



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
Department of Natural Resources
Geological Survey

**GEOCHEMICAL DATA FROM VOLCANIC ROCKS
OF THE FLOWERS RIVER IGNEOUS SUITE,
LABRADOR: A SUPPLEMENTARY RELEASE**

R.R. Miller and A. Kerr

Open File 013N/11/0128

**St. John's, Newfoundland
December, 2007**

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Recommended citation:

Miller, R.R. and Kerr, A.

2007: Geochemical data from volcanic rocks of the Flowers River Igneous Suite, Labrador: A supplementary release. Newfoundland and Labrador Department of Natural Resources, Geological Survey, Open File 013N/11/0128, 14 pages.



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SUMMARY

This data release consists of geochemical data from felsic volcanic rocks of the Nukliavik volcanic suite, which represents the intrusive component of the Mesoproterozoic Flowers River Igneous Suite in north-central Labrador. The geological context of these rocks and a description of their stratigraphy are contained in a report by Miller (1992a). All of the sampled locations lie within the 1:50 000 topographic map sheet 13N/11. This open file provides no attempt at interpretation of these data; its purpose is to place them in the public domain (Appendix A).

This forms a supplementary release to an earlier release of selected geochemical data by Miller (1992b), which contained locational data, scintillometer readings, and analytical results for Nb, Zr, Th, Y, La, Ce and Be. The present release includes these data, together with previously unreleased major element data, and previously unreleased results for other trace elements. All of these data were acquired in 1991 or 1992, at the same time as the data released by Miller (1992b). The data are tabulated below, and are also available in two common spreadsheet data formats, i.e., Microsoft Excel (*.xls file) and Lotus 1-2-3 (*.wk1 and *.wk4 files). Brief descriptions of the samples are contained in the earlier release by Miller (1992b).

Major elements and most trace elements were analyzed by inductively-coupled plasma emission spectrometry (ICP-ES) methods. A small number of trace elements (Cr, Mo and Rb) were determined by atomic absorption (AA) methods, and fluorine was determined by ion-selective electrode (ISE) analysis. Note that there are two sets of results for the elements Zr and Ba. The results for Zr(1) and Ba(1) represent analyses from the major elements digestion, which uses a fusion method to ensure total dissolution of all phases. This is because zircon and barite may form an insoluble residue during the digestion of powdered sample used for most trace element analyses. Differences between values for these elements from different digestions may indicate the presence of these minerals in the samples. Note also that a negative value reported for a given element indicates that its concentration was below the detection limit.

REFERENCES

Miller, R.R.

1992a: Preliminary report on the stratigraphy and mineralization of the Nukliavik volcanic rocks of the Flowers River Igneous Suite. Newfoundland Department of Mines and Energy, Geological Survey Branch, Report 92-1, p. 251-259.

1992b: Y and other rare metals in the volcanic rocks of the Flowers River Igneous Suite, Labrador. Newfoundland Department of Mines and Energy, Geological Survey Branch, Open File 13N/11/43, 7 pages.

