	6.150	16.590	0.139	21.050	0.000	0.269	0.323	0.000	99.622
2310 Kamen	Stratovolcano		27cpx107	Clinopyroxene	48.650	0.953	5.220	7.300	14.680	0.107	22.170	0.035	0.283	0.255	0.000	99.653
2310 Kamen	Stratovolcano		27cpx108	Clinopyroxene	50.970	0.436	3.660	7.480	16.360	0.223	20.180	0.000	0.173	0.344	0.020	99.846
2310 Kamen	Stratovolcano		27cpx109	Clinopyroxene	50.020	0.417	3.960	6.520	16.440	0.140	21.110	0.000	0.222	0.290	0.000	99.119
2310 Kamen	Stratovolcano		27cpx110	Clinopyroxene	52.410	0.244	2.740	5.430	17.030	0.129	21.220	0.000	0.539	0.356	0.000	100.098

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
2310 Kamen	Stratovolcano		27cpx111	Clinopyroxene	52.250	0.332	3.240	5.220	16.610	0.093	21.410	0.026	0.593	0.370	0.010	100.154
2310 Kamen	Stratovolcano		27cpx112	Clinopyroxene	51.590	0.408	3.420	5.840	16.130	0.150	21.760	0.008	0.606	0.260	0.000	100.171
2310 Kamen	Stratovolcano		27cpx113	Clinopyroxene	50.190	0.627	4.570	6.610	15.160	0.147	21.430	0.000	0.435	0.313	0.000	99.481
2310 Kamen	Stratovolcano		27cpx114	Clinopyroxene	51.240	0.419	4.000	6.200	16.210	0.173	21.380	0.000	0.175	0.388	0.012	100.198
2310 Kamen	Stratovolcano		27cpx115	Clinopyroxene	50.490	0.591	4.670	6.670	15.620	0.171	20.810	0.031	0.183	0.349	0.000	99.584
2310 Kamen	Stratovolcano		27cpx116	Clinopyroxene	50.200	0.624	4.910	6.950	15.120	0.171	20.910	0.009	0.183	0.352	0.020	99.448
2310 Kamen	Stratovolcano		27cpx117	Clinopyroxene	50.520	0.655	4.740	7.340	15.180	0.172	21.060	0.000	0.110	0.338	0.000	100.116
2310 Kamen	Stratovolcano		27cpx118	Clinopyroxene	51.620	0.428	3.820	6.250	16.190	0.177	21.110	0.000	0.283	0.350	0.011	100.240
2310 Kamen	Stratovolcano		27cpx119	Clinopyroxene	51.620	0.423	3.690	5.990	16.220	0.153	21.650	0.027	0.384	0.316	0.000	100.474
2310 Kamen	Stratovolcano		27cpx120	Clinopyroxene	50.960	0.635	3.100	8.000	15.430	0.231	20.560	0.013	0.083	0.329	0.000	99.341
2310 Kamen	Stratovolcano		27cpx121	Clinopyroxene	51.250	0.633	2.960	9.370	15.770	0.249	19.210	0.000	0.010	0.365	0.000	99.817
2310 Kamen	Stratovolcano		27cpx122	Clinopyroxene	50.610	0.595	3.540	6.980	15.430	0.169	21.910	0.000	0.172	0.280	0.000	99.685
2310 Kamen	Stratovolcano		27cpx123	Clinopyroxene	50.320	0.613	4.540	6.900	15.290	0.177	21.530	0.013	0.137	0.306	0.000	99.825
2310 Kamen	Stratovolcano		27cpx124	Clinopyroxene	49.430	0.785	5.520	8.200	14.480	0.247	20.690	0.000	0.000	0.315	0.000	99.667
2310 Kamen	Stratovolcano		27cpx125	Clinopyroxene	50.370	0.614	4.530	6.870	15.470	0.159	21.140	0.000	0.132	0.303	0.008	99.596
2310 Kamen	Stratovolcano		27cpx126	Clinopyroxene	51.310	0.634	2.590	10.930	14.730	0.433	19.470	0.000	0.000	0.350	0.000	100.448
2310 Kamen	Stratovolcano		27cpx128	Clinopyroxene	50.630	0.501	4.120	5.840	15.510	0.152	21.580	0.000	0.763	0.295	0.000	99.391
2310 Kamen	Stratovolcano		27cpx129	Clinopyroxene	50.770	0.482	4.020	7.040	15.190	0.187	21.190	0.021	0.177	0.363	0.006	99.447
2310 Kamen	Stratovolcano		27cpx130	Clinopyroxene	50.160	0.479	4.700	6.480	15.770	0.166	20.850	0.000	0.326	0.375	0.000	99.306
2310 Kamen	Stratovolcano		27cpx131	Clinopyroxene	50.740	0.464	3.810	8.380	15.910	0.266	19.630	0.000	0.055	0.362	0.000	99.616
2310 Kamen	Stratovolcano		27cpx132	Clinopyroxene	50.890	0.447	4.010	6.310	15.900	0.156	21.260	0.034	0.188	0.372	0.000	99.566
2310 Kamen	Stratovolcano		27cpx133	Clinopyroxene	49.730	0.879	4.420	9.590	14.690	0.236	19.790	0.008	0.022	0.380	0.000	99.745
2310 Kamen	Stratovolcano		27cpx134	Clinopyroxene	50.870	0.599	4.430	6.660	15.330	0.169	21.090	0.015	0.306	0.337	0.000	99.806
2310 Kamen	Stratovolcano		27cpx135	Clinopyroxene	50.450	0.583	4.430	6.490	15.240	0.151	21.600	0.000	0.359	0.287	0.009	99.599
2310 Kamen	Stratovolcano		27cpx136	Clinopyroxene	50.500	0.568	5.130	6.800	15.480	0.168	20.320	0.018	0.338	0.393	0.000	99.715
2310 Kamen	Stratovolcano		27cpx137	Clinopyroxene	50.470	0.573	4.930	7.010	15.350	0.139	20.710	0.022	0.145	0.400	0.000	99.749
2310 Kamen	Stratovolcano		27cpx138	Clinopyroxene	50.140	0.819	4.310	8.910	15.110	0.247	19.830	0.010	0.000	0.374	0.009	99.758
2310 Kamen	Stratovolcano		27cpx139	Clinopyroxene	51.800	0.544	2.180	8.970	16.330	0.291	19.080	0.000	0.026	0.277	0.017	99.516
2310 Kamen	Stratovolcano		27cpx140	Clinopyroxene	50.860	0.714	3.040	8.320	15.450	0.251	20.290	0.018	0.017	0.324	0.000	99.283
2310 Kamen	Stratovolcano		27cpx141	Clinopyroxene	48.750	0.741	6.070	7.740	14.040	0.186	21.160	0.010	0.109	0.340	0.010	99.156
2310 Kamen	Stratovolcano		27cpx142	Clinopyroxene	52.200	0.309	2.700	5.600	16.920	0.143	20.620	0.024	0.360	0.287	0.014	99.178
2310 Kamen	Stratovolcano		27cpx143	Clinopyroxene	50.490	0.537	4.210	5.760	15.640	0.162	21.750	0.017	0.632	0.290	0.009	99.497
2310 Kamen	Stratovolcano		27cpx144	Clinopyroxene	51.410	0.595	3.240	6.240	16.100	0.188	21.910	0.017	0.259	0.260	0.007	100.227
2310 Kamen	Stratovolcano		27cpx145	Clinopyroxene	51.710	0.380	3.820	6.360	16.050	0.162	21.000	0.020	0.271	0.337	0.000	100.109
2310 Kamen	Stratovolcano		27cpx146	Clinopyroxene	51.610	0.442	3.170	7.040	16.210	0.179	20.480	0.037	0.226	0.257	0.019	99.670
2310 Kamen	Stratovolcano		27cpx147	Clinopyroxene	50.560	0.612	4.340	7.350	15.310	0.194	21.200	0.013	0.112	0.320	0.006	100.018
2310 Kamen	Stratovolcano		27cpx148	Clinopyroxene	50.920	0.464	4.190	6.660	15.900	0.177	20.900	0.000	0.153	0.372	0.000	99.736
2310 Kamen	Stratovolcano		27cpx149	Clinopyroxene	51.890	0.325	3.180	5.410	16.730	0.126	21.470	0.007	0.320	0.356	0.013	99.827
2310 Kamen	Stratovolcano		27cpx150	Clinopyroxene	51.330	0.552	3.470	6.000	16.140	0.140	21.890	0.036	0.447	0.205	0.025	100.235
2310 Kamen	Stratovolcano		27cpx151	Clinopyroxene	49.710	0.905	4.520	8.690	14.970	0.237	20.440	0.016	0.033	0.338	0.015	99.875
2310 Kamen	Stratovolcano		27cpx152	Clinopyroxene	51.880	0.360	3.310	6.010	16.590	0.180	21.090	0.000	0.184	0.353	0.000	99.956
2310 Kamen	Stratovolcano		18ol1	Olivin	38.050	0.029	0.028	25.740	36.980	0.457	0.156	0.025	0.023			101.487
2310 Kamen	Stratovolcano		18ol2	Olivin	37.510	0.014	0.011	29.750	33.190	0.542	0.197	0.036	0.016			101.265
2310 Kamen	Stratovolcano		18ol3	Olivin	38.840	0.000	0.012	22.320	40.080	0.377	0.152	0.081	0.000			101.862
2310 Kamen	Stratovolcano		18ol4	Olivin	38.950	0.010	0.014	21.000	40.430	0.358	0.122	0.016	0.000			100.900

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
2310 Kamen	Stratovolcano		18ol5	Olivin	38.650	0.000	0.028	21.080	41.060	0.336	0.134	0.066	0.025			101.379
2310 Kamen	Stratovolcano		18ol6	Olivin	38.500	0.000	0.030	24.380	38.080	0.367	0.147	0.066	0.000			101.571
2310 Kamen	Stratovolcano		18ol7	Olivin	39.540	0.000	0.000	17.280	43.980	0.252	0.134	0.082	0.015			101.283
2310 Kamen	Stratovolcano		18ol8	Olivin	38.570	0.024	0.012	22.610	39.940	0.343	0.133	0.030	0.045			101.705
2310 Kamen	Stratovolcano		18ol9	Olivin	38.880	0.014	0.043	20.480	41.210	0.316	0.156	0.066	0.017			101.182
2310 Kamen	Stratovolcano		18ol10	Olivin	38.600	0.019	0.010	21.480	40.120	0.372	0.132	0.011	0.000			100.744
2310 Kamen	Stratovolcano		18ol11	Olivin	39.240	0.000	0.032	20.090	41.350	0.341	0.133	0.069	0.013			101.268
2310 Kamen	Stratovolcano		18ol12	Olivin	39.160	0.000	0.046	17.650	43.200	0.250	0.121	0.100	0.000			100.526
2310 Kamen	Stratovolcano		18ol13	Olivin	39.270	0.000	0.000	19.790	41.560	0.314	0.131	0.031	0.010			101.106
2310 Kamen	Stratovolcano		18ol14	Olivin	38.040	0.000	0.040	26.240	36.780	0.486	0.150	0.032	0.000			101.769
2310 Kamen	Stratovolcano		18ol15	Olivin	38.590	0.028	0.030	23.710	38.480	0.394	0.147	0.017	0.008			101.404
2310 Kamen	Stratovolcano		18ol16	Olivin	38.980	0.000	0.017	20.390	41.130	0.318	0.123	0.020	0.016			100.994
2310 Kamen	Stratovolcano		18ol17	Olivin	39.080	0.049	0.013	21.100	40.920	0.328	0.103	0.052	0.017			101.662
2310 Kamen	Stratovolcano		18ol18	Olivin	38.990	0.000	0.011	19.780	41.320	0.290	0.127	0.032	0.000			100.551
2310 Kamen	Stratovolcano		18ol19	Olivin	38.920	0.000	0.040	22.210	39.640	0.343	0.123	0.063	0.000			101.339
2310 Kamen	Stratovolcano		18ol20	Olivin	39.470	0.015	0.016	18.220	42.970	0.257	0.113	0.068	0.010			101.138
2310 Kamen	Stratovolcano		18ol21	Olivin	38.730	0.000	0.011	22.200	40.000	0.363	0.148	0.034	0.000			101.487
2310 Kamen	Stratovolcano		18ol22	Olivin	39.460	0.000	0.010	19.650	42.000	0.294	0.106	0.099	0.000			101.619
2310 Kamen	Stratovolcano		18ol23	Olivin	38.550	0.023	0.023	22.930	39.300	0.379	0.139	0.065	0.028			101.437
2310 Kamen	Stratovolcano		18ol24	Olivin	39.000	0.000	0.010	20.750	40.660	0.356	0.127	0.046	0.029			100.978
2310 Kamen	Stratovolcano		18ol25	Olivin	39.180	0.012	0.000	17.900	43.000	0.294	0.109	0.087	0.022			100.605
2310 Kamen	Stratovolcano		18ol26	Olivin	38.500	0.033	0.010	22.810	39.220	0.392	0.132	0.025	0.027			101.148
2310 Kamen	Stratovolcano		18ol27	Olivin	39.150	0.037	0.000	20.920	40.820	0.350	0.114	0.043	0.014			101.447
2310 Kamen	Stratovolcano		18ol28	Olivin	38.640	0.031	0.000	22.930	39.250	0.431	0.144	0.028	0.000			101.454
2310 Kamen	Stratovolcano		18ol29	Olivin	39.140	0.025	0.000	20.390	41.020	0.295	0.134	0.058	0.000			101.062
2310 Kamen	Stratovolcano		18ol30	Olivin	38.970	0.030	0.000	19.550	41.760	0.315	0.122	0.060	0.008			100.815
2310 Kamen	Stratovolcano		18ol31	Olivin	38.650	0.010	0.019	21.700	40.010	0.361	0.131	0.062	0.018			100.960
2310 Kamen	Stratovolcano		18ol32	Olivin	38.740	0.010	0.013	21.030	40.960	0.308	0.117	0.073	0.013			101.263
2310 Kamen	Stratovolcano		18ol33	Olivin	39.090	0.009	0.010	21.130	40.970	0.338	0.120	0.045	0.030			101.742
2310 Kamen	Stratovolcano		18ol34	Olivin	38.580	0.010	0.017	23.880	38.770	0.361	0.177	0.049	0.034			101.878
2310 Kamen	Stratovolcano		18ol35	Olivin	38.060	0.012	0.021	26.700	36.350	0.465	0.170	0.049	0.019			101.847
2310 Kamen	Stratovolcano		18ol36	Olivin	39.010	0.010	0.013	19.560	41.850	0.318	0.123	0.074	0.020			100.978
2310 Kamen	Stratovolcano		18ol37	Olivin	39.270	0.017	0.040	20.490	41.190	0.308	0.111	0.076	0.009			101.512
2310 Kamen	Stratovolcano		18ol38	Olivin	38.290	0.057	0.021	23.600	38.680	0.391	0.151	0.065	0.000			101.255
2310 Kamen	Stratovolcano		18ol39	Olivin	39.130	0.049	0.010	20.760	41.000	0.292	0.122	0.062	0.000			101.424
2310 Kamen	Stratovolcano		18ol40	Olivin	39.160	0.013	0.010	20.210	41.920	0.314	0.119	0.062	0.000			101.808
2310 Kamen	Stratovolcano		18ol41	Olivin	38.410	0.000	0.010	23.080	38.820	0.407	0.123	0.021	0.021			100.892
2310 Kamen	Stratovolcano		18ol42	Olivin	38.460	0.023	0.010	21.870	40.350	0.312	0.130	0.048	0.000			101.203
2310 Kamen	Stratovolcano		18ol43	Olivin	39.350	0.000	0.038	19.780	41.980	0.324	0.117	0.043	0.000			101.634
2310 Kamen	Stratovolcano		18ol44	Olivin	39.020	0.027	0.010	20.290	41.270	0.303	0.123	0.058	0.000			101.101
2310 Kamen	Stratovolcano		18ol45	Olivin	38.230	0.000	0.000	23.930	38.940	0.377	0.161	0.069	0.000			101.707
2310 Kamen	Stratovolcano		18ol46	Olivin	39.300	0.000	0.000	18.980	42.460	0.275	0.124	0.057	0.017			101.213
2310 Kamen	Stratovolcano		18ol47	Olivin	38.340	0.000	0.010	24.230	38.090	0.443	0.139	0.054	0.024			101.330
2310 Kamen	Stratovolcano		18ol48	Olivin	38.840	0.000	0.013	20.800	40.820	0.335	0.150	0.029	0.026			101.014
2310 Kamen	Stratovolcano		18ol49	Olivin	38.890	0.015	0.048	20.930	41.420	0.353	0.181	0.070	0.018			101.924

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2310 Kamen		Stratovolcano	18ol50	Olivin	38.680	0.043	0.032	20.950	40.430	0.357	0.121	0.057	0.000			100.670
2310 Kamen		Stratovolcano	18ol51	Olivin	39.290	0.015	0.011	19.860	41.660	0.291	0.124	0.078	0.052			101.381
2310 Kamen		Stratovolcano	18ol52	Olivin	38.170	0.031	0.043	25.490	37.300	0.464	0.158	0.021	0.010			101.686
2310 Kamen		Stratovolcano	18ol53	Olivin	39.220	0.000	0.010	20.180	41.470	0.287	0.130	0.030	0.000			101.327
2310 Kamen		Stratovolcano	18ol54	Olivin	39.180	0.014	0.019	20.520	41.250	0.309	0.107	0.062	0.000			101.461
2310 Kamen		Stratovolcano	18ol55	Olivin	38.900	0.000	0.012	19.850	41.580	0.335	0.127	0.042	0.000			100.846
2310 Kamen		Stratovolcano	18ol56	Olivin	39.200	0.031	0.056	19.850	41.700	0.283	0.117	0.060	0.000			101.296
2310 Kamen		Stratovolcano	18ol57	Olivin	38.990	0.034	0.045	20.630	41.400	0.336	0.113	0.025	0.015			101.588
2310 Kamen		Stratovolcano	18ol58	Olivin	39.200	0.020	0.026	20.330	41.830	0.290	0.128	0.036	0.000			101.860
2310 Kamen		Stratovolcano	18ol59	Olivin	38.980	0.000	0.017	22.470	39.270	0.379	0.127	0.013	0.000			101.256
2310 Kamen		Stratovolcano	18ol60	Olivin	38.610	0.036	0.015	21.090	40.480	0.317	0.126	0.036	0.000			100.711
2310 Kamen		Stratovolcano	18ol61	Olivin	39.120	0.017	0.020	19.090	41.730	0.294	0.153	0.100	0.011			100.535
2310 Kamen		Stratovolcano	18ol62	Olivin	38.330	0.000	0.041	23.900	38.380	0.430	0.149	0.029	0.022			101.281
2310 Kamen		Stratovolcano	18ol63	Olivin	39.080	0.000	0.029	20.650	41.220	0.371	0.120	0.023	0.000			101.494
2310 Kamen		Stratovolcano	18ol64	Olivin	38.870	0.010	0.000	21.560	40.600	0.357	0.115	0.022	0.010			101.544
2310 Kamen		Stratovolcano	18ol65	Olivin	39.230	0.058	0.000	19.830	42.010	0.303	0.140	0.072	0.022			101.666
2310 Kamen		Stratovolcano	18ol66	Olivin	39.030	0.000	0.027	20.540	40.940	0.299	0.139	0.043	0.016			101.034
2310 Kamen		Stratovolcano	18ol67	Olivin	38.810	0.021	0.032	21.540	40.090	0.328	0.115	0.009	0.000			100.946
2310 Kamen		Stratovolcano	18ol68	Olivin	38.480	0.061	0.028	23.230	38.930	0.353	0.171	0.016	0.014			101.284
2310 Kamen		Stratovolcano	18ol69	Olivin	39.070	0.037	0.018	20.430	41.140	0.331	0.123	0.056	0.025			101.230
2310 Kamen		Stratovolcano	18ol70	Olivin	38.320	0.000	0.000	22.440	39.260	0.389	0.130	0.076	0.022			100.637
2310 Kamen		Stratovolcano	18ol71	Olivin	38.700	0.000	0.010	22.720	39.740	0.347	0.117	0.058	0.000			101.693
2310 Kamen		Stratovolcano	18ol72	Olivin	38.950	0.010	0.000	22.130	40.070	0.401	0.131	0.060	0.000			101.753
2310 Kamen		Stratovolcano	18ol73	Olivin	38.720	0.000	0.013	23.040	39.250	0.328	0.153	0.079	0.008			101.591
2310 Kamen		Stratovolcano	18ol74	Olivin	39.730	0.012	0.048	16.430	44.170	0.252	0.148	0.096	0.027			100.913
2310 Kamen		Stratovolcano	18ol76	Olivin	38.730	0.034	0.000	24.460	38.600	0.411	0.146	0.067	0.049			102.497
2310 Kamen		Stratovolcano	18ol77	Olivin	38.780	0.013	0.010	21.790	40.520	0.358	0.149	0.072	0.052			101.745
2310 Kamen		Stratovolcano	18ol78	Olivin	39.060	0.014	0.026	21.420	40.830	0.294	0.144	0.057	0.000			101.845
2310 Kamen		Stratovolcano	18ol79	Olivin	38.510	0.000	0.000	22.890	39.010	0.350	0.116	0.025	0.000			100.901
2310 Kamen		Stratovolcano	18ol80	Olivin	39.370	0.010	0.011	21.160	40.880	0.296	0.108	0.037	0.000			101.871
2310 Kamen		Stratovolcano	18ol82	Olivin	39.260	0.000	0.000	21.320	41.040	0.382	0.134	0.124	0.028			102.289
2310 Kamen		Stratovolcano	18ol83	Olivin	39.240	0.017	0.034	19.860	41.250	0.350	0.130	0.092	0.000			100.973
2310 Kamen		Stratovolcano	18ol84	Olivin	39.440	0.026	0.023	17.700	43.380	0.264	0.124	0.035	0.000			100.991
2310 Kamen		Stratovolcano	18ol85	Olivin	38.220	0.053	0.028	24.990	37.470	0.422	0.150	0.039	0.000			101.372
2310 Kamen		Stratovolcano	18ol86	Olivin	39.470	0.010	0.010	18.010	43.300	0.277	0.139	0.056	0.000			101.273
2310 Kamen		Stratovolcano	18ol87	Olivin	39.530	0.000	0.010	18.910	42.690	0.224	0.100	0.048	0.017			101.529
2310 Kamen		Stratovolcano	18ol88	Olivin	38.740	0.000	0.051	21.810	40.080	0.368	0.126	0.040	0.016			101.231
2310 Kamen		Stratovolcano	18olm109	Olivin	39.940	0.000	0.015	17.730	43.790	0.270	0.205	0.083	0.021			102.054
2310 Kamen		Stratovolcano	18ol89	Olivin	39.750	0.032	0.010	17.050	43.680	0.263	0.135	0.079	0.000			101.000
2310 Kamen		Stratovolcano	18ol90	Olivin	38.720	0.000	0.017	22.930	39.190	0.391	0.153	0.090	0.000			101.491
2310 Kamen		Stratovolcano	18ol91	Olivin	37.860	0.000	0.026	25.890	36.740	0.462	0.148	0.041	0.000			101.167
2310 Kamen		Stratovolcano	18olm110	Olivin	38.420	0.036	0.000	25.890	37.030	0.465	0.158	0.030	0.000			102.030
2310 Kamen		Stratovolcano	18ol92	Olivin	39.080	0.000	0.029	21.980	40.520	0.388	0.121	0.052	0.000			102.170
2310 Kamen		Stratovolcano	18ol93	Olivin	38.730	0.043	0.037	23.000	38.880	0.356	0.130	0.088	0.000			101.264
2310 Kamen		Stratovolcano	18ol94	Olivin	38.840	0.021	0.035	22.390	40.020	0.366	0.139	0.016	0.031			101.858

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2310 Kamen		Stratovolcano	18olm126_126a	Olivin	38.550	0.010	0.018	25.280	37.290	0.425	0.227	0.055	0.000			101.855
2310 Kamen		Stratovolcano	18ol95	Olivin	39.530	0.041	0.000	18.340	42.700	0.333	0.120	0.070	0.007			101.142
2310 Kamen		Stratovolcano	18ol96	Olivin	38.740	0.035	0.043	22.730	39.770	0.368	0.135	0.020	0.000			101.842
2310 Kamen		Stratovolcano	18olm138	Olivin	38.370	0.019	0.031	25.700	36.860	0.426	0.211	0.033	0.000			101.651
2310 Kamen		Stratovolcano	18ol97	Olivin	37.250	0.000	0.018	30.190	33.360	0.590	0.171	0.031	0.007			101.617
2310 Kamen		Stratovolcano	18ol98	Olivin	39.120	0.009	0.010	21.190	41.150	0.333	0.128	0.093	0.000			102.033
2310 Kamen		Stratovolcano	18ol99	Olivin	39.340	0.010	0.010	20.700	41.240	0.299	0.124	0.049	0.000			101.773
2310 Kamen		Stratovolcano	18olm147	Olivin	38.350	0.000	0.036	25.180	37.170	0.427	0.278	0.073	0.000			101.514
2310 Kamen		Stratovolcano	18ol100	Olivin	38.510	0.000	0.032	23.940	38.900	0.438	0.136	0.000	0.000			101.955
2310 Kamen		Stratovolcano	18ol101	Olivin	39.030	0.029	0.022	21.860	40.550	0.343	0.158	0.024	0.000			102.015
2310 Kamen		Stratovolcano	18ol102	Olivin	39.000	0.010	0.010	21.370	40.340	0.298	0.133	0.031	0.010			101.203
2310 Kamen		Stratovolcano	18olm164	Olivin	38.410	0.046	0.022	25.960	36.850	0.440	0.239	0.045	0.012			102.024
2310 Kamen		Stratovolcano	18olm175	Olivin	38.290	0.052	0.030	24.580	37.280	0.391	0.273	0.039	0.028			100.964
2310 Kamen		Stratovolcano	18olm186	Olivin	38.490	0.031	0.042	25.130	37.550	0.380	0.238	0.063	0.007			101.932
2310 Kamen		Stratovolcano	18ol219	Olivin	38.950	0.000	0.023	22.820	39.830	0.375	0.142	0.055	0.000			102.196
2310 Kamen		Stratovolcano	18ol212	Olivin	38.520	0.010	0.020	25.590	37.110	0.438	0.191	0.042	0.000			101.922
2310 Kamen		Stratovolcano	27mt35c	Oxide	0.302	12.670	4.350	74.870	3.360	0.424	0.193	0.000	0.034	0.000	0.000	96.203
2310 Kamen		Stratovolcano	27sp51	Oxide	0.359	18.550	1.238	72.370	2.160	0.504	0.368	0.000	0.076	0.000	0.007	95.631
2310 Kamen		Stratovolcano	27sp60a	Oxide	0.359	17.950	1.960	72.320	1.660	0.445	0.288	0.009	0.079	0.007	0.014	95.091
2310 Kamen		Stratovolcano	27sp72a	Oxide	0.283	2.690	18.540	67.420	8.850	0.500	0.351	0.000	0.290	0.000	0.009	98.933
2310 Kamen		Stratovolcano	27spm80	Oxide	0.333	7.130	9.610	74.500	2.520	0.495	0.467	0.012	1.084	0.044	0.014	96.209
2310 Kamen		Stratovolcano	18spm23	Oxide	0.117	12.670	9.590	63.070	4.020	0.419	0.082	0.059	4.830			94.856
2310 Kamen		Stratovolcano	27mtm208	Oxide	0.331	6.540	4.190	74.790	6.260	0.533	0.462	0.042	1.990	0.000	0.016	95.155
2310 Kamen		Stratovolcano	18s164	Oxide	0.130	1.020	53.710	29.660	13.520	0.223	0.041	0.079	0.920	0.053	0.000	99.356
2310 Kamen		Stratovolcano	18s1_164	Oxide	0.096	11.370	9.750	67.700	4.330	0.390	0.030	0.051	1.660			95.377
2310 Kamen		Stratovolcano	18sp212	Oxide	0.196	1.395	49.340	31.690	12.680	0.213	0.032	0.097	2.610			98.252
2310 Kamen		Stratovolcano	27pl2	Plagioclase	49.180	0.051	30.680	0.783	0.104	0.000	14.810	0.000	0.000	2.950	0.083	98.642
2310 Kamen		Stratovolcano	27plm3	Plagioclase	45.950	0.010	33.290	0.814	0.045	0.018	17.370	0.000	0.009	1.530	0.046	99.082
2310 Kamen		Stratovolcano	27pl18	Plagioclase	47.010	0.017	32.510	0.727	0.062	0.020	16.650	0.000	0.031	2.040	0.077	99.144
2310 Kamen		Stratovolcano	27pl18a	Plagioclase	56.570	0.107	26.050	0.809	0.102	0.020	9.130	0.016	0.000	5.930	0.482	99.216
2310 Kamen		Stratovolcano	27plm23	Plagioclase	46.590	0.010	32.640	0.602	0.071	0.026	16.950	0.000	0.024	1.870	0.062	98.845
2310 Kamen		Stratovolcano	27plm28	Plagioclase	45.370	0.000	33.500	0.718	0.047	0.000	17.840	0.000	0.008	1.277	0.047	98.806
2310 Kamen		Stratovolcano	27plm35	Plagioclase	54.930	0.076	27.080	0.730	0.108	0.000	10.310	0.000	0.000	5.490	0.352	99.076
2310 Kamen		Stratovolcano	27plm35a	Plagioclase	50.210	0.041	30.330	0.759	0.068	0.017	14.110	0.000	0.013	3.520	0.189	99.257
2310 Kamen		Stratovolcano	27plm35b	Plagioclase	46.010	0.013	33.580	0.574	0.062	0.030	17.490	0.000	0.026	1.430	0.057	99.272
2310 Kamen		Stratovolcano	27plm36	Plagioclase	45.630	0.023	33.180	0.705	0.060	0.038	17.710	0.000	0.000	1.500	0.034	98.880
2310 Kamen		Stratovolcano	27plm41	Plagioclase	45.760	0.015	33.240	0.570	0.061	0.000	17.600	0.015	0.000	1.610	0.049	98.920
2310 Kamen		Stratovolcano	27plm41a	Plagioclase	50.000	0.066	30.680	0.816	0.099	0.038	14.530	0.026	0.025	3.260	0.214	99.754
2310 Kamen		Stratovolcano	27plm41b	Plagioclase	46.960	0.033	32.430	0.967	0.065	0.037	16.830	0.016	0.000	1.880	0.092	99.310
2310 Kamen		Stratovolcano	27pl51	Plagioclase	56.380	0.134	26.180	0.842	0.088	0.000	9.310	0.000	0.000	6.090	0.434	99.459
2310 Kamen		Stratovolcano	27plm60	Plagioclase	48.480	0.000	31.630	0.726	0.068	0.038	15.480	0.000	0.000	2.650	0.111	99.183
2310 Kamen		Stratovolcano	27pl60a	Plagioclase	55.150	0.111	26.590	1.350	0.077	0.000	9.910	0.000	0.010	5.730	0.382	99.310
2310 Kamen		Stratovolcano	27plm66_66a	Plagioclase	55.510	0.084	27.010	0.712	0.085	0.010	10.250	0.000	0.000	5.550	0.289	99.500
2310 Kamen		Stratovolcano	27plm71	Plagioclase	48.900	0.068	31.490	0.817	0.086	0.030	15.180	0.018	0.000	2.740	0.092	99.422
2310 Kamen		Stratovolcano	27pl127	Plagioclase	54.810	0.022	27.550	0.329	0.027	0.000	10.410	0.013	0.000	5.550	0.240	98.950

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KAM-08-07	Kamen	Stratovolcano	Spectrum 1	Clinopyroxene	49.066	0.723	5.133	9.556	12.782	0.324	21.104			0.466		99.154
KAM-08-07	Kamen	Stratovolcano	Spectrum 2	Clinopyroxene	50.571	0.720	4.119	7.743	15.063		21.565		0.268	0.291		100.339
KAM-08-07	Kamen	Stratovolcano	Spectrum 3	Clinopyroxene	51.255	0.310	3.571	6.226	16.231		21.114		0.278	0.445		99.428
KAM-08-07	Kamen	Stratovolcano	Spectrum 4	Clinopyroxene	49.826	0.582	4.660	7.807	14.804		20.785			0.388		98.852
KAM-08-07	Kamen	Stratovolcano	Spectrum 5	Clinopyroxene	50.199	0.546	4.497	6.930	14.976		21.983		0.288	0.386		99.805
KAM-08-07	Kamen	Stratovolcano	Spectrum 6	Clinopyroxene	49.159	0.612	4.927	8.227	14.271	0.257	20.263			0.612		98.327
KAM-08-07	Kamen	Stratovolcano	Spectrum 7	Clinopyroxene	49.719	0.579	5.658	6.925	15.103		20.737		0.303	0.397		99.421
KAM-08-07	Kamen	Stratovolcano	Spectrum 8	Clinopyroxene	49.088	0.711	5.750	8.901	14.432	0.354	19.053			0.938		99.226
KAM-08-07	Kamen	Stratovolcano	Spectrum 9	Clinopyroxene	50.682	0.459	4.447	6.885	15.720		21.037			0.503		99.731
KAM-08-07	Kamen	Stratovolcano	Spectrum 10	Clinopyroxene	49.284	0.553	5.155	6.978	15.212		20.016		0.471	0.598		98.266
KAM-08-07	Kamen	Stratovolcano	Spectrum 1	Olivin	37.780			21.673	38.649							98.102
KAM-08-07	Kamen	Stratovolcano	Spectrum 2	Olivin	37.471			22.677	38.157	0.429						98.734
KAM-08-07	Kamen	Stratovolcano	Spectrum 3	Olivin	38.142			21.435	39.050							98.627
KAM-08-07	Kamen	Stratovolcano	Spectrum 4	Olivin	38.138			20.726	39.637	0.255	0.204	0.480				99.439
KAM-08-07	Kamen	Stratovolcano	Spectrum 5	Olivin	37.186			23.637	36.751	0.455						98.030
KAM-08-07	Kamen	Stratovolcano	Spectrum 6	Olivin	37.658		0.202	22.668	37.713	0.253	0.209					98.704
KAM-08-07	Kamen	Stratovolcano	Spectrum 7	Olivin	37.605			23.599	37.686	0.274	0.184					99.349
KAM-08-07	Kamen	Stratovolcano	Spectrum 8	Olivin	38.822			21.884	39.849							100.556
KAM-08-07	Kamen	Stratovolcano	Spectrum 9	Olivin	37.574			24.684	36.472	0.370						99.100
KAM-08-07	Kamen	Stratovolcano	Spectrum 10	Olivin	38.555			22.186	39.327	0.317						100.386
KAM-08-07	Kamen	Stratovolcano	Spectrum 11	Olivin	39.308			21.455	39.836	0.364						100.964
KAM-08-07	Kamen	Stratovolcano	Spectrum 12	Olivin	38.371			22.126	39.103	0.266						99.867
KAM-08-07	Kamen	Stratovolcano	Spectrum 13	Olivin	37.958			27.608	34.511	0.286	0.193					100.555
KAM-08-07	Kamen	Stratovolcano	Spectrum 14	Olivin	38.007			22.330	38.596							98.933
KAM-08-07	Kamen	Stratovolcano	Spectrum 15	Olivin	37.362			26.781	35.201	0.427	0.210					99.981
KAM-08-07	Kamen	Stratovolcano	Spectrum 16	Olivin	38.471			21.407	39.339		0.156					99.374
KAM-08-07	Kamen	Stratovolcano	Spectrum 17	Olivin	38.532			19.746	39.623	0.396						98.297
KAM-08-07	Kamen	Stratovolcano	Spectrum 18	Olivin	37.294			25.110	36.114	0.388	0.163					99.070
KAM-08-07	Kamen	Stratovolcano	Spectrum 19	Olivin	38.039			21.528	39.313	0.368						99.249
KAM-08-07	Kamen	Stratovolcano	Spectrum 20	Olivin	37.435			21.422	38.635	0.439	0.194					98.124
KAM-08-07	Kamen	Stratovolcano	Spectrum 21	Olivin	38.359			21.294	39.189	0.393						99.236
KAM-08-07	Kamen	Stratovolcano	Spectrum 22	Olivin	38.130			22.342	38.413	0.325	0.148					99.358
KAM-08-07	Kamen	Stratovolcano	Spectrum 23	Olivin	37.971			22.167	38.809	0.269						99.215
KAM-08-07	Kamen	Stratovolcano	Spectrum 24	Olivin	37.367			23.679	36.950							97.997
KAM-08-07	Kamen	Stratovolcano	Spectrum 25	Olivin	37.284			24.693	36.530	0.443	0.173					99.123
KAM-08-07	Kamen	Stratovolcano	Spectrum 26	Olivin	37.984			21.946	38.804	0.266	0.165					99.165
KAM-08-07	Kamen	Stratovolcano	Spectrum 27	Olivin	37.255			25.645	36.293	0.450	0.189					99.833
KAM-08-07	Kamen	Stratovolcano	Spectrum 28	Olivin	37.817			21.005	38.703		0.218					97.744
KAM-08-07	Kamen	Stratovolcano	Spectrum 29	Olivin	38.045			20.410	38.833							97.288
KAM-08-07	Kamen	Stratovolcano	Spectrum 30	Olivin	37.985			21.593	39.207	0.298	0.179					99.262
KAM-08-07	Kamen	Stratovolcano	Spectrum 1	Plagioclase	45.626		32.795	0.573			16.800			2.020	0.151	97.965
KAM-08-07	Kamen	Stratovolcano	Spectrum 2	Plagioclase	46.559		33.227	0.443			17.219			1.782		99.230
KAM-08-07	Kamen	Stratovolcano	Spectrum 3	Plagioclase	46.029		33.678	0.724			17.543			1.638		99.611
KAM-08-07	Kamen	Stratovolcano	Spectrum 4	Plagioclase	47.669		31.805	0.854			15.992			2.269	0.149	98.738
KAM-08-07	Kamen	Stratovolcano	Spectrum 5	Plagioclase	45.535		32.490	0.600			16.592			2.193	0.148	97.558