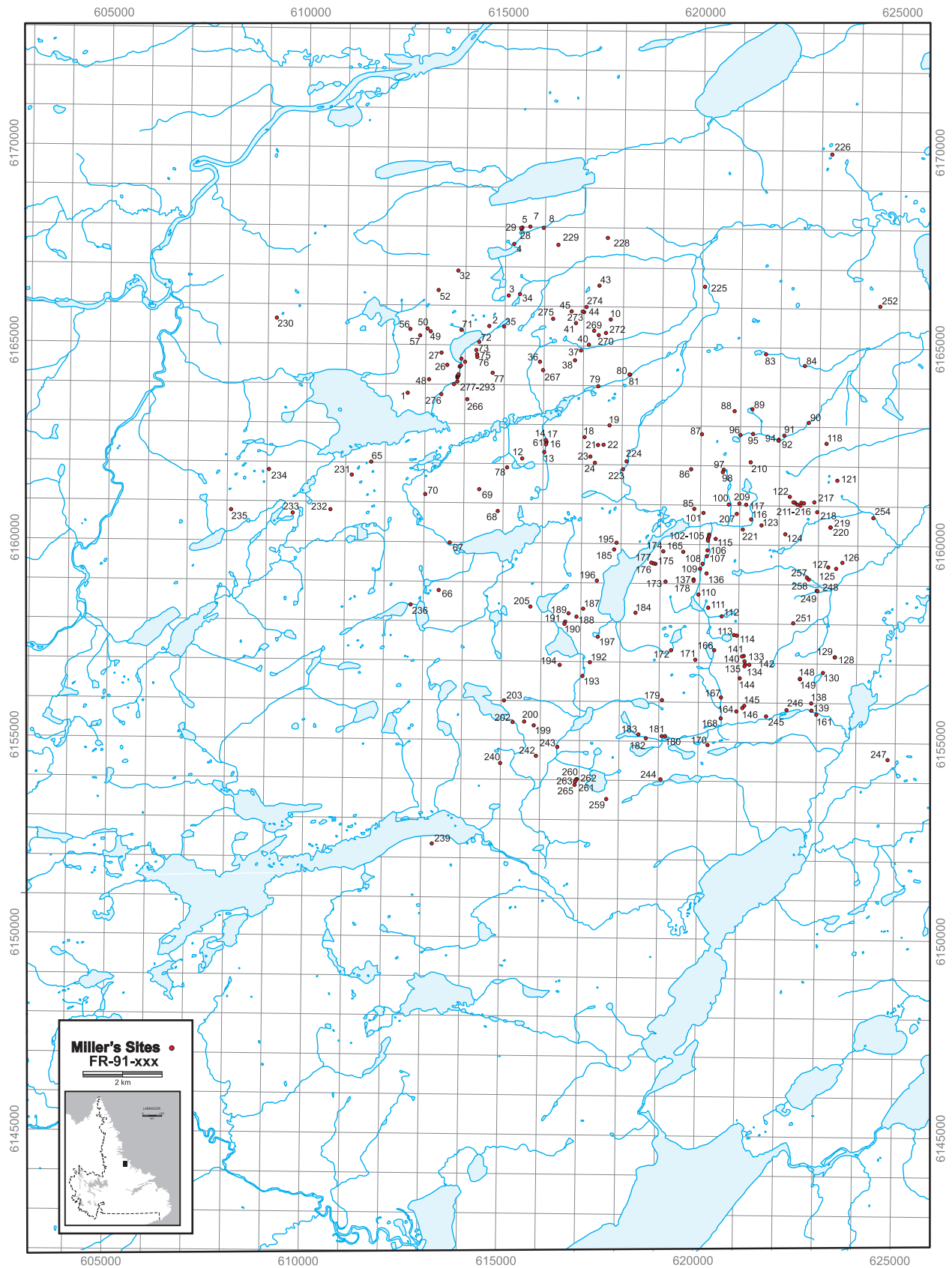


Figure 1. Location of sample sites.