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KAM-08-07	Kamen	Stratovolcano	Spectrum 6	Plagioclase	45.499		32.781	0.653			17.112			1.780		97.826
KAM-08-07	Kamen	Stratovolcano	Spectrum 7	Plagioclase	46.386		33.377	0.613			17.201			1.529		99.107
KAM-08-07	Kamen	Stratovolcano	Spectrum 8	Plagioclase	46.106		33.458	0.417			17.343			1.579		98.904
KAM-08-07	Kamen	Stratovolcano	Spectrum 9	Plagioclase	44.625		33.621	0.721			18.053			1.284		98.303
KAM-08-07	Kamen	Stratovolcano	Spectrum 10	Plagioclase	45.362		34.028	0.574			17.805			1.362		99.131
KAM-08-07	Kamen	Stratovolcano	Spectrum 11	Plagioclase	48.143		33.700	0.767			16.570			2.137		101.317
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx87	Clinopyroxene	50.380	0.703	3.750	8.850	15.130	0.231	19.890	0.028	0.092			99.055
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx107	Clinopyroxene	51.300	0.427	3.830	6.410	15.860	0.147	20.790	0.014	0.391	0.380	0.012	99.562
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx107a	Clinopyroxene	52.180	0.379	3.640	5.910	16.070	0.132	20.630	0.070	0.563	0.330	0.008	99.911
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx117_117a	Clinopyroxene	52.530	0.407	2.950	5.790	16.600	0.181	20.710	0.007	0.417	0.349	0.020	99.961
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx118	Clinopyroxene	50.010	0.766	5.760	7.800	14.980	0.215	20.090	0.022	0.043	0.375	0.007	100.070
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx139	Clinopyroxene	52.470	0.414	2.960	6.170	16.910	0.181	20.540	0.008	0.308	0.320	0.000	100.280
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx139a	Clinopyroxene	52.410	0.376	3.010	6.020	16.760	0.153	20.800	0.033	0.262	0.327	0.000	100.151
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx138_138a	Clinopyroxene	50.860	0.719	3.700	7.860	15.410	0.242	20.550	0.000	0.245	0.376	0.020	99.982
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx149	Clinopyroxene	50.200	0.684	3.880	8.390	15.180	0.241	20.150	0.017	0.167	0.354	0.000	99.264
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx155_155a	Clinopyroxene	50.620	0.676	3.210	8.060	15.690	0.266	20.370	0.016	0.198	0.382	0.000	99.487
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx155b	Clinopyroxene	51.440	0.512	3.250	7.250	16.180	0.147	20.160	0.000	0.251	0.370	0.000	99.561
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx164	Clinopyroxene	49.920	0.688	5.470	7.740	14.860	0.213	20.290	0.023	0.287	0.503	0.010	100.004
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx171	Clinopyroxene	51.990	0.411	3.460	6.340	16.030	0.199	20.670	0.000	0.341	0.343	0.000	99.784
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24cpx171a	Clinopyroxene	51.500	0.434	3.380	6.560	16.400	0.205	20.540	0.012	0.342	0.401	0.010	99.783
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol23	Clinopyroxene	51.750	0.450	2.110	7.520	16.210	0.268	20.130	0.000	0.181			98.619
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol24	Clinopyroxene	47.900	1.017	6.410	8.780	13.920	0.201	19.860	0.000	0.089			98.177
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol28	Clinopyroxene	50.140	0.677	3.690	7.550	15.480	0.195	20.350	0.010	0.238			98.330
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol33	Clinopyroxene	50.580	0.510	4.070	6.580	15.510	0.174	20.440	0.035	0.227			98.125
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol42	Clinopyroxene	51.690	0.504	1.868	7.830	16.880	0.247	19.220	0.000	0.174			98.414
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol48	Clinopyroxene	49.530	0.692	4.910	8.010	14.690	0.170	19.860	0.022	0.336			98.219
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol54	Clinopyroxene	48.420	0.859	5.330	8.530	14.480	0.182	19.590	0.010	0.097			97.498
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol61	Clinopyroxene	50.570	0.629	3.380	8.560	15.230	0.249	19.380	0.018	0.198			98.215
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol62	Clinopyroxene	50.770	0.506	2.770	8.370	16.060	0.278	19.040	0.021	0.055			97.870
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol69	Clinopyroxene	50.430	0.675	3.500	7.500	15.520	0.242	19.980	0.038	0.116			98.001
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol81	Clinopyroxene	50.920	0.399	3.670	6.530	16.190	0.219	20.270	0.020	0.079			98.297
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol82	Clinopyroxene	51.450	0.373	3.030	5.880	16.370	0.195	20.670	0.011	0.196			98.174
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol83	Clinopyroxene	51.580	0.351	2.810	5.810	16.390	0.137	20.740	0.035	0.347			98.200
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol84	Clinopyroxene	50.400	0.452	3.610	7.760	15.650	0.199	20.060	0.056	0.176			98.363
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol89	Clinopyroxene	50.640	0.456	3.090	7.120	15.740	0.209	20.360	0.021	0.466			98.103
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24opx81	Olivin	39.150	0.021	0.040	19.680	41.920	0.313	0.133	0.132	0.000			101.390
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol1	Olivin	39.010	0.000	0.000	18.470	42.150	0.294	0.124	0.146	0.000			100.194
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol4	Olivin	38.830	0.000	0.010	19.220	41.310	0.297	0.116	0.186	0.009			99.978
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol5	Olivin	38.580	0.000	0.022	20.910	40.880	0.304	0.136	0.098	0.035			100.966
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol6	Olivin	38.610	0.032	0.000	22.250	39.060	0.360	0.131	0.062	0.016			100.521
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol7	Olivin	38.450	0.039	0.023	22.640	39.310	0.363	0.157	0.063	0.000			101.045
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol8	Olivin	38.710	0.000	0.018	20.710	40.550	0.358	0.132	0.082	0.010			100.570
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol9	Olivin	38.170	0.000	0.020	22.000	39.190	0.365	0.127	0.085	0.010			99.967
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol10	Olivin	38.380	0.018	0.026	21.250	40.190	0.325	0.126	0.136	0.000			100.451
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol11	Olivin	38.200	0.010	0.026	23.030	39.020	0.438	0.154	0.115	0.030			101.022

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KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol12	Olivin	39.730	0.011	0.000	14.550	45.150	0.246	0.152	0.162	0.000			100.000
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol13	Olivin	39.500	0.035	0.010	15.990	44.350	0.254	0.145	0.180	0.031			100.495
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol14	Olivin	39.100	0.029	0.014	17.550	43.050	0.263	0.114	0.134	0.010			100.264
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol15	Olivin	38.990	0.010	0.021	17.390	43.180	0.257	0.114	0.144	0.016			100.122
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol16	Olivin	39.100	0.000	0.019	18.290	42.160	0.251	0.147	0.157	0.000			100.124
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol17	Olivin	38.410	0.000	0.015	20.790	40.040	0.306	0.158	0.125	0.034			99.878
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol18	Olivin	39.040	0.000	0.022	18.210	42.410	0.280	0.123	0.147	0.000			100.231
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol19	Olivin	39.700	0.000	0.000	14.990	45.080	0.230	0.132	0.161	0.033			100.326
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol20	Olivin	37.060	0.000	0.000	29.520	33.510	0.563	0.155	0.077	0.018			100.903
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol21	Olivin	39.420	0.000	0.000	16.980	44.100	0.282	0.128	0.168	0.008			101.085
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol22	Olivin	39.210	0.000	0.000	18.050	42.840	0.284	0.142	0.138	0.010			100.674
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol25	Olivin	40.470	0.000	0.010	8.890	49.920	0.146	0.185	0.131	0.046			99.798
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol26	Olivin	38.840	0.000	0.013	19.400	41.590	0.278	0.130	0.156	0.012			100.419
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol29	Olivin	38.000	0.000	0.043	23.150	38.260	0.357	0.173	0.115	0.000			100.097
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol30	Olivin	39.580	0.000	0.015	13.410	46.390	0.219	0.144	0.234	0.040			100.032
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol31	Olivin	39.910	0.000	0.022	13.900	45.960	0.202	0.158	0.151	0.016			100.318
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol32	Olivin	39.110	0.010	0.010	18.060	42.690	0.254	0.110	0.161	0.016			100.421
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol34	Olivin	37.980	0.000	0.730	20.230	40.560	0.331	0.128	0.092	0.035			100.086
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol35	Olivin	38.850	0.016	0.012	18.860	41.150	0.338	0.132	0.119	0.000			99.478
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol36	Olivin	38.560	0.020	0.000	18.920	41.430	0.304	0.134	0.168	0.025			99.561
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol37	Olivin	38.620	0.027	0.010	21.650	39.940	0.382	0.127	0.143	0.000			100.900
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol38	Olivin	38.850	0.017	0.000	20.050	41.250	0.287	0.138	0.096	0.010			100.698
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol39	Olivin	39.830	0.011	0.000	14.710	45.530	0.223	0.140	0.189	0.040			100.673
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol40	Olivin	38.740	0.034	0.130	21.520	39.550	0.392	0.201	0.099	0.000			100.666
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol41	Olivin	39.470	0.000	0.010	14.840	45.020	0.242	0.120	0.145	0.051			99.898
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol43	Olivin	38.560	0.000	0.020	21.390	39.760	0.339	0.146	0.125	0.017			100.356
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol44	Olivin	38.180	0.011	0.024	22.510	38.820	0.378	0.142	0.111	0.000			100.175
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol46	Olivin	38.240	0.000	0.023	22.190	39.260	0.314	0.134	0.106	0.013			100.280
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol47	Olivin	38.310	0.010	0.036	22.280	39.320	0.370	0.149	0.094	0.008			100.577
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol49	Olivin	39.510	0.023	0.000	13.790	45.990	0.225	0.158	0.239	0.061			99.995
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol50	Olivin	39.060	0.000	0.024	16.550	43.940	0.250	0.119	0.144	0.021			100.107
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol51	Olivin	39.790	0.008	0.036	13.240	46.220	0.173	0.145	0.191	0.009			99.813
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol52	Olivin	39.340	0.000	0.000	16.790	43.760	0.269	0.111	0.123	0.000			100.393
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol53	Olivin	39.630	0.000	0.038	14.890	45.110	0.251	0.134	0.141	0.000			100.194
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol55	Olivin	39.080	0.010	0.042	19.020	42.120	0.316	0.124	0.166	0.029			100.908
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol56	Olivin	39.280	0.010	0.012	16.780	43.870	0.222	0.135	0.214	0.017			100.541
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol57	Olivin	39.460	0.000	0.045	15.440	44.630	0.252	0.139	0.170	0.044			100.179
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol58	Olivin	38.880	0.000	0.019	20.310	41.050	0.343	0.154	0.034	0.000			100.790
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol60	Olivin	38.110	0.025	0.010	22.460	38.850	0.398	0.155	0.049	0.016			100.074
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol63	Olivin	38.070	0.000	0.025	23.010	38.940	0.436	0.176	0.083	0.025			100.765
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol64	Olivin	38.410	0.011	0.014	21.000	40.270	0.356	0.123	0.128	0.000			100.312
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol65	Olivin	38.530	0.010	0.015	20.030	40.980	0.339	0.158	0.078	0.016			100.156
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol66	Olivin	38.310	0.028	0.010	21.210	39.760	0.357	0.166	0.044	0.012			99.898
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol67	Olivin	38.290	0.010	0.031	22.410	39.160	0.317	0.145	0.105	0.000			100.467
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol68	Olivin	38.320	0.031	0.010	22.690	38.410	0.360	0.165	0.056	0.008			100.050

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol70	Olivin	39.040	0.000	0.022	18.000	42.600	0.272	0.116	0.168	0.000			100.217
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol71	Olivin	38.860	0.022	0.000	18.150	42.650	0.277	0.129	0.141	0.024			100.254
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol72	Olivin	38.600	0.013	0.016	20.370	40.680	0.347	0.127	0.145	0.009			100.308
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol73	Olivin	39.310	0.000	0.000	16.980	43.670	0.292	0.113	0.152	0.020			100.537
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol74	Olivin	39.050	0.000	0.010	17.970	42.720	0.298	0.114	0.186	0.020			100.367
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol75	Olivin	39.800	0.038	0.016	15.030	45.370	0.246	0.130	0.141	0.023			100.794
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol76	Olivin	39.900	0.030	0.000	13.010	46.010	0.225	0.143	0.178	0.039			99.535
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol77	Olivin	38.800	0.009	0.023	21.310	40.440	0.353	0.141	0.123	0.030			101.229
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol78	Olivin	38.380	0.028	0.010	20.210	40.730	0.329	0.126	0.132	0.000			99.945
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol79	Olivin	39.640	0.000	0.026	14.970	45.040	0.271	0.115	0.160	0.000			100.222
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol80	Olivin	39.080	0.000	0.000	16.350	43.740	0.240	0.131	0.153	0.034			99.728
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol85	Olivin	38.930	0.000	0.024	17.410	43.370	0.235	0.145	0.128	0.000			100.242
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol86	Olivin	37.710	0.000	0.010	25.110	37.050	0.469	0.157	0.013	0.000			100.520
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol87	Olivin	38.240	0.014	0.045	23.060	38.820	0.354	0.218	0.057	0.000			100.808
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol88	Olivin	37.850	0.000	0.010	23.220	38.140	0.430	0.165	0.135	0.000			99.950
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol90	Olivin	38.370	0.015	0.015	21.970	39.610	0.356	0.139	0.149	0.010			100.635
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol91	Olivin	38.480	0.000	0.000	22.150	39.530	0.363	0.134	0.155	0.013			100.826
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol92	Olivin	38.810	0.000	0.000	18.150	42.430	0.293	0.125	0.088	0.008			99.903
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol93	Olivin	38.560	0.055	0.000	21.170	40.120	0.308	0.129	0.112	0.000			100.454
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol94	Olivin	38.130	0.000	0.010	22.040	39.540	0.318	0.134	0.117	0.000			100.289
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol95	Olivin	38.820	0.000	0.022	17.030	42.600	0.242	0.129	0.118	0.000			98.961
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol96	Olivin	39.130	0.000	0.027	15.550	44.650	0.217	0.133	0.158	0.042			99.907
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol97	Olivin	37.970	0.030	0.021	23.170	38.560	0.369	0.149	0.074	0.000			100.342
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol98	Olivin	39.220	0.000	0.000	18.360	42.150	0.328	0.118	0.192	0.000			100.368
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol99	Olivin	38.740	0.034	0.010	18.490	42.170	0.283	0.114	0.133	0.024			99.999
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol100	Olivin	38.510	0.000	0.037	22.630	39.100	0.362	0.141	0.081	0.010			100.871
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol101	Olivin	38.570	0.000	0.013	21.700	39.960	0.383	0.142	0.133	0.000			100.901
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24opx27	Orthopyroxene	54.130	0.235	1.762	14.880	27.160	0.398	1.600	0.012	0.018			100.195
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24opx27a	Orthopyroxene	53.480	0.329	2.440	15.340	26.730	0.381	1.600	0.019	0.000			100.319
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24opx61	Orthopyroxene	52.700	0.262	3.100	14.990	26.630	0.327	1.620	0.039	0.040			99.706
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24opx94	Orthopyroxene	52.780	0.355	3.330	15.870	26.060	0.359	1.510	0.063	0.010			100.337
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol3	Orthopyroxene	51.120	0.457	4.600	15.360	25.180	0.355	1.870	0.000	0.022			98.964
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol27	Orthopyroxene	53.060	0.345	2.190	14.840	26.770	0.409	1.790	0.031	0.015			99.450
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol45	Orthopyroxene	50.200	0.374	6.030	14.580	25.600	0.311	1.460	0.064	0.026			98.645
KLU-96-02	Klyuchevskoy	Bomb of crater Oehki	24ol59	Orthopyroxene	51.920	0.295	4.380	14.370	26.600	0.324	1.377	0.030	0.072			99.369
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx1	Clinopyroxene	52.620	0.459	2.360	6.960	17.080	0.204	19.300	0.000	0.604	0.267	0.000	99.855
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx2	Clinopyroxene	53.180	0.313	2.210	5.090	17.770	0.129	20.580	0.038	0.314	0.221	0.012	99.857
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx3	Clinopyroxene	52.180	0.360	3.650	6.140	16.640	0.131	19.680	0.012	0.457	0.394	0.000	99.643
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx4	Clinopyroxene	51.670	0.375	3.580	7.070	16.410	0.184	19.350	0.043	0.425	0.308	0.000	99.415
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx5	Clinopyroxene	52.510	0.481	2.620	8.260	17.450	0.263	18.130	0.000	0.184	0.352	0.000	100.250
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx6	Clinopyroxene	52.590	0.300	3.180	5.910	17.290	0.156	19.520	0.042	0.361	0.321	0.015	99.685
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx7	Clinopyroxene	51.000	0.703	3.600	10.470	15.680	0.300	17.040	0.017	0.010	0.495	0.014	99.330
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx8	Clinopyroxene	51.590	0.444	4.600	6.110	16.360	0.151	19.250	0.041	0.439	0.499	0.000	99.484
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx9	Clinopyroxene	53.260	0.216	2.190	5.000	18.310	0.160	19.250	0.000	0.727	0.318	0.000	99.431
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx10	Clinopyroxene	52.580	0.488	2.500	7.990	17.480	0.236	17.910	0.000	0.371	0.306	0.000	99.862

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx11	Clinopyroxene	52.880	0.201	2.910	4.970	17.770	0.173	19.590	0.038	0.743	0.322	0.010	99.608
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx12	Clinopyroxene	52.210	0.531	3.240	7.880	16.690	0.229	18.670	0.020	0.403	0.434	0.009	100.316
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx13	Clinopyroxene	52.380	0.514	2.620	7.430	16.860	0.177	19.170	0.042	0.531	0.252	0.009	99.987
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx14	Clinopyroxene	53.030	0.231	2.700	6.090	18.370	0.184	18.500	0.032	0.333	0.317	0.000	99.787
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx15	Clinopyroxene	52.200	0.312	3.600	5.860	17.350	0.172	19.660	0.038	0.401	0.346	0.000	99.939
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx16	Clinopyroxene	52.740	0.353	2.690	5.170	17.090	0.155	21.310	0.000	0.409	0.234	0.000	100.151
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx17	Clinopyroxene	51.590	0.358	5.000	6.880	16.180	0.186	18.950	0.028	0.259	0.544	0.018	99.993
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx18	Clinopyroxene	53.180	0.218	2.690	5.450	17.420	0.169	19.960	0.036	0.466	0.304	0.010	99.904
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx19	Clinopyroxene	53.500	0.147	2.270	3.990	17.810	0.107	20.440	0.029	1.093	0.376	0.000	99.762
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx20	Clinopyroxene	53.350	0.227	2.120	4.610	17.690	0.177	20.620	0.026	0.666	0.274	0.020	99.780
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx21	Clinopyroxene	52.650	0.275	3.290	5.340	17.610	0.202	19.550	0.032	0.523	0.364	0.000	99.837
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx22	Clinopyroxene	52.020	0.603	2.690	8.440	16.910	0.293	18.070	0.026	0.422	0.298	0.000	99.772
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx23	Clinopyroxene	51.510	0.580	4.330	7.950	16.280	0.197	18.270	0.038	0.251	0.406	0.006	99.818
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx24	Clinopyroxene	52.260	0.499	2.630	8.810	17.090	0.278	17.630	0.009	0.491	0.346	0.000	100.043
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx25	Clinopyroxene	52.660	0.441	1.930	8.000	17.590	0.239	18.130	0.000	0.364	0.294	0.007	99.656
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx26	Clinopyroxene	52.140	0.359	3.560	6.410	16.670	0.202	19.740	0.048	0.218	0.389	0.007	99.743
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx28	Clinopyroxene	52.260	0.276	3.690	5.470	17.460	0.170	19.410	0.016	0.631	0.449	0.006	99.838
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx29	Clinopyroxene	52.670	0.484	2.340	7.750	17.140	0.217	18.800	0.013	0.483	0.288	0.000	100.185
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx30	Clinopyroxene	51.380	0.532	3.760	7.130	16.750	0.198	18.320	0.000	0.705	0.470	0.010	99.254
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx31	Clinopyroxene	52.850	0.310	2.720	6.150	17.840	0.152	19.140	0.013	0.265	0.346	0.000	99.787
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpxm52_52a	Clinopyroxene	52.250	0.451	2.460	7.740	17.210	0.219	18.530	0.073	0.332	0.317	0.014	99.596
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx32	Clinopyroxene	50.150	0.616	5.360	7.510	14.790	0.135	20.060	0.025	0.155	0.578	0.023	99.402
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx33	Clinopyroxene	52.880	0.458	2.870	8.260	16.650	0.207	17.990	0.000	0.370	0.383	0.013	100.081
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpxm56	Clinopyroxene	50.730	0.384	4.570	6.010	16.860	0.119	20.890	0.024	0.382	0.331	0.010	100.310
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx34	Clinopyroxene	53.550	0.199	2.370	4.690	17.650	0.085	20.250	0.023	0.654	0.362	0.000	99.835
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx35	Clinopyroxene	52.670	0.407	2.240	7.790	17.300	0.246	18.470	0.016	0.278	0.259	0.009	99.685
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpxm61	Clinopyroxene	52.430	0.246	3.420	5.410	16.960	0.094	20.370	0.000	0.633	0.369	0.019	99.951
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx36	Clinopyroxene	53.050	0.257	3.040	5.790	17.550	0.169	19.450	0.014	0.471	0.322	0.000	100.114
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx37	Clinopyroxene	52.330	0.378	3.720	6.770	16.800	0.209	18.520	0.030	0.233	0.508	0.011	99.510
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpxs78	Clinopyroxene	52.820	0.371	1.980	8.160	17.940	0.222	17.570	0.000	0.346	0.322	0.000	99.731
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx38	Clinopyroxene	52.120	0.350	3.100	5.980	16.470	0.157	20.540	0.039	0.486	0.278	0.000	99.521
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx39	Clinopyroxene	52.090	0.545	2.750	8.460	16.720	0.284	18.100	0.008	0.505	0.306	0.014	99.782
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx40	Clinopyroxene	51.220	0.461	4.750	6.640	16.160	0.158	19.340	0.010	0.347	0.473	0.000	99.559
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx41	Clinopyroxene	52.260	0.390	2.190	7.020	17.200	0.198	19.420	0.000	0.442	0.305	0.000	99.425
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx42	Clinopyroxene	51.980	0.446	2.970	7.240	16.810	0.187	19.170	0.075	0.464	0.348	0.018	99.708
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx43	Clinopyroxene	53.020	0.240	2.140	4.760	17.720	0.147	20.440	0.072	0.741	0.329	0.000	99.609
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx44	Clinopyroxene	53.190	0.170	2.280	4.810	18.410	0.147	19.190	0.012	0.681	0.322	0.007	99.219
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx45	Clinopyroxene	52.350	0.252	3.330	4.890	17.610	0.185	19.560	0.023	0.902	0.360	0.007	99.469
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx46	Clinopyroxene	51.770	0.300	3.980	5.520	17.200	0.105	19.320	0.050	0.418	0.444	0.000	99.108
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx47	Clinopyroxene	52.530	0.452	2.620	8.160	17.510	0.235	17.540	0.049	0.112	0.352	0.008	99.568
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx48	Clinopyroxene	53.280	0.324	2.480	4.880	16.930	0.129	21.320	0.010	0.509	0.182	0.011	100.056
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx49	Clinopyroxene	53.720	0.245	1.835	5.840	17.110	0.163	20.120	0.018	0.529	0.365	0.008	99.953
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx50	Clinopyroxene	52.560	0.471	2.690	7.480	16.930	0.242	18.980	0.021	0.444	0.287	0.000	100.105
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx51	Clinopyroxene	52.150	0.340	3.430	5.660	16.860	0.200	20.140	0.008	0.449	0.361	0.000	99.597
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx133	Clinopyroxene	53.090	0.188	2.900	4.990	17.640	0.194	19.810	0.011	0.756	0.366	0.000	99.944

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx134	Clinopyroxene	53.440	0.191	2.560	4.980	17.630	0.145	19.850	0.012	0.664	0.350	0.000	99.823
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx135	Clinopyroxene	53.990	0.191	1.822	4.260	18.170	0.121	20.510	0.021	0.416	0.250	0.014	99.764
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx136	Clinopyroxene	53.620	0.191	2.460	5.450	18.520	0.187	18.550	0.020	0.503	0.348	0.010	99.859
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx137	Clinopyroxene	53.860	0.106	1.728	3.560	18.020	0.091	20.960	0.012	1.010	0.346	0.011	99.704
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx138	Clinopyroxene	53.810	0.148	1.737	4.010	18.300	0.124	20.750	0.000	0.813	0.341	0.016	100.050
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpxm125	Clinopyroxene	53.550	0.198	1.890	4.200	17.910	0.085	20.990	0.052	0.556	0.302	0.013	99.746
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx139	Clinopyroxene	53.350	0.240	2.280	4.880	17.830	0.124	19.990	0.000	0.605	0.346	0.009	99.655
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx140	Clinopyroxene	53.260	0.118	2.710	4.430	17.990	0.119	19.550	0.048	1.061	0.424	0.010	99.721
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpxm113	Clinopyroxene	52.220	0.298	3.930	5.330	17.200	0.148	19.750	0.064	0.542	0.359	0.000	99.841
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx141	Clinopyroxene	52.800	0.362	2.770	6.520	17.030	0.177	20.000	0.020	0.131	0.350	0.006	100.165
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx142	Clinopyroxene	53.650	0.133	2.010	3.980	18.110	0.119	20.860	0.011	0.987	0.343	0.000	100.203
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx143	Clinopyroxene	53.390	0.175	2.390	4.830	18.740	0.136	18.690	0.029	0.917	0.397	0.000	99.695
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx144	Clinopyroxene	52.760	0.222	3.160	4.900	17.530	0.173	20.080	0.035	0.650	0.355	0.008	99.872
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx145	Clinopyroxene	53.310	0.274	2.680	4.770	17.920	0.118	20.060	0.043	0.530	0.396	0.009	100.110
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx146	Clinopyroxene	52.640	0.285	3.370	5.570	17.700	0.143	19.140	0.028	0.444	0.370	0.000	99.688
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx147	Clinopyroxene	53.080	0.171	2.330	4.620	18.100	0.154	20.180	0.000	0.665	0.327	0.000	99.628
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx148	Clinopyroxene	52.140	0.306	3.640	5.350	17.150	0.130	19.950	0.031	0.491	0.422	0.000	99.610
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx149	Clinopyroxene	52.770	0.269	2.880	4.900	17.820	0.118	19.760	0.053	0.815	0.355	0.000	99.740
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx150	Clinopyroxene	53.340	0.163	2.200	4.370	18.090	0.122	20.450	0.029	1.032	0.305	0.000	100.102
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx151	Clinopyroxene	53.410	0.179	2.360	4.350	18.470	0.148	19.720	0.066	0.949	0.367	0.000	100.019
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx152	Clinopyroxene	53.840	0.180	1.790	4.420	18.140	0.151	20.920	0.044	0.347	0.264	0.009	100.107
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx153	Clinopyroxene	53.200	0.265	2.410	5.300	18.070	0.201	19.690	0.028	0.692	0.318	0.014	100.189
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx154	Clinopyroxene	53.880	0.196	2.260	4.500	18.010	0.134	20.380	0.000	0.701	0.299	0.000	100.361
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx155	Clinopyroxene	52.760	0.401	3.270	5.510	17.020	0.147	19.870	0.022	0.571	0.368	0.010	99.949
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx156	Clinopyroxene	53.850	0.205	1.980	4.070	17.870	0.113	20.830	0.025	0.904	0.355	0.011	100.214
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx157	Clinopyroxene	53.510	0.178	1.737	4.050	18.510	0.096	20.210	0.026	0.961	0.345	0.009	99.632
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx158	Clinopyroxene	52.810	0.169	2.540	5.430	17.690	0.153	20.340	0.049	0.409	0.310	0.010	99.911
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx159	Clinopyroxene	53.840	0.168	1.950	4.360	18.010	0.158	20.900	0.026	0.552	0.302	0.012	100.278
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx160	Clinopyroxene	52.770	0.235	3.580	5.260	17.220	0.149	19.840	0.036	0.893	0.462	0.009	100.454
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx161	Clinopyroxene	52.790	0.261	3.030	5.390	17.570	0.172	20.100	0.031	0.450	0.376	0.012	100.183
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx162	Clinopyroxene	53.540	0.218	2.140	4.580	18.110	0.153	20.500	0.039	0.507	0.318	0.000	100.105
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx163	Clinopyroxene	52.570	0.227	3.370	5.280	17.460	0.107	19.800	0.025	0.515	0.408	0.000	99.762
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx164	Clinopyroxene	52.960	0.227	2.920	5.160	17.990	0.149	19.570	0.040	0.642	0.309	0.000	99.968
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx165	Clinopyroxene	52.490	0.294	3.070	4.870	17.330	0.152	20.480	0.048	0.671	0.360	0.011	99.777
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx166	Clinopyroxene	53.540	0.216	2.160	4.310	18.020	0.137	20.870	0.010	0.694	0.310	0.010	100.277
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx167	Clinopyroxene	53.510	0.156	1.851	3.620	18.220	0.118	20.590	0.042	1.007	0.336	0.000	99.449
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx168	Clinopyroxene	53.640	0.137	1.970	4.600	18.550	0.185	19.740	0.008	0.699	0.326	0.015	99.871
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx169	Clinopyroxene	53.800	0.151	1.650	3.600	17.980	0.109	21.070	0.064	0.947	0.277	0.016	99.663
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx170	Clinopyroxene	52.640	0.245	3.000	5.020	17.880	0.105	19.860	0.021	0.798	0.379	0.023	99.970
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx171	Clinopyroxene	52.220	0.338	4.020	5.880	16.930	0.134	19.450	0.045	0.705	0.504	0.000	100.227
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx172	Clinopyroxene	53.920	0.169	1.850	4.500	18.340	0.134	20.610	0.020	0.479	0.269	0.000	100.291
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx173	Clinopyroxene	53.180	0.285	2.700	5.170	17.710	0.198	20.150	0.038	0.481	0.428	0.000	100.339
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx174	Clinopyroxene	53.140	0.212	2.140	4.450	17.810	0.130	20.690	0.032	0.506	0.340	0.000	99.449
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx175	Clinopyroxene	52.960	0.269	3.150	5.070	17.950	0.142	19.770	0.043	0.539	0.387	0.010	100.289
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx176	Clinopyroxene	52.600	0.246	3.500	5.250	17.410	0.162	20.080	0.038	0.545	0.369	0.014	100.214

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx177	Clinopyroxene	52.720	0.217	2.960	5.500	17.990	0.180	18.890	0.034	0.563	0.341	0.023	99.418
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx178	Clinopyroxene	52.420	0.261	3.180	5.230	17.720	0.142	19.520	0.034	0.853	0.384	0.038	99.781
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx179	Clinopyroxene	53.760	0.161	1.822	4.570	18.350	0.155	20.420	0.051	0.448	0.314	0.016	100.067
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx180	Clinopyroxene	52.860	0.240	3.150	4.970	18.000	0.141	19.690	0.018	0.562	0.378	0.013	100.023
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx181	Clinopyroxene	52.800	0.273	3.410	6.110	17.600	0.155	19.100	0.026	0.149	0.365	0.000	99.988
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx182	Clinopyroxene	52.480	0.318	3.730	5.550	17.180	0.144	19.860	0.046	0.506	0.366	0.012	100.191
KLU-98-01	Klyuchevskoy	Bulochka cone	26cpx183	Clinopyroxene	54.000	0.140	1.801	4.050	18.480	0.128	20.300	0.007	0.965	0.357	0.010	100.238
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol1	Olivin	40.230	0.000	0.017	11.170	47.560	0.162	0.157	0.275	0.067			99.639
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol2	Olivin	40.620	0.014	0.031	9.090	49.490	0.135	0.169	0.261	0.076			99.885
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol3	Olivin	40.430	0.000	0.014	11.840	47.640	0.173	0.199	0.176	0.010			100.482
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol4	Olivin	40.480	0.000	0.011	10.940	48.200	0.152	0.170	0.246	0.067			100.266
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol5	Olivin	40.380	0.000	0.018	10.680	48.140	0.179	0.205	0.182	0.031			99.815
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol6	Olivin	40.440	0.000	0.026	10.970	48.320	0.146	0.165	0.229	0.041			100.338
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol7	Olivin	40.600	0.000	0.030	9.250	49.050	0.200	0.192	0.174	0.037			99.532
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol8	Olivin	40.240	0.019	0.119	9.570	48.780	0.198	0.133	0.384	0.159			99.602
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol9	Olivin	39.730	0.011	0.025	12.210	46.930	0.177	0.181	0.181	0.033			99.477
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol10	Olivin	40.300	0.000	0.021	10.420	48.200	0.167	0.187	0.220	0.042			99.557
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol11	Olivin	40.280	0.000	0.000	11.860	47.330	0.173	0.163	0.211	0.053			100.071
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol12	Olivin	40.360	0.000	0.042	10.340	48.670	0.166	0.163	0.236	0.033			100.010
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol13	Olivin	40.370	0.000	0.010	10.170	48.670	0.167	0.166	0.190	0.061			99.804
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol14	Olivin	40.560	0.000	0.023	9.500	49.060	0.102	0.174	0.218	0.035			99.673
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol15	Olivin	40.400	0.012	0.021	11.250	48.080	0.186	0.180	0.226	0.000			100.354
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol16	Olivin	40.310	0.000	0.023	10.060	49.080	0.163	0.188	0.204	0.061			100.089
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol17	Olivin	40.170	0.013	0.016	10.990	48.240	0.196	0.169	0.230	0.000			100.025
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol18	Olivin	40.410	0.018	0.036	11.140	47.860	0.208	0.191	0.235	0.034			100.132
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol19	Olivin	40.720	0.000	0.026	11.120	48.430	0.198	0.168	0.200	0.031			100.893
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol20	Olivin	40.170	0.018	0.021	11.180	48.160	0.189	0.172	0.184	0.018			100.114
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol21	Olivin	40.580	0.023	0.011	10.600	48.550	0.188	0.176	0.228	0.044			100.400
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol22	Olivin	39.850	0.032	0.034	14.320	45.380	0.242	0.169	0.218	0.026			100.271
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol23	Olivin	40.430	0.019	0.017	9.530	48.910	0.153	0.158	0.274	0.039			99.531
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol24	Olivin	39.920	0.000	0.045	13.100	45.950	0.173	0.169	0.248	0.025			99.629
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol25	Olivin	40.250	0.071	0.010	11.100	47.980	0.157	0.176	0.236	0.027			100.008
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol26	Olivin	39.960	0.000	0.000	11.540	47.270	0.153	0.167	0.167	0.091			99.348
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol27	Olivin	40.470	0.021	0.027	9.960	49.150	0.184	0.174	0.188	0.055			100.229
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol28	Olivin	40.660	0.010	0.020	10.720	48.170	0.208	0.171	0.228	0.026			100.213
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol29	Olivin	40.510	0.020	0.035	10.120	49.010	0.162	0.144	0.354	0.061			100.417
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol30	Olivin	40.790	0.000	0.012	10.370	48.230	0.160	0.169	0.222	0.035			99.988
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol31	Olivin	40.470	0.000	0.010	10.470	48.400	0.183	0.165	0.231	0.012			99.942
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol32	Olivin	40.170	0.012	0.025	12.300	46.950	0.185	0.163	0.289	0.072			100.166
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol33	Olivin	40.470	0.019	0.029	10.080	49.290	0.194	0.182	0.200	0.052			100.515
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol34	Olivin	40.430	0.000	0.035	11.190	47.740	0.175	0.173	0.245	0.048			100.037
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol35	Olivin	40.330	0.000	0.024	10.570	48.720	0.203	0.149	0.293	0.030			100.319
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol36	Olivin	40.810	0.015	0.028	10.620	48.340	0.157	0.159	0.260	0.084			100.474
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol37	Olivin	40.620	0.020	0.019	9.720	49.230	0.152	0.189	0.248	0.069			100.266
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol38	Olivin	40.530	0.000	0.016	11.180	47.890	0.194	0.165	0.226	0.027			100.228

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol39	Olivin	40.410	0.008	0.018	11.000	47.890	0.175	0.229	0.238	0.031			99.999
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol40	Olivin	40.250	0.000	0.012	11.040	48.270	0.198	0.188	0.224	0.053			100.236
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol41	Olivin	40.250	0.000	0.065	11.700	46.910	0.207	0.185	0.260	0.036			99.614
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol42	Olivin	40.500	0.000	0.019	9.930	48.540	0.193	0.176	0.224	0.057			99.640
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol43	Olivin	40.100	0.000	0.029	12.340	47.060	0.193	0.154	0.221	0.045			100.142
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol44	Olivin	40.650	0.000	0.028	9.390	48.930	0.122	0.143	0.345	0.048			99.656
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol45	Olivin	40.570	0.010	0.022	11.280	48.180	0.146	0.161	0.228	0.075			100.672
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol46	Olivin	39.860	0.016	0.010	13.050	46.400	0.231	0.169	0.235	0.048			100.019
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol47	Olivin	39.860	0.014	0.014	12.370	46.780	0.198	0.182	0.160	0.000			99.578
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol48	Olivin	40.150	0.020	0.024	11.850	47.520	0.205	0.152	0.180	0.022			100.124
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol49	Olivin	39.700	0.000	0.042	14.090	45.960	0.221	0.170	0.258	0.051			100.491
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol50	Olivin	40.530	0.000	0.035	10.780	48.360	0.155	0.164	0.278	0.039			100.341
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol51	Olivin	40.530	0.018	0.021	10.740	48.890	0.182	0.189	0.244	0.032			100.846
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol52	Olivin	40.110	0.000	0.018	12.240	47.190	0.206	0.160	0.155	0.043			100.121
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol53	Olivin	40.630	0.000	0.039	9.240	49.280	0.126	0.153	0.445	0.062			99.975
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol54	Olivin	40.530	0.000	0.024	10.200	48.910	0.180	0.165	0.287	0.079			100.375
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol55	Olivin	40.320	0.000	0.012	10.370	48.540	0.155	0.154	0.232	0.061			99.843
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol111	Olivin	39.970	0.005	0.026	13.483	45.930	0.230	0.252	0.173	0.032			100.100
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol56	Olivin	40.170	0.027	0.011	10.890	48.020	0.190	0.172	0.186	0.024			99.690
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol57	Olivin	40.640	0.000	0.030	8.960	49.700	0.151	0.123	0.389	0.042			100.035
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol58	Olivin	40.430	0.018	0.000	9.860	48.640	0.168	0.161	0.240	0.047			99.564
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol59	Olivin	40.170	0.000	0.017	10.810	48.330	0.202	0.168	0.200	0.074			99.971
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol60	Olivin	40.560	0.000	0.016	9.550	48.840	0.191	0.160	0.165	0.044			99.526
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol61	Olivin	39.730	0.000	0.000	14.460	45.380	0.211	0.183	0.278	0.015			100.256
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol114	Olivin	39.750	0.000	0.020	14.610	45.290	0.243	0.182	0.165	0.010			100.270
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol62	Olivin	40.370	0.016	0.010	10.140	48.760	0.134	0.153	0.260	0.053			99.895
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol63	Olivin	40.400	0.000	0.031	10.520	48.250	0.176	0.184	0.237	0.046			99.842
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol129	Olivin	38.675	0.000	0.015	18.155	42.020	0.310	0.156	0.158	0.006			99.494
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol64	Olivin	39.970	0.000	0.000	10.540	48.030	0.153	0.155	0.229	0.049			99.126
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol65	Olivin	40.290	0.000	0.041	10.280	48.680	0.155	0.170	0.279	0.044			99.939
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol138	Olivin	40.130	0.020	0.044	12.665	46.940	0.174	0.227	0.213	0.044			100.455
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol66	Olivin	40.240	0.010	0.010	10.990	48.200	0.176	0.185	0.191	0.046			100.047
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol67	Olivin	40.170	0.000	0.020	10.610	47.960	0.192	0.145	0.257	0.023			99.376
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol68	Olivin	40.690	0.010	0.031	9.170	49.470	0.156	0.160	0.269	0.044			99.999
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol69	Olivin	40.400	0.000	0.039	10.800	48.450	0.165	0.173	0.258	0.039			100.323
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol71	Olivin	40.310	0.009	0.044	13.170	46.500	0.174	0.168	0.221	0.000			100.596
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol72	Olivin	39.440	0.000	0.022	16.310	44.210	0.247	0.149	0.204	0.000			100.583
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol73	Olivin	40.630	0.000	0.036	9.650	49.020	0.156	0.168	0.290	0.037			99.987
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol74	Olivin	40.730	0.000	0.043	9.380	49.680	0.149	0.165	0.259	0.039			100.445
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol75	Olivin	40.480	0.050	0.018	10.650	48.790	0.200	0.163	0.259	0.051			100.661
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol76	Olivin	40.080	0.010	0.047	13.520	46.550	0.223	0.169	0.223	0.010			100.833
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol77	Olivin	40.380	0.000	0.000	10.800	48.430	0.202	0.168	0.238	0.028			100.246
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol78	Olivin	40.440	0.023	0.016	11.540	47.900	0.187	0.171	0.231	0.023			100.531
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol79	Olivin	40.530	0.024	0.010	9.990	48.610	0.151	0.157	0.350	0.042			99.865
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol80	Olivin	40.360	0.021	0.033	11.550	47.800	0.212	0.181	0.197	0.035			100.389