Lab Num	Field Num	Rock Type	UTM zone	Northing	Easting	SiO2	Al2O3	Fe2O3T	Fe2O3	FeO
5541437	FR-91-001	Feldspar-quartz-amph porphyry	20	6163780	612550	73.5	11.58	4.92	0.35	4.11
5541438	FR-91-002	Mafic-quartz porphyry	20	6165495	614610	79.2	9.86	5.25	0.95	3.87
5541439	FR-91-003	Mafic-quartz porphyry	20	6166280	615095	79.5	11.47	2.99	0.33	2.39
5541441	FR-91-004	Feldspar-quartz porphyry	20	6167595	615225	74.4	11.44	3.17	1.44	1.55
5541442	FR-91-005	Amphibole ignimbrite	20	6168010	615425	73.5	9.76	5.95		
5541444	FR-91-007	Porphyritic peralkaline granite	20	6168035	615630	71.8	11.8	4.86	2.38	2.23
5541445	FR-91-008	Mafic-feldspar-quartz porphyry	20	6168010	615970	77.3	10.33	4.4	3.61	0.71
5541446	FR-91-010	Quartz porphyry	20	6165695	617695	75.51	12.03	4.61	1.43	2.86
5541447	FR-91-012	Mafic-quartz porphyry	20	6162140	615480	77.85	12.37	3.23	0.6	2.37
5541448	FR-91-013	Mafic-quartz porphyry	20	6162305	616040	82.9	13.58	1.02	0.75	0.25
5541449	FR-91-014	Q-poor ignimbrite (amph)	20	6162550	616095	80.5	8.35	6.8	0.66	5.53
5541451	FR-91-016	Q-poor ignimbrite (amph)	20	6162585	616090	80.35	10.42	2.9	0.42	2.23
5541452	FR-91-017	Aphyric flow	20	6162615	616075	73.94	11.79	6.98	5.85	1.02
5541453	FR-91-018	Feldspar-quartz porphyry	20	6162700	617060	74.96	11.31	4.35	0.67	3.32
5541454	FR-91-019	Quartz ignimbritic flow	20	6163000	617695	76.35	8.99	7.27	1.62	5.08
5541455	FR-91-021	Quartz ignimbritic flow	20	6162500	617405	77.4	8.39	6.31	2.25	3.65
5541456	FR-91-022	Quartz ignimbritic flow	20	6162505	617545	77.15	9.11	5.55	1.4	3.74
5541457	FR-91-023	Feldspar-quartz porphyry	20	6162205	617215	79.8	8.12	5.08	1.32	3.39
5541458	FR-91-024	Quartz-poor flow (mafic)	20	6162045	617335	81.9	8.49	3.68	0.91	2.49
5541459	FR-91-026	Feldspar-quartz porphyry	20	6164495	613550	76	11.68	5.31	1.1	3.79
5541461	FR-91-027	Quartz ignimbritic flow	20	6164805	613400	78.85	7.47	8.82	1.42	6.66
5541462	FR-91-028	Amphibole ignimbritic flow	20	6167975	615405	74.45	9.7	6.48	3.85	2.37
5541463	FR-91-029	Amphibole ignimbritic flow	20	6167995	615395	74.8	9.81	6.02	5.58	0.4
5541464	FR-91-032	Feldspar-quartz-amphibole porphyritic	20	6166900	613805	69.35	12.99	6.09	1.84	3.83
5541465	FR-91-034	Quartz-mafic porphyry	20	6166315	615380	76.95	11.54	3.67	0.95	2.45
5541466	FR-91-035	Quartz ignimbrite	20	6165490	614990	75.15	9.15	9.07	1.53	6.78
5541467	FR-91-036	Feldspar-quartz porphyry	20	6164600	615910	69.7	13.49	5.37	0.78	4.13
5541468	FR-91-037	Amphibole ignimbritic fragmental?	20	6164900	616950	73.75	9.82	5.83	3.68	1.94
5541469	FR-91-038	Amphibole-aegirine porphyry	20	6164650	616800	73.35	9.52	6.2	4.41	1.61