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol81	Olivin	40.140	0.000	0.043	11.960	47.400	0.149	0.168	0.292	0.041			100.194
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol82	Olivin	40.450	0.010	0.015	10.240	48.280	0.143	0.161	0.257	0.044			99.601
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol83	Olivin	40.260	0.000	0.038	9.380	48.990	0.166	0.178	0.299	0.037			99.348
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol84	Olivin	39.960	0.000	0.027	11.390	47.920	0.185	0.159	0.237	0.031			99.909
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol85	Olivin	40.160	0.000	0.011	10.990	48.010	0.144	0.178	0.250	0.033			99.776
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol86	Olivin	40.330	0.028	0.021	10.280	48.910	0.169	0.184	0.206	0.071			100.200
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol87	Olivin	40.250	0.000	0.023	11.150	47.940	0.165	0.195	0.193	0.035			99.951
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol88	Olivin	39.820	0.000	0.000	12.900	47.090	0.167	0.178	0.211	0.033			100.399
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol89	Olivin	40.000	0.000	0.020	11.760	47.120	0.180	0.174	0.231	0.043			99.528
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol90	Olivin	40.760	0.015	0.042	9.590	49.230	0.153	0.151	0.318	0.066			100.324
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol91	Olivin	40.080	0.000	0.029	12.340	47.240	0.220	0.168	0.220	0.024			100.320
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol92	Olivin	40.570	0.000	0.000	10.490	48.420	0.182	0.176	0.241	0.027			100.106
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol93	Olivin	40.460	0.000	0.019	10.320	48.740	0.164	0.171	0.214	0.029			100.116
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol94	Olivin	40.230	0.029	0.023	10.510	48.610	0.158	0.170	0.268	0.037			100.035
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol95	Olivin	40.240	0.024	0.029	11.960	47.710	0.180	0.171	0.183	0.035			100.533
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol96	Olivin	40.190	0.010	0.000	10.750	48.500	0.167	0.186	0.214	0.033			100.050
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol97	Olivin	40.290	0.009	0.041	10.600	48.340	0.214	0.162	0.219	0.026			99.901
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol98	Olivin	40.350	0.000	0.023	10.500	48.380	0.158	0.189	0.194	0.030			99.824
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol99	Olivin	40.130	0.000	0.025	12.430	47.060	0.214	0.166	0.253	0.074			100.353
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol100	Olivin	40.700	0.023	0.027	10.420	49.180	0.190	0.166	0.185	0.035			100.926
KLU-98-01	Klyuchevskoy	Bulochka cone	15ol101	Olivin	40.480	0.023	0.010	11.670	48.090	0.164	0.139	0.240	0.058			100.874
KLU-98-01	Klyuchevskoy	Bulochka cone	26ol104_104a	Olivin	38.320	0.017	0.030	24.320	37.740	0.345	0.234	0.116	0.000			101.122
KLU-98-01	Klyuchevskoy	Bulochka cone	26ol_sp106	Olivin	40.330	0.000	0.023	12.230	46.410	0.207	0.150	0.189	0.058			99.596
KLU-98-01	Klyuchevskoy	Bulochka cone	26ol110	Olivin	38.290	0.034	0.038	23.580	38.350	0.382	0.248	0.128	0.000			101.050
KLU-98-01	Klyuchevskoy	Bulochka cone	26ol111_111a	Olivin	38.980	0.010	0.010	20.680	40.530	0.274	0.149	0.105	0.165			100.903
KLU-98-01	Klyuchevskoy	Bulochka cone	26ol130	Olivin	40.350	0.000	0.033	12.600	46.750	0.199	0.170	0.217	0.026			100.345
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx4_4a	Clinopyroxene	51.710	0.659	3.270	8.330	15.540	0.213	19.180	0.014	0.318	0.504	0.032	99.771
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx19	Clinopyroxene	51.930	0.478	3.480	7.950	16.460	0.212	18.480	0.000	0.292	0.544	0.000	99.826
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx22	Clinopyroxene	50.540	0.675	4.330	8.770	15.000	0.262	19.560	0.009	0.166	0.554	0.026	99.892
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx29_29a	Clinopyroxene	51.290	0.486	3.290	7.600	16.600	0.193	19.290	0.026	0.272	0.388	0.000	99.435
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx36	Clinopyroxene	52.650	0.243	2.560	6.660	16.620	0.208	19.760	0.000	0.647	0.398	0.019	99.766
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx37_37a	Clinopyroxene	52.480	0.269	2.490	6.200	17.230	0.165	19.870	0.000	0.323	0.333	0.014	99.374
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx38	Clinopyroxene	51.310	0.582	4.080	8.650	15.430	0.176	19.420	0.009	0.213	0.456	0.000	100.326
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx42	Clinopyroxene	53.090	0.213	2.280	5.390	17.840	0.139	20.160	0.031	0.402	0.282	0.000	99.826
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx48	Clinopyroxene	52.130	0.407	2.610	8.350	16.950	0.227	18.280	0.000	0.501	0.378	0.025	99.857
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx70	Clinopyroxene	51.770	0.413	3.520	7.950	15.960	0.219	19.640	0.015	0.404	0.412	0.000	100.303
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx80	Clinopyroxene	50.200	0.516	4.360	8.760	14.900	0.118	19.840	0.013	0.107	0.387	0.010	99.211
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx93	Clinopyroxene	51.590	0.465	3.280	7.880	16.470	0.182	18.820	0.000	0.317	0.406	0.000	99.410
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx97	Clinopyroxene	51.100	0.380	4.160	6.050	15.900	0.128	20.380	0.007	0.632	0.539	0.000	99.276
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx99	Clinopyroxene	51.260	0.486	3.110	7.360	16.080	0.220	19.650	0.000	0.545	0.293	0.000	99.004
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx100_100a	Clinopyroxene	52.100	0.303	3.380	5.640	16.810	0.160	20.130	0.028	0.449	0.540	0.011	99.552
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx106	Clinopyroxene	51.730	0.429	3.020	6.620	16.440	0.182	19.950	0.000	0.498	0.411	0.006	99.286
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx107_107a	Clinopyroxene	52.740	0.240	1.838	5.810	16.820	0.146	20.420	0.008	0.777	0.360	0.000	99.159
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx115	Clinopyroxene	52.050	0.472	2.370	7.890	16.870	0.195	19.200	0.000	0.380	0.334	0.000	99.762
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx117	Clinopyroxene	51.840	0.519	3.000	8.460	16.520	0.240	18.020	0.029	0.363	0.490	0.010	99.491

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx133	Clinopyroxene	51.330	0.516	3.980	7.980	16.460	0.220	18.330	0.009	0.282	0.505	0.039	99.651
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx142	Clinopyroxene	49.020	0.984	6.430	9.830	13.770	0.180	18.570	0.000	0.073	0.682	0.000	99.539
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx143_143a	Clinopyroxene	51.990	0.558	3.550	6.750	16.550	0.148	19.580	0.000	0.421	0.543	0.016	100.105
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx146	Clinopyroxene	51.470	0.419	4.450	7.100	16.020	0.201	18.870	0.014	0.542	0.636	0.017	99.739
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx155	Clinopyroxene	51.850	0.462	3.020	8.340	16.720	0.228	17.910	0.038	0.321	0.473	0.008	99.370
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx161	Clinopyroxene	52.130	0.596	3.360	7.980	16.100	0.158	18.810	0.000	0.356	0.580	0.000	100.070
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx1	Clinopyroxene	52.550	0.334	2.620	5.570	17.030	0.158	20.980	0.036	0.145	0.292	0.007	99.723
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx2	Clinopyroxene	53.940	0.113	1.328	3.720	18.790	0.152	20.530	0.036	0.586	0.288	0.000	99.483
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx3	Clinopyroxene	52.970	0.165	1.940	4.180	17.500	0.105	21.560	0.031	0.768	0.325	0.000	99.543
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx5	Clinopyroxene	52.950	0.176	2.300	4.370	17.490	0.179	21.550	0.028	0.730	0.289	0.000	100.063
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx6	Clinopyroxene	53.040	0.245	2.180	5.490	18.140	0.156	19.250	0.029	0.646	0.282	0.014	99.473
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx7	Clinopyroxene	54.290	0.167	1.201	3.220	18.550	0.131	21.500	0.021	0.739	0.268	0.000	100.086
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx8	Clinopyroxene	52.920	0.222	2.160	5.740	17.510	0.167	20.780	0.067	0.320	0.319	0.000	100.204
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx9	Clinopyroxene	52.430	0.379	2.890	4.940	17.170	0.159	21.390	0.000	0.326	0.304	0.000	99.988
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx10	Clinopyroxene	52.780	0.280	2.660	5.410	17.280	0.129	20.640	0.048	0.299	0.305	0.006	99.838
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx11	Clinopyroxene	51.860	0.504	3.140	7.770	16.640	0.202	18.850	0.031	0.321	0.394	0.000	99.711
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx12	Clinopyroxene	52.350	0.479	2.230	8.430	17.840	0.280	17.790	0.016	0.588	0.352	0.000	100.355
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx98	Clinopyroxene	53.290	0.269	2.510	5.530	17.650	0.143	20.260	0.000	0.216	0.322	0.014	100.203
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx101	Clinopyroxene	53.520	0.152	1.930	4.200	17.850	0.160	20.770	0.017	1.066	0.379	0.011	100.055
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx102	Clinopyroxene	53.300	0.179	2.040	5.010	18.160	0.139	20.560	0.044	0.388	0.306	0.000	100.125
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx103	Clinopyroxene	52.380	0.525	2.690	7.810	16.600	0.207	19.390	0.029	0.111	0.274	0.000	100.017
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx104	Clinopyroxene	53.330	0.211	2.260	4.420	17.660	0.139	20.970	0.019	0.811	0.303	0.011	100.135
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx105	Clinopyroxene	53.210	0.219	2.310	5.240	17.730	0.124	20.730	0.052	0.345	0.281	0.000	100.240
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx108	Clinopyroxene	53.920	0.142	1.442	4.060	18.020	0.119	20.940	0.000	0.770	0.296	0.000	99.710
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx109	Clinopyroxene	53.300	0.152	1.562	3.880	18.120	0.171	21.170	0.006	0.906	0.279	0.007	99.553
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx110	Clinopyroxene	53.650	0.150	1.792	4.370	18.060	0.111	21.300	0.044	0.383	0.247	0.000	100.107
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx111	Clinopyroxene	53.720	0.205	2.000	4.110	18.150	0.112	20.920	0.062	0.862	0.353	0.000	100.493
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx112	Clinopyroxene	53.880	0.208	1.990	4.740	17.810	0.155	20.920	0.000	0.467	0.285	0.015	100.471
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx113	Clinopyroxene	54.080	0.119	1.539	3.950	18.770	0.119	20.680	0.015	0.702	0.306	0.000	100.280
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx114	Clinopyroxene	53.780	0.180	1.793	4.760	18.340	0.158	20.470	0.041	0.433	0.306	0.000	100.260
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx116	Clinopyroxene	52.920	0.255	2.720	5.430	17.630	0.127	20.370	0.045	0.109	0.331	0.000	99.938
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx118	Clinopyroxene	51.020	0.638	4.330	8.600	16.000	0.275	18.440	0.000	0.116	0.432	0.017	99.868
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx119	Clinopyroxene	52.290	0.451	2.640	9.050	16.920	0.261	17.520	0.016	0.243	0.329	0.000	99.721
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx120	Clinopyroxene	50.740	0.605	3.620	9.490	15.430	0.260	18.680	0.018	0.027	0.517	0.000	99.387
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx121	Clinopyroxene	51.630	0.620	2.810	8.910	16.640	0.256	18.180	0.033	0.435	0.303	0.000	99.817
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx122	Clinopyroxene	52.470	0.346	2.430	5.110	16.710	0.134	21.330	0.034	0.774	0.319	0.019	99.677
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx123	Clinopyroxene	53.140	0.354	2.300	5.510	17.410	0.153	20.310	0.000	0.468	0.258	0.009	99.912
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx124	Clinopyroxene	51.630	0.395	4.410	6.430	16.020	0.191	20.230	0.028	0.345	0.473	0.006	100.158
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx125	Clinopyroxene	51.830	0.526	3.050	8.630	16.620	0.227	18.480	0.015	0.298	0.382	0.010	100.068
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx126	Clinopyroxene	50.880	0.675	3.790	9.460	15.290	0.238	18.650	0.009	0.073	0.431	0.021	99.517
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx127	Clinopyroxene	51.800	0.517	3.270	11.060	16.450	0.233	16.330	0.052	0.015	0.486	0.010	100.223
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx128	Clinopyroxene	52.300	0.498	2.670	7.460	16.660	0.170	19.290	0.007	0.336	0.316	0.000	99.707
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx130	Clinopyroxene	51.470	0.581	3.680	9.420	15.910	0.244	18.070	0.000	0.192	0.562	0.000	100.130
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx131	Clinopyroxene	51.700	0.463	3.240	6.930	16.080	0.155	20.540	0.014	0.491	0.347	0.000	99.959
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx132	Clinopyroxene	51.960	0.394	2.990	7.330	16.510	0.181	19.600	0.023	0.272	0.340	0.000	99.600

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx134	Clinopyroxene	52.860	0.222	2.400	5.460	17.810	0.163	20.030	0.010	0.426	0.366	0.000	99.747
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx135	Clinopyroxene	52.920	0.386	1.888	9.120	18.560	0.328	16.410	0.000	0.245	0.302	0.014	100.172
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx136	Clinopyroxene	51.870	0.533	2.600	8.210	17.220	0.243	18.070	0.025	0.606	0.336	0.015	99.730
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx137	Clinopyroxene	50.880	0.507	4.690	7.320	15.940	0.183	19.510	0.000	0.101	0.404	0.006	99.541
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx138	Clinopyroxene	52.360	0.409	2.370	8.320	17.490	0.251	17.520	0.029	0.329	0.346	0.000	99.423
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx139	Clinopyroxene	52.740	0.413	2.060	8.860	17.660	0.255	17.240	0.000	0.355	0.244	0.012	99.840
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx140	Clinopyroxene	51.790	0.533	2.780	8.680	16.700	0.271	17.940	0.000	0.391	0.356	0.014	99.455
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx141	Clinopyroxene	52.110	0.586	2.420	8.720	16.700	0.295	18.480	0.000	0.231	0.344	0.000	99.885
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx144	Clinopyroxene	52.230	0.463	2.350	8.410	17.420	0.294	17.590	0.000	0.365	0.278	0.000	99.400
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx145	Clinopyroxene	53.230	0.158	1.884	4.210	17.760	0.141	21.140	0.037	0.830	0.294	0.000	99.684
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx147	Clinopyroxene	48.670	0.937	6.610	9.510	13.510	0.219	19.420	0.037	0.029	0.620	0.014	99.577
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx148	Clinopyroxene	50.980	0.615	4.630	8.670	15.600	0.257	18.550	0.047	0.084	0.497	0.009	99.939
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx149	Clinopyroxene	52.500	0.440	1.990	8.590	17.770	0.242	17.430	0.000	0.439	0.215	0.000	99.616
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx150	Clinopyroxene	52.130	0.355	3.320	5.910	17.210	0.180	19.910	0.014	0.426	0.396	0.007	99.858
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx151	Clinopyroxene	52.940	0.414	1.821	8.030	17.870	0.248	18.050	0.013	0.408	0.283	0.000	100.077
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx152	Clinopyroxene	51.400	0.440	3.700	6.380	16.500	0.169	20.130	0.000	0.602	0.367	0.000	99.688
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx153	Clinopyroxene	50.850	0.394	4.560	6.850	15.940	0.156	19.740	0.053	0.343	0.464	0.000	99.350
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx154	Clinopyroxene	52.760	0.378	2.600	6.520	16.980	0.176	20.100	0.000	0.204	0.306	0.000	100.024
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx156	Clinopyroxene	49.430	0.876	4.240	13.000	13.770	0.324	17.420	0.040	0.048	0.581	0.013	99.742
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx157	Clinopyroxene	53.050	0.511	1.707	9.660	17.890	0.326	16.980	0.000	0.150	0.276	0.000	100.551
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx158	Clinopyroxene	51.230	0.516	5.000	7.000	16.100	0.200	19.450	0.040	0.115	0.372	0.011	100.034
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx159	Clinopyroxene	52.160	0.458	3.340	7.460	16.720	0.198	18.860	0.000	0.266	0.486	0.000	99.948
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx160	Clinopyroxene	51.830	0.430	3.810	6.910	16.590	0.225	19.610	0.059	0.284	0.354	0.000	100.102
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx162	Clinopyroxene	51.260	0.574	3.720	9.320	16.490	0.249	17.950	0.011	0.108	0.464	0.000	100.146
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx163	Clinopyroxene	52.200	0.584	2.720	7.740	16.770	0.219	19.000	0.039	0.532	0.347	0.000	100.151
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx164	Clinopyroxene	53.040	0.237	2.310	5.480	18.030	0.165	19.630	0.021	0.506	0.311	0.009	99.739
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx165	Clinopyroxene	52.580	0.285	2.770	5.900	17.620	0.186	20.120	0.033	0.264	0.352	0.013	100.123
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx166	Clinopyroxene	52.960	0.405	1.774	9.370	17.560	0.275	17.230	0.031	0.187	0.331	0.021	100.145
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx167	Clinopyroxene	52.950	0.425	1.583	8.770	18.100	0.232	17.430	0.015	0.301	0.270	0.009	100.085
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx169	Clinopyroxene	52.360	0.244	2.740	6.280	17.070	0.167	19.900	0.019	0.664	0.345	0.000	99.789
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx170	Clinopyroxene	52.150	0.539	2.340	8.960	17.250	0.332	18.180	0.000	0.202	0.258	0.016	100.227
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx171	Clinopyroxene	52.140	0.554	2.750	8.260	16.890	0.240	18.710	0.046	0.360	0.310	0.008	100.268
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx172	Clinopyroxene	51.510	0.368	4.780	6.120	16.460	0.160	19.580	0.027	0.536	0.506	0.000	100.047
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx173	Clinopyroxene	52.490	0.373	2.590	7.410	17.600	0.240	18.710	0.023	0.244	0.232	0.013	99.927
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx174	Clinopyroxene	51.320	0.411	4.470	6.030	16.190	0.142	20.470	0.000	0.294	0.458	0.009	99.794
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx175	Clinopyroxene	52.590	0.299	2.920	6.490	17.660	0.209	19.060	0.036	0.372	0.311	0.000	99.947
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23cpx176	Clinopyroxene	51.190	0.533	3.750	6.880	16.070	0.166	20.360	0.000	0.587	0.343	0.000	99.879
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol107	Olivin	39.380	0.000	0.010	16.720	43.300	0.273	0.159	0.230	0.014			100.085
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol118	Olivin	40.370	0.013	0.019	12.250	47.290	0.218	0.160	0.214	0.037			100.571
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol124	Olivin	40.490	0.000	0.000	12.160	47.680	0.195	0.153	0.264	0.117			101.059
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol129	Olivin	39.700	0.008	0.032	16.420	44.490	0.234	0.183	0.169	0.024			101.261
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol136	Olivin	40.730	0.000	0.010	10.260	48.900	0.147	0.196	0.247	0.045			100.535
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol141	Olivin	39.660	0.008	0.012	15.090	45.010	0.189	0.136	0.052	0.000			100.157
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol150	Olivin	40.550	0.031	0.010	10.780	48.450	0.179	0.144	0.236	0.027			100.406
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol155	Olivin	40.440	0.000	0.019	10.520	48.550	0.175	0.159	0.218	0.058			100.140

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol170	Olivin	40.600	0.010	0.016	9.260	49.510	0.130	0.145	0.251	0.047			99.969
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol173	Olivin	39.960	0.024	0.025	12.910	46.790	0.190	0.183	0.133	0.026			100.241
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol1	Olivin	40.450	0.000	0.011	13.170	47.190	0.221	0.136	0.176	0.015			101.369
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol2	Olivin	41.120	0.037	0.025	8.680	50.400	0.118	0.128	0.315	0.067			100.890
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol3	Olivin	41.220	0.000	0.014	8.270	50.740	0.126	0.152	0.204	0.057			100.783
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol4	Olivin	41.250	0.030	0.000	9.200	50.080	0.183	0.131	0.294	0.063			101.229
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol5	Olivin	40.260	0.000	0.011	14.790	45.500	0.224	0.131	0.137	0.000			101.054
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol6	Olivin	40.210	0.000	0.017	14.620	46.050	0.228	0.154	0.205	0.010			101.495
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol7	Olivin	41.040	0.000	0.000	9.210	49.770	0.170	0.161	0.175	0.032			100.558
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol8	Olivin	41.200	0.013	0.033	8.880	49.790	0.166	0.132	0.378	0.063			100.654
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol9	Olivin	41.280	0.041	0.019	10.090	48.920	0.161	0.175	0.210	0.021			100.916
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol10	Olivin	41.420	0.034	0.000	8.290	51.160	0.100	0.168	0.231	0.061			101.464
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol11	Olivin	40.930	0.000	0.000	10.190	49.530	0.175	0.153	0.196	0.056			101.229
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol12	Olivin	41.150	0.000	0.000	9.870	49.500	0.150	0.164	0.258	0.068			101.160
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol13	Olivin	40.260	0.000	0.010	13.660	46.320	0.218	0.142	0.200	0.035			100.845
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol14	Olivin	41.340	0.000	0.010	8.580	50.480	0.161	0.137	0.290	0.050			101.048
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol15	Olivin	40.880	0.009	0.000	9.840	49.630	0.187	0.161	0.205	0.051			100.963
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol16	Olivin	41.310	0.010	0.016	9.500	50.020	0.150	0.151	0.207	0.027			101.391
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol17	Olivin	40.960	0.000	0.026	9.730	49.500	0.178	0.135	0.307	0.081			100.918
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol18	Olivin	41.090	0.013	0.013	9.210	49.560	0.165	0.149	0.140	0.039			100.380
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol19	Olivin	41.050	0.000	0.032	10.080	49.100	0.195	0.151	0.213	0.012			100.833
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol20	Olivin	40.700	0.012	0.000	11.050	48.280	0.157	0.117	0.192	0.047			100.555
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol21	Olivin	40.140	0.016	0.039	15.040	45.280	0.229	0.127	0.222	0.041			101.133
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol22	Olivin	40.610	0.000	0.000	11.380	48.370	0.191	0.133	0.227	0.059			100.970
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol23	Olivin	41.020	0.000	0.027	9.640	49.400	0.146	0.138	0.317	0.049			100.738
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol24	Olivin	40.980	0.000	0.000	10.250	48.960	0.174	0.167	0.199	0.000			100.730
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol25	Olivin	40.950	0.041	0.011	11.100	48.840	0.195	0.166	0.163	0.032			101.499
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol26	Olivin	40.480	0.009	0.026	13.340	46.830	0.215	0.153	0.193	0.027			101.274
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol27	Olivin	40.110	0.000	0.023	16.200	44.170	0.193	0.133	0.127	0.015			100.972
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol28	Olivin	41.220	0.010	0.016	8.430	50.760	0.094	0.165	0.184	0.054			100.932
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol29	Olivin	40.070	0.026	0.054	14.860	45.310	0.248	0.129	0.213	0.000			100.909
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol30	Olivin	41.220	0.041	0.030	7.810	50.540	0.156	0.188	0.197	0.035			100.218
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol31	Olivin	40.700	0.009	0.029	11.810	48.030	0.181	0.158	0.163	0.038			101.118
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol32	Olivin	41.490	0.000	0.022	9.910	50.110	0.113	0.144	0.339	0.053			102.181
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol33	Olivin	40.160	0.000	0.000	14.240	46.010	0.244	0.137	0.184	0.000			100.976
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol34	Olivin	40.130	0.000	0.000	14.570	45.410	0.233	0.133	0.153	0.017			100.645
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	23ol168	Olivin	39.210	0.000	0.017	19.700	41.450	0.311	0.146	0.111	0.000	0.026	0.009	100.980
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol35	Olivin	41.260	0.000	0.000	9.220	49.950	0.177	0.141	0.334	0.043			101.125
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol36	Olivin	40.750	0.051	0.031	10.270	48.770	0.174	0.148	0.295	0.067			100.556
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol37	Olivin	41.170	0.000	0.000	9.110	50.270	0.178	0.173	0.201	0.064			101.165
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol38	Olivin	41.160	0.000	0.033	10.310	49.190	0.148	0.152	0.215	0.060			101.268
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol39	Olivin	41.030	0.000	0.020	9.680	49.420	0.158	0.149	0.277	0.042			100.776
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol40	Olivin	41.210	0.000	0.022	9.870	49.310	0.141	0.150	0.215	0.033			100.951
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol41	Olivin	41.260	0.000	0.000	8.900	50.130	0.149	0.153	0.208	0.039			100.839
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol42	Olivin	41.110	0.000	0.024	9.850	49.720	0.153	0.132	0.350	0.026			101.364

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol43	Olivin	41.280	0.000	0.028	9.870	49.900	0.128	0.147	0.215	0.074			101.643
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol44	Olivin	40.900	0.034	0.020	9.420	50.110	0.159	0.115	0.361	0.064			101.182
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol45	Olivin	40.690	0.000	0.024	10.950	48.580	0.178	0.173	0.191	0.064			100.850
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol46	Olivin	40.630	0.000	0.016	10.550	48.480	0.178	0.146	0.208	0.074			100.281
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol47	Olivin	40.830	0.000	0.015	10.640	48.860	0.167	0.148	0.285	0.031			100.976
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol48	Olivin	39.610	0.000	0.025	17.860	43.360	0.260	0.166	0.165	0.025			101.471
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol49	Olivin	41.110	0.013	0.017	9.120	49.880	0.161	0.142	0.308	0.041			100.792
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol50	Olivin	40.060	0.010	0.022	9.920	48.350	0.144	0.151	0.250	0.055			98.961
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol51	Olivin	40.850	0.059	0.021	9.970	49.310	0.178	0.159	0.232	0.070			100.848
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol52	Olivin	40.040	0.021	0.017	14.630	45.630	0.220	0.145	0.159	0.000			100.863
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol53	Olivin	40.930	0.010	0.011	9.290	49.530	0.162	0.165	0.145	0.014			100.257
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol54	Olivin	41.200	0.000	0.000	10.020	49.610	0.180	0.156	0.220	0.061			101.447
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol55	Olivin	39.150	0.000	0.046	19.340	41.980	0.302	0.178	0.143	0.028			101.167
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol56	Olivin	40.400	0.012	0.021	14.840	45.380	0.238	0.138	0.152	0.017			101.199
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol57	Olivin	41.010	0.000	0.000	9.330	49.980	0.159	0.135	0.228	0.042			100.884
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol58	Olivin	40.170	0.000	0.000	12.610	47.200	0.239	0.161	0.152	0.026			100.558
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol59	Olivin	39.070	0.000	0.031	21.580	40.410	0.314	0.181	0.121	0.009			101.717
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol60	Olivin	40.970	0.000	0.037	9.050	49.970	0.142	0.151	0.284	0.040			100.645
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol61	Olivin	41.090	0.010	0.021	10.410	49.100	0.170	0.161	0.169	0.047			101.178
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol62	Olivin	41.100	0.000	0.028	8.970	50.380	0.150	0.149	0.241	0.046			101.064
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol63	Olivin	41.100	0.011	0.000	11.380	48.950	0.177	0.156	0.156	0.016			101.946
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol64	Olivin	41.070	0.016	0.000	10.040	49.460	0.171	0.171	0.176	0.031			101.135
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol65	Olivin	40.730	0.013	0.010	11.650	48.360	0.171	0.123	0.275	0.000			101.332
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol66	Olivin	39.980	0.025	0.000	15.250	45.470	0.272	0.156	0.169	0.041			101.363
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol67	Olivin	41.250	0.044	0.018	8.220	51.040	0.107	0.117	0.301	0.052			101.150
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol68	Olivin	41.240	0.000	0.027	8.880	49.930	0.130	0.124	0.297	0.070			100.698
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol69	Olivin	40.980	0.000	0.010	10.860	48.510	0.196	0.149	0.186	0.043			100.935
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol70	Olivin	41.030	0.038	0.012	9.290	49.660	0.133	0.155	0.218	0.058			100.593
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol71	Olivin	41.360	0.000	0.020	9.150	50.040	0.148	0.157	0.210	0.034			101.119
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol72	Olivin	41.250	0.000	0.026	9.000	50.250	0.161	0.164	0.144	0.034			101.028
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol73	Olivin	39.880	0.032	0.000	16.150	44.400	0.249	0.125	0.172	0.000			101.008
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol74	Olivin	39.160	0.014	0.045	20.510	41.420	0.263	0.149	0.149	0.016			101.726
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol75	Olivin	39.990	0.030	0.000	15.550	44.650	0.219	0.132	0.216	0.035			100.823
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol76	Olivin	41.120	0.012	0.021	9.630	49.650	0.150	0.139	0.267	0.035			101.024
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol77	Olivin	40.600	0.000	0.039	10.740	48.730	0.177	0.171	0.229	0.075			100.760
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol78	Olivin	39.980	0.012	0.071	11.030	48.110	0.171	0.154	0.237	0.036			99.801
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol79	Olivin	41.250	0.018	0.093	8.940	49.590	0.186	0.228	0.314	0.325			100.944
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol80	Olivin	41.110	0.000	0.013	9.430	49.960	0.152	0.149	0.299	0.039			101.152
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol81	Olivin	41.500	0.000	0.016	8.090	51.100	0.151	0.169	0.171	0.057			101.254
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol82	Olivin	38.370	0.046	0.000	25.130	37.580	0.339	0.184	0.038	0.000			101.687
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol83	Olivin	41.090	0.000	0.000	10.020	49.100	0.170	0.159	0.270	0.024			100.832
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol84	Olivin	40.570	0.000	0.015	12.980	47.660	0.148	0.157	0.192	0.018			101.740
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol85	Olivin	41.250	0.000	0.011	8.460	50.360	0.103	0.128	0.396	0.081			100.789
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol86	Olivin	40.820	0.045	0.000	12.000	48.070	0.207	0.151	0.184	0.000			101.477
KLU-96-03	Klyuchevskoy	Lava flow E of Oehki	12ol87	Olivin	40.130	0.021	0.016	14.360	46.190	0.236	0.128	0.158	0.036			101.275

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	12ol88	Olivin	40.220	0.000	0.000	14.580	45.710	0.212	0.125	0.177	0.008			101.033
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	12ol89	Olivin	40.940	0.000	0.021	9.500	49.780	0.189	0.133	0.416	0.079			101.058
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	12ol90	Olivin	39.950	0.027	0.015	14.820	45.820	0.264	0.147	0.121	0.024			101.189
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	12ol91	Olivin	40.220	0.000	0.046	14.800	45.910	0.209	0.142	0.236	0.037			101.600
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	12ol92	Olivin	41.090	0.000	0.010	8.900	50.400	0.171	0.156	0.254	0.026			101.007
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	12ol93	Olivin	41.060	0.010	0.019	8.510	50.300	0.139	0.136	0.300	0.063			100.537
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	12ol94	Olivin	40.330	0.000	0.000	14.530	45.990	0.236	0.133	0.137	0.036			101.392
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	12ol95	Olivin	40.980	0.010	0.015	9.570	49.690	0.148	0.157	0.159	0.043			100.772
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	12ol96	Olivin	40.900	0.021	0.000	9.870	49.470	0.151	0.144	0.398	0.022			100.976
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	12ol97	Olivin	41.290	0.024	0.047	8.290	50.710	0.135	0.125	0.384	0.051			101.057
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	12ol98	Olivin	41.170	0.009	0.028	8.640	50.350	0.169	0.122	0.249	0.054			100.791
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	12ol99	Olivin	41.160	0.000	0.016	9.550	49.870	0.128	0.187	0.242	0.023			101.176
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	12ol100	Olivin	41.020	0.000	0.026	10.160	49.150	0.188	0.186	0.249	0.050			101.029
KLU-96-03	Klyuchevskoy	Lava flow E of Ochki	23ol129	Olivin	38.880	0.016	0.048	23.710	38.780	0.363	0.137	0.122	0.000	0.000	0.000	102.057
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	2px9	Clinopyroxene	52.930	0.351	1.910	4.630	17.070	0.078	22.120	0.045	0.394	0.248	0.000	99.775
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	2px14	Clinopyroxene	52.840	0.266	1.704	4.720	17.320	0.161	21.880	0.013	0.402	0.172	0.000	99.479
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	2px23	Clinopyroxene	52.590	0.231	1.748	4.390	17.380	0.128	22.170	0.029	0.280	0.192	0.014	99.153
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	2px28	Clinopyroxene	50.790	0.514	4.710	6.910	15.750	0.223	19.930	0.037	0.232	0.543	0.009	99.649
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	2px33	Clinopyroxene	52.510	0.349	1.768	5.780	17.290	0.175	21.330	0.029	0.069	0.131	0.000	99.431
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	2px97	Clinopyroxene	53.100	0.268	1.525	4.490	17.470	0.163	21.940	0.006	0.370	0.182	0.000	99.514
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	2px101a	Clinopyroxene	53.010	0.209	1.950	5.570	17.060	0.166	20.470	0.012	0.307	0.352	0.013	99.119
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3cpx30	Clinopyroxene	43.310	1.072	12.330	8.160	10.870	0.111	22.470	0.034	0.013	0.467	0.000	98.838
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol22	Olivin	39.830	0.000	0.020	14.890	45.370	0.319	0.135	0.201	0.010			100.775
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol127-1	Olivin	40.620	0.000	0.022	11.400	47.920	0.198	0.147	0.205	0.030			100.541
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol149	Olivin	40.180	0.010	0.013	14.250	45.810	0.274	0.138	0.165	0.032			100.872
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol153	Olivin	40.060	0.000	0.013	13.600	45.950	0.208	0.165	0.232	0.025			100.253
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol172	Olivin	40.500	0.000	0.038	12.160	47.390	0.206	0.156	0.225	0.013			100.688
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol23	Olivin	40.250	0.029	0.000	11.870	47.490	0.226	0.123	0.192	0.027			100.207
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol24	Olivin	40.390	0.024	0.050	11.450	47.950	0.191	0.150	0.250	0.041			100.497
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol25	Olivin	40.590	0.000	0.028	12.660	46.920	0.198	0.123	0.167	0.039			100.725
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol26	Olivin	40.690	0.000	0.000	11.110	48.570	0.181	0.144	0.306	0.062			101.062
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol27	Olivin	40.910	0.000	0.000	11.070	48.660	0.186	0.147	0.238	0.049			101.260
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol28	Olivin	40.910	0.011	0.010	10.940	48.210	0.198	0.151	0.213	0.045			100.688
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol29	Olivin	40.910	0.000	0.000	11.260	48.620	0.171	0.146	0.242	0.041			101.390
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol30	Olivin	40.810	0.000	0.025	11.220	47.840	0.180	0.125	0.209	0.016			100.425
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol31	Olivin	40.710	0.010	0.027	11.280	48.320	0.190	0.132	0.225	0.014			100.908
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol32	Olivin	40.650	0.000	0.010	10.360	49.240	0.174	0.148	0.222	0.029			100.834
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol33	Olivin	40.430	0.010	0.019	11.410	48.440	0.192	0.131	0.288	0.039			100.960
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol38	Olivin	40.420	0.026	0.000	12.040	47.570	0.186	0.128	0.218	0.087			100.674
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol39	Olivin	40.210	0.000	0.000	11.400	47.800	0.198	0.138	0.223	0.047			100.017
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol40	Olivin	40.300	0.000	0.017	11.600	48.040	0.151	0.146	0.193	0.024			100.471
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol41	Olivin	40.410	0.000	0.000	12.290	48.060	0.178	0.138	0.168	0.040			101.284
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol42	Olivin	40.770	0.012	0.000	10.410	48.820	0.172	0.127	0.364	0.050			100.726
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol43	Olivin	40.800	0.000	0.000	11.850	48.090	0.183	0.146	0.221	0.018			101.308
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol44	Olivin	40.630	0.013	0.000	11.850	47.980	0.200	0.149	0.187	0.038			101.048

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol45	Olivin	40.830	0.000	0.010	11.710	47.990	0.210	0.140	0.216	0.026			101.132
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol46	Olivin	40.540	0.014	0.032	13.060	47.500	0.257	0.136	0.208	0.023			101.769
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol47	Olivin	40.660	0.010	0.000	10.920	48.710	0.212	0.118	0.312	0.036			100.978
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol48	Olivin	40.660	0.000	0.000	12.060	48.140	0.198	0.121	0.197	0.032			101.407
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol49	Olivin	40.750	0.020	0.010	12.220	47.880	0.243	0.114	0.185	0.008			101.430
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol50	Olivin	40.710	0.009	0.024	9.880	49.670	0.166	0.106	0.331	0.047			100.943
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol51	Olivin	40.680	0.010	0.032	11.930	47.900	0.218	0.137	0.236	0.035			101.178
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol52	Olivin	39.620	0.027	0.045	18.570	42.980	0.300	0.122	0.151	0.000			101.815
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol53	Olivin	40.650	0.021	0.000	12.450	48.200	0.233	0.121	0.213	0.023			101.911
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol58	Olivin	40.860	0.014	0.022	11.330	47.810	0.203	0.141	0.227	0.049			100.656
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol59	Olivin	40.270	0.000	0.000	12.300	47.510	0.180	0.134	0.182	0.041			100.618
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol60	Olivin	40.540	0.000	0.033	13.270	46.900	0.227	0.124	0.195	0.033			101.321
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol61	Olivin	40.320	0.000	0.016	13.140	46.430	0.203	0.141	0.156	0.025			100.430
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol62	Olivin	40.710	0.027	0.010	11.140	48.400	0.166	0.123	0.308	0.065			100.949
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol63	Olivin	40.110	0.000	0.000	12.940	46.590	0.238	0.149	0.179	0.061			100.267
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol64	Olivin	40.670	0.000	0.000	11.380	48.400	0.191	0.153	0.255	0.032			101.081
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol65	Olivin	40.470	0.041	0.013	12.620	47.130	0.208	0.125	0.204	0.032			100.843
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol66	Olivin	40.840	0.010	0.000	11.720	47.940	0.169	0.128	0.259	0.020			101.087
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol67	Olivin	40.680	0.000	0.016	10.840	48.320	0.176	0.134	0.290	0.034			100.490
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol68	Olivin	40.330	0.017	0.021	11.980	47.420	0.186	0.125	0.185	0.026			100.290
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol69	Olivin	40.950	0.000	0.033	11.190	48.270	0.193	0.141	0.224	0.048			101.049
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol70	Olivin	40.260	0.000	0.010	11.730	47.730	0.205	0.130	0.216	0.056			100.337
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol71	Olivin	40.140	0.036	0.018	12.310	46.760	0.179	0.107	0.224	0.000			99.774
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol72	Olivin	40.670	0.025	0.013	10.850	48.300	0.182	0.142	0.273	0.039			100.494
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol73	Olivin	40.240	0.000	0.000	14.170	45.920	0.266	0.135	0.150	0.017			100.898
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol74	Olivin	40.910	0.000	0.000	9.560	49.790	0.161	0.104	0.289	0.045			100.859
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol75	Olivin	40.690	0.000	0.017	11.480	48.730	0.193	0.139	0.277	0.052			101.578
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol76	Olivin	40.820	0.031	0.000	11.630	48.360	0.148	0.129	0.216	0.037			101.371
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol77	Olivin	41.190	0.000	0.000	11.040	48.630	0.177	0.135	0.244	0.047			101.464
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol83	Olivin	40.470	0.010	0.000	11.490	47.850	0.193	0.147	0.212	0.074			100.446
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol84	Olivin	40.570	0.009	0.022	11.290	48.590	0.176	0.141	0.196	0.030			101.024
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol85	Olivin	40.450	0.000	0.018	11.230	48.520	0.180	0.128	0.228	0.040			100.793
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol86	Olivin	40.590	0.000	0.010	11.500	47.920	0.239	0.140	0.254	0.034			100.688
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol87	Olivin	40.360	0.000	0.010	11.680	47.870	0.183	0.146	0.182	0.019			100.449
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol88	Olivin	40.390	0.000	0.020	11.030	48.130	0.162	0.133	0.249	0.053			100.167
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol89	Olivin	40.500	0.000	0.018	11.650	47.570	0.202	0.139	0.198	0.036			100.312
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol90	Olivin	40.790	0.000	0.016	11.540	48.100	0.179	0.135	0.272	0.012			101.045
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol91	Olivin	40.330	0.013	0.025	11.730	47.920	0.167	0.147	0.204	0.020			100.555
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol92	Olivin	40.530	0.000	0.010	12.030	47.210	0.186	0.119	0.206	0.033			100.324
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol93	Olivin	40.420	0.000	0.025	13.480	46.730	0.208	0.129	0.184	0.034			101.211
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol94	Olivin	39.840	0.000	0.000	15.070	45.280	0.263	0.144	0.130	0.010			100.736
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol95	Olivin	41.130	0.025	0.019	10.070	49.270	0.141	0.124	0.274	0.000			101.054
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol96	Olivin	40.760	0.010	0.024	12.330	48.210	0.170	0.146	0.183	0.031			101.864
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol97	Olivin	40.960	0.000	0.028	11.300	48.080	0.189	0.144	0.272	0.034			101.006
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol98	Olivin	40.550	0.040	0.029	12.980	47.320	0.223	0.131	0.119	0.010			101.402