5541471	FR-91-040	Amphibole ignimbritic porphyry	20	6165050	617150	73.3	10.44	6.14	2.73	3.07
5541472	FR-91-041	Amphibole porphyry	20	6165595	616815	75	9.86	5.97	4.21	1.59
5541473	FR-91-043	Feldspar-quartz-amphibole porphyry	20	6166550	617400	76.1	11.74	2.86		
5541474	FR-91-044	Quartz-mafic porphyry fragmental	20	6166005	617075	80.5	9.9	3.8	0.17	3.27
5541475	FR-91-045		20	6165895	616700	75.15	12.23	4.75	0.28	4.02
5541476	FR-91-048	Quartz-mafic porphyry	20	6164125	613090	79.15	11.09	3.93	1.13	2.52
5541477	FR-91-049	Aphyric flows/flow breccia	20	6165350	613120	78.4	12	3.38	0.03	3.01
5541478	FR-91-050	Ignimbritic flow	20	6165420	613040	76.3	8.93	9.98	1.86	7.31
5541479	FR-91-052	Feldspar-quartz porphyritic granite	20	6166400	613310	71.1	12.37	5.38	1.45	3.47
5541481	FR-91-056	Aphyric flow	20	6165405	612605	81.75	8.48	4	0.55	3.1
5541482	FR-91-057	Aphyric flow	20	6165240	612855	69.3	19.46	1.55	0.24	1.18
5541483	FR-91-061	Ignimbrite	20	6162501	616080	84.15	8.04	2.41	1.22	1.07
5541484	FR-91-065	Feldspar-quartz-amphibole porphyry	20	6162020	611645	71.85	11.87	4.94	0.79	3.74
5541485	FR-91-066	Peralkaline granite	20	6158770	613395	72.45	11.88	4.13	2.38	1.58
5541486	FR-91-067	Feldspar-quartz-amphibole porphyry	20	6159980	613660	73.15	11.46	4.82	2.07	2.48
5541487	FR-91-068	Feldspar-quartz porphyry	20	6160795	614870	77.25	10.05	3.66	0.75	2.62
5541488	FR-91-069	Feldspar-quartz-amph porphyry	20	6161345	614400	76.13	10.75	3.99	0.48	3.16
5541489	FR-91-070	Feldspar-quartz-amph porphyry	20	6161210	613025	71.35	11.28	5.95	0.96	4.49
5541491	FR-91-071	Mafic-quartz porphyry	20	6165395	613905	83.5	8.15	3.14	0.11	2.73
5541492	FR-91-072	Aphyric flow	20	6165090	614355	80.9	8.72	5.93	0.49	4.9
5541493	FR-91-073	Quartz porphyry	20	6164885	614285	74.8	15.5	1.29	1.06	0.21
5541494	FR-91-075	Ignimbritic flow	20	6164775	614305	75.25	10.13	6.74	1.12	5.06
5541495	FR-91-076	Ignimbritic flow	20	6164710	614315	75.65	9.85	6.76	1.15	5.05
5541496	FR-91-077	Quartz-mafic porphyry	20	6164310	614710	75.1	10.6	6.94	0.28	6
5541497	FR-91-078	Mafic-quartz porphyry	20	6161910	615100	80.8	10.45	2.39	0.89	1.35
5541498	FR-91-079	Feldspar-quartz-amph porphyry	20	6163995	617395	74.7	11.7	4.71	0.21	4.05
5541499	FR-91-080	Aphyric flow	20	6164295	618205	82.2	10.01	2.33	0.58	1.57
5541501	FR-91-081	Fragmental	20	6164300	618185	85.86	7.66	1.48		
5541502	FR-91-083	Feldspar-quartz-amph porphyry	20	6164850	621655	78.02	11.22	3.33	0.83	2.24
5541503	FR-91-084	Feldspar-quartz-(amph) porphyry	20	6164565	622645	75.08	10.99	3.48	0.17	2.98
5541504	FR-91-085	Aphyric breccia/flow	20	6160900	619870	77.7	9.63	3.94	1.23	2.44