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KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol99	Olivin	40.290	0.000	0.018	13.550	46.660	0.208	0.135	0.186	0.017			101.066
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol100	Olivin	40.680	0.010	0.000	11.450	48.100	0.208	0.145	0.237	0.016			100.847
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol101	Olivin	40.320	0.000	0.013	13.080	46.930	0.201	0.129	0.185	0.008			100.866
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol106	Olivin	40.340	0.033	0.000	11.480	48.240	0.240	0.138	0.257	0.058			100.786
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol107	Olivin	40.730	0.000	0.016	9.900	49.070	0.168	0.110	0.317	0.035			100.346
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol108	Olivin	40.570	0.000	0.024	11.460	48.220	0.206	0.125	0.230	0.026			100.861
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol109	Olivin	40.480	0.000	0.000	11.580	47.940	0.177	0.148	0.218	0.087			100.631
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol110	Olivin	40.530	0.000	0.016	11.580	48.330	0.208	0.155	0.197	0.042			101.058
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol111	Olivin	40.460	0.000	0.027	11.500	48.020	0.200	0.141	0.166	0.036			100.551
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol112	Olivin	40.400	0.000	0.000	11.910	48.350	0.188	0.154	0.228	0.033			101.261
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol113	Olivin	40.240	0.033	0.000	14.450	46.050	0.258	0.126	0.195	0.028			101.380
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol114	Olivin	40.380	0.025	0.010	11.990	47.310	0.203	0.132	0.220	0.049			100.319
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol115	Olivin	40.470	0.000	0.018	13.120	47.110	0.215	0.129	0.196	0.029			101.287
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol116	Olivin	40.680	0.034	0.013	10.950	48.350	0.200	0.129	0.237	0.065			100.658
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol117	Olivin	40.330	0.032	0.010	13.410	46.980	0.209	0.129	0.184	0.000			101.284
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol118	Olivin	40.520	0.000	0.010	13.750	46.540	0.178	0.139	0.177	0.023			101.337
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol119	Olivin	40.740	0.000	0.000	13.000	47.030	0.199	0.140	0.182	0.032			101.324
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol120	Olivin	40.570	0.009	0.016	11.750	48.430	0.231	0.151	0.234	0.025			101.416
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol121	Olivin	40.590	0.000	0.010	12.050	47.520	0.203	0.156	0.212	0.054			100.794
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol122	Olivin	41.560	0.010	0.043	7.990	51.010	0.142	0.108	0.307	0.066			101.236
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol126	Olivin	40.990	0.013	0.032	10.950	48.490	0.183	0.144	0.247	0.038			101.087
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol127-2	Olivin	40.480	0.028	0.000	11.590	47.890	0.196	0.123	0.188	0.055			100.550
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol128	Olivin	40.230	0.067	0.028	12.270	47.180	0.196	0.135	0.153	0.014			100.273
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol129	Olivin	40.600	0.000	0.011	12.110	47.990	0.157	0.133	0.212	0.047			101.261
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol130	Olivin	40.530	0.013	0.015	12.160	47.490	0.194	0.137	0.193	0.039			100.772
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol131	Olivin	40.630	0.000	0.010	10.700	48.450	0.188	0.113	0.277	0.060			100.428
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol132	Olivin	40.710	0.016	0.000	12.230	47.490	0.238	0.134	0.218	0.030			101.066
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol133	Olivin	40.850	0.013	0.019	10.450	48.480	0.177	0.158	0.265	0.060			100.472
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol134	Olivin	40.510	0.033	0.018	11.890	47.500	0.200	0.139	0.250	0.022			100.564
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol135	Olivin	40.660	0.000	0.019	12.540	47.600	0.197	0.121	0.154	0.034			101.324
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol136	Olivin	40.730	0.011	0.018	11.030	48.450	0.170	0.143	0.223	0.022			100.798
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol137	Olivin	40.240	0.013	0.033	11.160	48.170	0.204	0.135	0.321	0.060			100.336
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol138	Olivin	40.400	0.023	0.013	13.570	46.450	0.228	0.125	0.197	0.049			101.054
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol139	Olivin	40.690	0.000	0.000	11.730	48.040	0.186	0.150	0.222	0.044			101.061
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol140	Olivin	40.640	0.022	0.015	11.320	48.580	0.199	0.133	0.280	0.020			101.208
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol141	Olivin	40.590	0.000	0.024	11.690	47.810	0.195	0.133	0.250	0.071			100.764
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol142	Olivin	40.590	0.000	0.014	13.660	47.150	0.250	0.134	0.128	0.033			101.959
KLU-96-15	Klyuchevskoy	Lava flow from Tuyla cone	3ol143	Olivin	40.770	0.032	0.019	12.690	47.510	0.219	0.131	0.225	0.026			101.621
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx46	Clinopyroxene	53.000	0.242	2.120	5.050	17.510	0.174	20.910	0.022	0.462	0.352	0.011	99.852
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx48_48a	Clinopyroxene	52.870	0.275	2.450	5.580	16.800	0.142	20.640	0.022	0.774	0.427	0.000	99.979
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx52	Clinopyroxene	52.880	0.258	2.580	5.250	17.180	0.167	20.770	0.023	0.369	0.368	0.000	99.845
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx55	Clinopyroxene	50.010	0.684	4.870	9.910	14.670	0.247	17.800	0.020	0.138	0.728	0.010	99.086
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx57	Clinopyroxene	51.530	0.442	3.390	8.110	15.290	0.188	19.270	0.058	0.528	0.699	0.024	99.528
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx65	Clinopyroxene	52.830	0.256	2.580	5.940	16.740	0.102	20.880	0.000	0.167	0.373	0.000	99.869
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx69	Clinopyroxene	49.970	0.705	4.900	7.940	14.870	0.238	20.240	0.048	0.133	0.449	0.007	99.499

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx70	Clinopyroxene	53.040	0.209	2.370	4.990	17.520	0.137	20.880	0.017	0.190	0.332	0.010	99.695
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx71	Clinopyroxene	52.500	0.283	2.850	6.400	16.440	0.178	20.120	0.013	0.374	0.569	0.014	99.742
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx79	Clinopyroxene	53.310	0.226	1.836	4.760	17.600	0.160	21.360	0.028	0.531	0.320	0.000	100.129
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx90	Clinopyroxene	49.710	0.656	4.990	8.820	14.730	0.238	19.580	0.012	0.049	0.510	0.016	99.311
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx96	Clinopyroxene	51.150	0.750	3.110	9.600	15.690	0.280	18.700	0.008	0.049	0.428	0.017	99.782
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx105	Clinopyroxene	49.610	0.701	5.630	7.860	14.920	0.165	20.350	0.013	0.091	0.486	0.000	99.827
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx108	Clinopyroxene	52.750	0.237	2.190	5.150	17.510	0.121	21.300	0.000	0.314	0.293	0.019	99.883
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx122	Clinopyroxene	51.760	0.395	3.400	6.140	16.290	0.177	20.530	0.020	0.291	0.379	0.011	99.392
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx128	Clinopyroxene	52.710	0.276	2.570	5.010	17.370	0.154	20.860	0.007	0.368	0.472	0.008	99.805
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx132	Clinopyroxene	48.750	0.869	5.780	10.530	13.930	0.269	18.570	0.013	0.126	0.725	0.000	99.562
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22pl141	Clinopyroxene	49.250	0.860	6.020	9.230	13.650	0.262	19.260	0.019	0.251	0.698	0.012	99.512
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx45	Clinopyroxene	51.530	0.423	3.930	6.220	16.300	0.157	20.180	0.019	0.236	0.445	0.000	99.439
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx47	Clinopyroxene	53.000	0.276	2.290	5.690	17.170	0.180	20.730	0.000	0.166	0.341	0.014	99.858
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx49	Clinopyroxene	51.620	0.436	3.790	6.320	16.200	0.124	20.440	0.026	0.147	0.412	0.000	99.514
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx50	Clinopyroxene	51.290	0.438	4.040	6.730	16.210	0.146	20.310	0.036	0.169	0.436	0.018	99.822
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx51	Clinopyroxene	51.070	0.296	4.010	6.080	16.190	0.140	20.940	0.000	0.407	0.514	0.000	99.647
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx53	Clinopyroxene	52.610	0.254	2.450	5.640	17.040	0.144	20.940	0.036	0.369	0.351	0.000	99.833
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx54	Clinopyroxene	52.190	0.391	2.850	5.910	16.860	0.208	20.800	0.000	0.439	0.358	0.000	100.006
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx56	Clinopyroxene	49.310	0.688	5.690	7.250	15.000	0.202	20.460	0.012	0.251	0.516	0.010	99.389
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx58	Clinopyroxene	51.830	0.323	3.340	6.400	16.310	0.198	20.160	0.034	0.331	0.429	0.015	99.370
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx59	Clinopyroxene	51.260	0.391	3.900	7.130	16.310	0.180	19.720	0.050	0.194	0.556	0.010	99.700
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx60	Clinopyroxene	51.650	0.325	2.990	5.930	16.760	0.162	20.840	0.017	0.147	0.353	0.000	99.174
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx61	Clinopyroxene	49.170	0.934	5.370	10.450	14.190	0.270	18.870	0.020	0.011	0.623	0.000	99.908
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx62	Clinopyroxene	50.560	0.630	3.550	9.970	15.780	0.266	18.190	0.015	0.038	0.410	0.000	99.409
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx63	Clinopyroxene	50.300	0.646	4.830	6.920	15.370	0.164	20.650	0.024	0.093	0.424	0.000	99.421
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx64	Clinopyroxene	48.850	0.888	5.970	9.070	14.160	0.203	19.610	0.000	0.066	0.559	0.000	99.375
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx66	Clinopyroxene	49.000	0.891	6.320	9.120	14.110	0.215	19.510	0.017	0.067	0.537	0.006	99.793
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx67	Clinopyroxene	53.020	0.211	2.050	4.950	17.280	0.161	21.090	0.019	0.402	0.305	0.000	99.487
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx68	Clinopyroxene	53.610	0.160	1.708	4.100	18.140	0.108	21.160	0.016	0.809	0.339	0.014	100.164
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx72	Clinopyroxene	51.640	0.380	3.850	6.010	16.550	0.145	20.460	0.050	0.317	0.398	0.000	99.799
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx73	Clinopyroxene	52.270	0.328	2.980	5.940	16.730	0.150	20.700	0.022	0.116	0.356	0.000	99.593
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx74	Clinopyroxene	48.860	0.859	5.940	9.410	14.180	0.219	19.260	0.019	0.069	0.569	0.031	99.416
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx75	Clinopyroxene	52.740	0.184	2.170	4.870	17.810	0.144	20.240	0.000	0.764	0.356	0.007	99.285
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx76	Clinopyroxene	52.820	0.246	2.350	5.320	17.290	0.138	20.950	0.024	0.354	0.345	0.000	99.837
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx77	Clinopyroxene	49.700	0.647	5.090	7.570	15.310	0.162	19.990	0.028	0.229	0.495	0.000	99.220
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx78	Clinopyroxene	49.900	0.712	5.190	8.050	15.190	0.212	19.810	0.008	0.150	0.614	0.000	99.836
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx80	Clinopyroxene	48.990	0.859	6.180	8.980	14.290	0.211	19.330	0.000	0.045	0.483	0.018	99.385
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx81	Clinopyroxene	50.360	0.752	4.350	9.480	15.410	0.287	18.820	0.043	0.088	0.464	0.000	100.054
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx82	Clinopyroxene	52.400	0.290	2.910	5.850	16.990	0.181	20.440	0.058	0.205	0.370	0.015	99.709
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx83	Clinopyroxene	52.760	0.268	2.610	5.810	17.400	0.113	20.540	0.000	0.232	0.346	0.000	100.078
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx84	Clinopyroxene	49.080	0.919	5.700	9.690	14.040	0.189	19.320	0.007	0.106	0.565	0.011	99.627
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx85	Clinopyroxene	52.560	0.285	2.850	5.390	17.020	0.191	21.000	0.011	0.434	0.380	0.006	100.126
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx86	Clinopyroxene	52.270	0.348	2.900	6.070	16.640	0.171	20.500	0.000	0.303	0.321	0.010	99.533
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx87	Clinopyroxene	52.550	0.290	2.790	5.500	17.080	0.170	20.890	0.000	0.305	0.436	0.000	100.011
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx88	Clinopyroxene	53.030	0.248	2.350	5.520	17.460	0.146	20.710	0.036	0.280	0.362	0.031	100.173

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx89	Clinopyroxene	50.000	0.787	4.690	9.980	14.960	0.276	18.720	0.053	0.072	0.549	0.000	100.088
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx91	Clinopyroxene	49.710	0.726	5.560	7.780	15.280	0.195	19.930	0.042	0.153	0.573	0.000	99.949
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx92	Clinopyroxene	52.980	0.285	2.200	4.630	17.520	0.157	21.200	0.033	0.641	0.378	0.008	100.033
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx93	Clinopyroxene	48.460	0.986	6.310	9.190	14.340	0.242	19.320	0.049	0.075	0.516	0.008	99.496
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx94	Clinopyroxene	50.640	0.559	4.540	7.310	15.900	0.195	20.190	0.011	0.127	0.461	0.000	99.933
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx97	Clinopyroxene	50.810	0.486	4.020	7.540	15.840	0.200	19.660	0.010	0.262	0.568	0.000	99.396
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx98	Clinopyroxene	50.170	0.672	5.250	7.240	15.130	0.172	20.190	0.000	0.298	0.521	0.007	99.650
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx99	Clinopyroxene	53.790	0.123	1.626	4.420	18.240	0.175	20.920	0.059	0.556	0.298	0.000	100.206
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol40	Clinopyroxene	48.510	0.933	6.540	9.490	13.690	0.219	19.460	0.029	0.098			98.969
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx100	Clinopyroxene	49.930	0.630	5.350	7.370	15.060	0.201	20.320	0.000	0.112	0.491	0.007	99.471
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx101	Clinopyroxene	53.260	0.258	2.200	5.090	17.350	0.150	20.870	0.022	0.396	0.327	0.009	99.931
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx102	Clinopyroxene	50.910	0.519	4.690	6.530	15.520	0.147	20.390	0.026	0.392	0.554	0.011	99.689
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx103	Clinopyroxene	53.090	0.203	2.250	4.380	17.530	0.135	21.150	0.055	1.063	0.306	0.000	100.162
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx104	Clinopyroxene	51.650	0.340	3.420	6.180	16.630	0.192	20.610	0.032	0.175	0.358	0.000	99.587
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx106	Clinopyroxene	50.010	0.640	5.140	8.040	14.910	0.242	19.680	0.009	0.187	0.618	0.000	99.475
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22cpx107	Clinopyroxene	52.630	0.269	2.510	5.480	17.610	0.174	20.470	0.021	0.308	0.345	0.000	99.817
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22olm6	Olivin	39.060	0.011	0.060	19.410	41.510	0.312	0.167	0.116	0.000			100.645
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol11	Olivin	39.960	0.028	0.116	16.390	43.410	0.289	0.124	0.142	0.000			100.461
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22olm14	Olivin	39.900	0.000	0.047	15.960	44.250	0.231	0.133	0.183	0.000			100.704
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol_sp15	Olivin	39.220	0.000	0.017	20.160	41.170	0.315	0.132	0.107	0.118			101.240
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22olm27	Olivin	39.680	0.016	0.000	15.750	44.290	0.236	0.144	0.159	0.000			100.274
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22olm31_31a	Olivin	39.970	0.000	0.037	15.950	44.350	0.245	0.127	0.137	0.000			100.816
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22olm34a	Olivin	39.270	0.000	0.035	20.100	41.430	0.366	0.159	0.181	0.044			101.584
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22olm37	Olivin	40.090	0.024	0.024	15.520	44.480	0.235	0.155	0.141	0.000			100.670
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22olm41	Olivin	39.810	0.013	0.040	16.040	44.430	0.249	0.131	0.199	0.217			101.129
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol3	Olivin	40.240	0.010	0.010	15.870	44.900	0.240	0.123	0.173	0.014			101.581
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol4	Olivin	39.820	0.011	0.010	15.980	44.320	0.238	0.124	0.140	0.000			100.643
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol7	Olivin	39.920	0.019	0.000	15.780	44.350	0.248	0.131	0.150	0.000			100.598
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol10	Olivin	39.930	0.014	0.022	15.000	44.860	0.226	0.126	0.169	0.000			100.347
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol12	Olivin	40.140	0.000	0.012	16.150	44.460	0.231	0.115	0.118	0.010			101.235
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol13	Olivin	39.900	0.000	0.031	18.070	42.520	0.314	0.125	0.108	0.000			101.068
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol16	Olivin	39.970	0.018	0.010	15.920	44.700	0.262	0.138	0.125	0.011			101.153
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol17	Olivin	39.820	0.000	0.012	17.080	43.470	0.301	0.131	0.151	0.000			100.966
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol18	Olivin	40.020	0.000	0.027	15.960	44.350	0.260	0.143	0.150	0.000			100.909
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol20	Olivin	39.970	0.000	0.023	16.060	44.210	0.275	0.139	0.136	0.000			100.812
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol21	Olivin	40.020	0.000	0.010	15.750	44.620	0.259	0.131	0.167	0.009			100.965
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol22	Olivin	39.570	0.019	0.010	15.620	44.240	0.253	0.107	0.185	0.028			100.033
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol23	Olivin	39.730	0.000	0.023	16.130	44.280	0.241	0.131	0.123	0.024			100.682
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol24	Olivin	39.820	0.000	0.023	16.260	44.010	0.245	0.128	0.126	0.019			100.631
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol25	Olivin	40.190	0.000	0.023	15.730	44.750	0.254	0.126	0.172	0.018			101.262
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol26	Olivin	39.880	0.000	0.020	15.850	44.300	0.232	0.135	0.146	0.012			100.575
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol28	Olivin	39.830	0.000	0.039	17.040	43.210	0.251	0.106	0.142	0.000			100.618
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol29	Olivin	39.950	0.000	0.000	16.060	44.340	0.268	0.132	0.132	0.000			100.882
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol30	Olivin	39.800	0.034	0.046	15.980	44.270	0.285	0.113	0.162	0.000			100.690
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol32	Olivin	40.040	0.018	0.018	16.320	44.220	0.251	0.127	0.142	0.023			101.159

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KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol33	Olivin	39.970	0.010	0.033	15.990	44.090	0.241	0.129	0.108	0.000			100.571
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol35	Olivin	39.980	0.014	0.033	16.090	44.450	0.265	0.123	0.096	0.010			101.061
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol38	Olivin	39.760	0.000	0.000	16.430	43.840	0.233	0.127	0.110	0.000			100.500
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22opx43	Orthopyroxene	55.090	0.128	2.140	10.950	29.890	0.251	1.316	0.024	0.194			99.982
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22opx_gm43	Orthopyroxene	55.120	0.148	2.450	11.540	29.460	0.254	1.293	0.083	0.118			100.465
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol39	Orthopyroxene	54.530	0.150	2.670	11.180	29.610	0.248	1.358	0.056	0.237			100.038
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol42	Orthopyroxene	53.970	0.185	3.540	11.260	28.860	0.243	1.610	0.017	0.211			99.897
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22ol44	Orthopyroxene	54.590	0.187	2.910	11.310	29.250	0.259	1.368	0.055	0.114			100.044
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22pl156	Plagioclase	51.150	0.047	30.040	0.777	0.113	0.026	13.590	0.000	0.028	3.520	0.168	99.459
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22pl175	Plagioclase	49.290	0.057	31.670	0.724	0.058	0.032	15.220	0.000	0.012	2.870	0.124	100.056
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22pl196	Plagioclase	49.770	0.018	31.010	0.803	0.092	0.011	14.620	0.017	0.000	3.000	0.140	99.481
KLU-96-14	Klyuchevskoy	Lava flow of Vernadsky cone	22pl196a	Plagioclase	51.360	0.049	29.560	0.818	0.098	0.000	13.160	0.000	0.000	3.830	0.191	99.066
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx211	Clinopyroxene	50.210	0.443	3.960	6.690	16.030	0.166	21.090	0.000	0.195	0.359	0.024	99.167
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx211a	Clinopyroxene	50.690	0.471	3.760	7.620	16.180	0.198	19.920	0.046	0.232	0.398	0.000	99.515
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx209	Clinopyroxene	50.750	0.454	3.340	7.230	16.240	0.222	20.190	0.023	0.354	0.324	0.000	99.128
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx209a	Clinopyroxene	51.800	0.393	3.300	6.340	16.500	0.172	20.680	0.014	0.359	0.305	0.010	99.872
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx202a	Clinopyroxene	50.670	0.520	4.160	7.730	16.090	0.165	19.800	0.051	0.257	0.342	0.009	99.793
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx194	Clinopyroxene	51.140	0.428	3.240	7.040	16.100	0.187	20.880	0.021	0.280	0.294	0.000	99.610
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx194b	Clinopyroxene	51.300	0.438	3.390	7.060	16.070	0.170	20.850	0.000	0.246	0.287	0.013	99.825
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx193	Clinopyroxene	50.730	0.546	3.380	8.020	16.080	0.176	20.210	0.022	0.290	0.317	0.000	99.772
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx193a	Clinopyroxene	51.200	0.496	3.320	7.810	16.180	0.211	20.000	0.000	0.221	0.315	0.000	99.753
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx193b	Clinopyroxene	51.060	0.548	3.560	8.140	16.060	0.196	19.740	0.000	0.239	0.341	0.010	99.894
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx192	Clinopyroxene	50.580	0.520	3.120	7.810	16.040	0.213	20.430	0.017	0.294	0.344	0.000	99.367
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx181	Clinopyroxene	51.030	0.500	3.560	6.870	15.950	0.185	21.020	0.018	0.432	0.289	0.008	99.862
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx222	Clinopyroxene	51.460	0.359	3.170	7.080	16.530	0.190	20.400	0.000	0.252	0.285	0.012	99.739
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx234	Clinopyroxene	51.570	0.423	3.080	6.670	16.370	0.179	21.220	0.009	0.230	0.243	0.000	99.995
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx264	Clinopyroxene	51.450	0.410	3.050	6.920	16.290	0.179	20.510	0.011	0.479	0.301	0.000	99.601
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx262	Clinopyroxene	51.560	0.421	3.120	7.390	16.260	0.189	20.650	0.031	0.256	0.318	0.009	100.204
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx262a	Clinopyroxene	51.190	0.566	3.380	8.060	16.010	0.206	20.370	0.000	0.315	0.364	0.009	100.470
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx259	Clinopyroxene	51.450	0.454	3.310	7.150	16.280	0.179	20.400	0.007	0.326	0.288	0.000	99.844
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx273	Clinopyroxene	49.660	0.538	4.990	6.880	15.230	0.165	20.860	0.000	0.595	0.379	0.000	99.297
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx276	Clinopyroxene	51.090	0.452	3.320	7.680	16.300	0.230	19.680	0.030	0.185	0.292	0.000	99.260
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx288	Clinopyroxene	51.020	0.436	3.540	7.070	16.330	0.206	20.460	0.014	0.240	0.336	0.000	99.651
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx291	Clinopyroxene	50.930	0.459	3.390	7.990	16.050	0.204	19.930	0.000	0.223	0.338	0.014	99.527
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11cpx291a	Clinopyroxene	51.160	0.521	3.320	7.950	15.970	0.178	20.100	0.050	0.172	0.341	0.009	99.770
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11ol9a	Olivin	39.830	0.000	0.019	14.660	45.570	0.239	0.228	0.209	0.040			100.795
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11ol1	Olivin	39.720	0.040	0.040	17.930	43.390	0.328	0.240	0.137	0.031			101.855
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11ol2	Olivin	39.690	0.030	0.046	17.620	43.740	0.312	0.231	0.086	0.010			101.765
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11ol4	Olivin	39.800	0.000	0.020	16.570	44.060	0.314	0.247	0.110	0.017			101.138
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11ol5	Olivin	39.850	0.034	0.029	16.980	43.550	0.297	0.221	0.126	0.010			101.096
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11ol6	Olivin	39.800	0.016	0.027	16.960	43.650	0.275	0.224	0.079	0.023			101.054
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11ol7	Olivin	40.020	0.000	0.054	17.460	43.470	0.283	0.223	0.105	0.020			101.635
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11ol8	Olivin	40.070	0.013	0.019	15.330	45.710	0.235	0.167	0.232	0.024			101.800
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11ol9	Olivin	40.260	0.000	0.060	15.200	45.660	0.215	0.179	0.166	0.054			101.794
3-90	Plosie Sopki	Lava flow of Krestovskiy volcano	11ol10	Olivin	39.560	0.030	0.026	18.330	42.720	0.291	0.239	0.094	0.000			101.291

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol11	Olivin	39.600	0.013	0.053	18.110	42.970	0.335	0.235	0.092	0.012			101.420
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol12	Olivin	39.850	0.000	0.034	17.400	44.160	0.300	0.242	0.104	0.030			102.121
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol13	Olivin	39.660	0.025	0.016	16.850	44.190	0.250	0.244	0.159	0.008			101.401
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol14	Olivin	39.720	0.031	0.000	17.420	43.380	0.282	0.245	0.105	0.000			101.183
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol15	Olivin	39.890	0.029	0.033	16.850	44.380	0.321	0.238	0.092	0.000			101.833
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol16	Olivin	39.630	0.035	0.010	18.000	43.470	0.303	0.239	0.116	0.000			101.803
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol17	Olivin	39.490	0.024	0.055	18.020	43.550	0.315	0.229	0.099	0.029			101.811
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol18	Olivin	39.540	0.000	0.028	17.040	43.710	0.297	0.227	0.108	0.000			100.950
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol20	Olivin	39.930	0.054	0.040	17.100	43.840	0.291	0.229	0.073	0.010			101.567
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol21	Olivin	39.620	0.000	0.025	17.750	43.050	0.293	0.238	0.102	0.000			101.078
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol22	Olivin	39.790	0.000	0.042	16.830	44.310	0.316	0.240	0.099	0.021			101.648
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol23	Olivin	39.780	0.046	0.040	16.160	44.610	0.260	0.242	0.100	0.026			101.264
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol24	Olivin	40.270	0.000	0.015	16.100	44.890	0.301	0.221	0.185	0.000			101.982
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol25	Olivin	39.900	0.000	0.077	17.970	43.480	0.290	0.223	0.120	0.038			102.099
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol26	Olivin	39.660	0.012	0.028	17.100	43.830	0.250	0.215	0.135	0.000			101.229
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol27	Olivin	39.710	0.000	0.045	17.310	43.580	0.286	0.227	0.107	0.010			101.275
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol28	Olivin	39.770	0.010	0.035	16.670	43.780	0.276	0.228	0.117	0.018			100.904
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol29	Olivin	40.730	0.000	0.026	12.530	47.370	0.195	0.188	0.222	0.069			101.331
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol30	Olivin	39.820	0.033	0.022	17.640	43.230	0.348	0.236	0.146	0.019			101.494
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol31	Olivin	39.970	0.025	0.071	17.660	43.690	0.324	0.237	0.095	0.000			102.072
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol32	Olivin	39.450	0.000	0.027	18.100	42.770	0.325	0.240	0.110	0.028			101.051
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol33	Olivin	39.860	0.000	0.010	16.620	44.300	0.271	0.253	0.118	0.027			101.459
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol34	Olivin	39.710	0.010	0.062	16.260	44.270	0.271	0.215	0.071	0.010			100.879
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol35	Olivin	39.940	0.000	0.027	17.050	44.060	0.331	0.251	0.094	0.017			101.770
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol36	Olivin	39.390	0.000	0.049	18.380	42.950	0.266	0.240	0.117	0.000			101.393
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol37	Olivin	39.580	0.010	0.038	16.950	44.100	0.263	0.168	0.109	0.012			101.230
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol38	Olivin	39.800	0.000	0.029	17.010	43.930	0.259	0.230	0.085	0.000			101.343
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol39	Olivin	39.930	0.022	0.032	16.650	44.180	0.273	0.235	0.110	0.020			101.452
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol40	Olivin	39.770	0.011	0.025	17.690	42.780	0.329	0.239	0.108	0.031			100.983
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol41	Olivin	39.660	0.010	0.040	17.950	43.090	0.348	0.244	0.120	0.032			101.494
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol42	Olivin	40.580	0.010	0.027	13.070	47.150	0.217	0.194	0.213	0.048			101.510
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol43	Olivin	40.040	0.000	0.027	18.010	43.500	0.339	0.248	0.102	0.029			102.295
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol44	Olivin	39.870	0.026	0.021	17.490	43.450	0.278	0.249	0.078	0.009			101.471
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol45	Olivin	39.710	0.025	0.031	16.790	44.310	0.293	0.242	0.131	0.024			101.556
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol46	Olivin	39.680	0.000	0.024	17.320	44.090	0.333	0.270	0.069	0.031			101.817
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol47	Olivin	40.210	0.014	0.023	15.030	46.000	0.207	0.259	0.177	0.000			101.921
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol48	Olivin	40.280	0.000	0.027	13.620	46.440	0.241	0.208	0.207	0.011			101.034
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol49	Olivin	39.830	0.031	0.018	17.440	43.260	0.334	0.247	0.094	0.011			101.263
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol50	Olivin	39.810	0.020	0.038	17.250	43.830	0.289	0.248	0.105	0.010			101.600
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol51	Olivin	40.050	0.009	0.015	17.460	43.590	0.298	0.232	0.101	0.012			101.767
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol52	Olivin	39.440	0.041	0.015	18.110	43.090	0.334	0.247	0.093	0.000			101.370
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol53	Olivin	39.570	0.063	0.055	17.750	42.940	0.334	0.264	0.086	0.000			101.063
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol54	Olivin	39.940	0.033	0.049	17.940	43.140	0.350	0.242	0.084	0.025			101.802
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol55	Olivin	39.890	0.000	0.032	16.990	43.810	0.319	0.229	0.091	0.000			101.362
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol56	Olivin	39.630	0.010	0.032	17.280	43.530	0.328	0.231	0.098	0.010			101.149

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol57	Olivin	39.690	0.035	0.031	18.220	43.120	0.312	0.238	0.104	0.029			101.778
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol58	Olivin	39.490	0.011	0.018	17.380	42.930	0.302	0.226	0.116	0.000			100.473
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol59	Olivin	39.810	0.000	0.048	17.540	43.980	0.275	0.239	0.157	0.012			102.061
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol60	Olivin	39.810	0.016	0.000	17.440	43.370	0.304	0.236	0.091	0.000			101.267
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol61	Olivin	39.480	0.034	0.039	17.460	43.800	0.330	0.239	0.058	0.000			101.440
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol62	Olivin	39.270	0.018	0.022	17.390	43.160	0.313	0.247	0.108	0.000			100.528
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol63	Olivin	39.850	0.015	0.032	17.220	43.840	0.306	0.238	0.092	0.000			101.592
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol64	Olivin	39.510	0.010	0.022	17.600	43.340	0.286	0.236	0.125	0.000			101.129
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol65	Olivin	39.820	0.010	0.036	16.820	44.170	0.306	0.239	0.113	0.022			101.536
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol66	Olivin	39.940	0.015	0.020	16.730	43.840	0.305	0.240	0.094	0.000			101.184
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol67	Olivin	39.760	0.000	0.029	18.350	42.910	0.371	0.236	0.111	0.019			101.785
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol68	Olivin	39.550	0.046	0.030	17.840	43.400	0.313	0.236	0.102	0.012			101.530
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol69	Olivin	39.820	0.012	0.035	17.150	43.990	0.291	0.251	0.096	0.010			101.655
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol70	Olivin	39.680	0.000	0.020	17.980	43.630	0.313	0.243	0.112	0.026			102.003
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol123	Olivin	39.320	0.030	0.035	16.980	43.590	0.301	0.250	0.093	0.020			100.619
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol71	Olivin	39.800	0.000	0.040	16.830	43.900	0.271	0.247	0.069	0.025			101.183
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol72	Olivin	39.990	0.000	0.013	16.930	44.070	0.341	0.216	0.121	0.010			101.691
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol121	Olivin	39.410	0.000	0.000	17.090	43.490	0.333	0.243	0.113	0.000			100.680
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol73	Olivin	39.330	0.000	0.026	17.480	43.530	0.317	0.248	0.062	0.015			101.008
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol74	Olivin	39.710	0.000	0.028	17.340	44.070	0.273	0.231	0.078	0.017			101.746
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol145	Olivin	39.190	0.010	0.034	16.800	43.530	0.294	0.247	0.081	0.011			100.197
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol75	Olivin	39.900	0.012	0.042	16.540	44.040	0.272	0.231	0.095	0.025			101.158
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol76	Olivin	39.780	0.000	0.033	17.770	43.750	0.243	0.220	0.066	0.000			101.862
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol77	Olivin	39.760	0.000	0.020	16.980	43.690	0.283	0.226	0.122	0.028			101.108
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol78	Olivin	39.480	0.000	0.010	17.070	43.730	0.308	0.234	0.118	0.000			100.949
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol147	Olivin	39.020	0.010	0.044	17.610	42.610	0.316	0.240	0.095	0.023			99.968
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol149	Olivin	39.360	0.011	0.042	17.320	43.360	0.342	0.255	0.073	0.015			100.776
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol79	Olivin	39.580	0.000	0.024	17.570	43.400	0.317	0.268	0.085	0.041			101.284
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol80	Olivin	39.500	0.000	0.022	18.220	43.490	0.316	0.232	0.102	0.000			101.882
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol81	Olivin	39.680	0.000	0.029	16.970	43.640	0.319	0.234	0.109	0.020			101.000
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol166	Olivin	39.470	0.000	0.034	17.070	43.520	0.304	0.239	0.097	0.019			100.753
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol82	Olivin	39.640	0.000	0.041	17.320	43.790	0.299	0.254	0.112	0.022			101.479
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol83	Olivin	39.530	0.000	0.059	17.110	43.750	0.224	0.235	0.096	0.017			101.020
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol169	Olivin	39.490	0.015	0.023	17.130	43.860	0.266	0.239	0.107	0.033			101.163
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol84	Olivin	39.620	0.000	0.010	18.120	42.880	0.314	0.243	0.094	0.000			101.281
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol85	Olivin	39.350	0.022	0.020	17.880	43.030	0.320	0.228	0.102	0.028			100.981
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol86	Olivin	39.540	0.000	0.025	17.590	43.830	0.243	0.229	0.082	0.007			101.546
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol170	Olivin	39.210	0.023	0.060	18.820	42.130	0.313	0.255	0.080	0.010			100.901
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol87	Olivin	39.570	0.000	0.011	18.150	42.950	0.297	0.215	0.087	0.020			101.300
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol88	Olivin	39.500	0.058	0.057	17.830	43.020	0.379	0.260	0.092	0.014			101.210
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol89	Olivin	39.710	0.000	0.028	17.050	43.650	0.337	0.262	0.097	0.019			101.153
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol90	Olivin	39.360	0.000	0.026	18.390	43.000	0.337	0.247	0.131	0.014			101.505
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol91	Olivin	39.740	0.009	0.020	17.340	43.610	0.262	0.244	0.131	0.028			101.383
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol92	Olivin	39.860	0.009	0.049	16.650	44.300	0.261	0.230	0.100	0.044			101.503
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol93	Olivin	39.470	0.000	0.058	18.010	43.110	0.299	0.229	0.106	0.011			101.293

Sample	Volcano	Location	Grain	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MgO	MnO	CaO	NiO	Cr ₂ O ₃	Na ₂ O	K ₂ O	Total
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol94	Olivin	39.710	0.000	0.000	16.950	43.760	0.313	0.245	0.100	0.000			101.078
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol95	Olivin	39.780	0.000	0.028	17.110	43.760	0.280	0.241	0.097	0.026			101.322
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol96	Olivin	39.880	0.000	0.010	17.080	43.870	0.316	0.220	0.067	0.021			101.464
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol97	Olivin	39.520	0.000	0.056	18.250	42.730	0.298	0.215	0.096	0.000			101.165
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol98	Olivin	39.730	0.015	0.027	17.710	43.630	0.319	0.238	0.123	0.008			101.800
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol99	Olivin	39.730	0.038	0.031	16.890	44.180	0.260	0.241	0.133	0.000			101.504
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol100	Olivin	40.300	0.012	0.020	13.090	46.900	0.206	0.125	0.225	0.025			100.902
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol101	Olivin	39.810	0.009	0.028	17.060	44.460	0.307	0.195	0.114	0.020			102.002
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol102	Olivin	39.740	0.000	0.047	16.500	44.330	0.280	0.242	0.090	0.000			101.228
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol103	Olivin	39.810	0.029	0.034	17.040	43.490	0.290	0.234	0.105	0.000			101.032
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11pl323	Olivin	39.260	0.000	0.023	16.390	45.030	0.288	0.254	0.123	0.051			101.419
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11pl323a	Olivin	39.490	0.021	0.035	16.420	44.640	0.275	0.279	0.141	0.000			101.323
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11pl323b	Olivin	39.430	0.000	0.034	16.710	44.580	0.303	0.261	0.117	0.008			101.443
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11ol3	Ortopyroxene	55.550	0.112	4.260	6.710	33.090	0.132	0.287	0.072	0.330			100.543
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11pl352	Plagioclase	47.120	0.010	32.070	0.762	0.148	0.000	16.540	0.000	0.009	1.900	0.093	98.653
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11pl352a	Plagioclase	47.540	0.032	32.050	0.829	0.155	0.000	16.500	0.021	0.000	1.970	0.088	99.185
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11pl353	Plagioclase	46.470	0.013	32.280	0.894	0.154	0.000	17.020	0.000	0.000	1.730	0.089	98.649
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11pl368b	Plagioclase	48.700	0.026	31.350	0.884	0.144	0.000	15.570	0.000	0.009	2.570	0.101	99.354
3-90	Plosie Sopki	Lava flow of Krestovsky volcano	11pl368c	Plagioclase	49.040	0.057	30.630	0.831	0.190	0.000	15.070	0.000	0.026	2.710	0.126	98.679