Lab Num	Field Num	Rock Type	UTM zone	Northing	Easting	SiO2	Al2O3	Fe2O3T	Fe2O3	FeO
5541505	FR-91-086	Feldspar crystal tuff	20	6161910	619780	70.6	13.55	5	4.57	0.39
5541506	FR-91-087		20	6162800	620050	82.8	12.82	0.79		
5541507	FR-91-088	Aphyric flow	20	6163395	620870	74.8	14.91	2.16	0.81	1.22
5541508	FR-91-089	Ignimbritic flow	20	6163450	621320	79.4	8.95	4.87	1.07	3.42
5541509	FR-91-090	Feldspar-quartz-amph porphyry	20	6163115	622760	74.14	11.6	3.5	0.52	2.69
5541511	FR-91-091	Mafic-quartz porphyry	20	6162785	622140	78.75	10.76	3.14	0.85	2.06
5541512	FR-91-092	Quartz-poor flow	20	6162680	622005	81.05	9.16	3.25	1.04	1.99
5541513	FR-91-094	Ignimbritic flow	20	6162655	621995	85.2	6.71	3.49	0.84	2.39
5541514	FR-91-095	Aphyric flow	20	6162822	621350	82.65	10.39	1.47	0.87	0.54
5541515	FR-91-096	Mafic-quartz-amph porphyry	20	6162795	621025	80.45	9.13	5.18	1	3.76
5541516	FR-91-097	Quartz-poor flow	20	6161905	620610	70.12	15.08	7.46	3.72	3.37
5541517	FR-91-098	Ignimbritic flow	20	6161840	620590	73.05	10.27	6.73	6.13	0.54
5541519	FR-91-100	Quartz-poor flow	20	6161020	620750	73.15	10.86	5.99	1.77	3.8
5541521	FR-91-101		20	6160800	620105	75.5	10.43	5.73	0.36	4.83
5541522	FR-91-102	Amphibole spot flow	20	6160250	620260	77.58	11.29	3.92	0.44	3.14
5541523	FR-91-103	Aphyric flow	20	6160200	620250	81.4	9.96	2.03	0.66	1.24
5541524	FR-91-104		20	6160145	620225	44.6	31.75	8.06	4.03	3.63
5541525	FR-91-105	Amphibole spot flow	20	6160100	620230	79.4	10.46	3.23	0.96	2.04
5541526	FR-91-106	Ignimbritic flow	20	6159850	620220	76.7	13.51	1.71	1.24	0.42
5541527	FR-91-107	Ignimbritic flow	20	6159700	620200	79.84	7.37	6.43	0.6	5.24
5541528	FR-91-108	Aphyric flow	20	6159505	620100	79.5	11.59	2.19	0.74	1.31
5541529	FR-91-109	Quartz-poor flow	20	6159375	620035	75.75	10.69	7.07	7.01	0.06
5541531	FR-91-110	Aphyric flow	20	6158720	620000	72.15	12.38	5.85	4.13	1.55
5541532	FR-91-111	Quartz ignimbritic	20	6158390	620255	75.6	9.32	6.93	1.75	4.67
5541533	FR-91-112	Feldspar-quartz porphyry	20	6158175	620595	76.05	10.66	3.28	2.71	0.51
5541534	FR-91-113	Quartz-rich porphyry	20	6157700	620915	78.35	11.4	1.63	0.65	0.88
5541535	FR-91-114	Quartz-poor ignimbritic flow	20	6157690	620985	79.95	6.76	7.33	0.91	5.78
5541536	FR-91-115	Quartz ignimbritic flow	20	6160145	620420	80.6	8.76	4.75	0.14	4.15
5541537	FR-91-116	Quartz-feldspar-amph porphyry	20	6160645	621320	74.35	10.29	6.22	2.46	3.38
5541538	FR-91-117	Amphibole ignimbritic flow	20	6161020	621190	73.1	9.77	6.66	3.49	2.86
5541539	FR-91-118	Feldspar-quartz-(amph) porphyry	20	6162590	623220	65.9	13.37	8.62	0.49	7.32
5541541	FR-91-121	Mafic-quartz porphyry	20	6161655	623500	79.15	11.46	2.8	0.58	2
5541542	FR-91-122	Feldspar-quartz-(amph) porphyry	20	6161230	622300	76.95	10.61	4.04	0.55	3.14
5541543	FR-91-123	Quartz porphyry	20	6160500	621585	74.9	10.67	8.24	2.84	4.86
5541544	FR-91-124	Quartz porphyry	20	6160280	622190	76.35	10.06	6.39	0.8	5.03
5541545	FR-91-125	Mafic-quartz porphyry	20	6159410	623495	76.65	10.85	6.59	0.97	5.06
5541546	FR-91-126	Aphyric flow	20	6159565	623650	63.45	18.42	9.75	1.51	7.42
5541547	FR-91-127	Feldspar-quartz-(amph) porphyry	20	6159445	623295	73.6	10.63	5.56	2.55	2.71
5541548	FR-91-128	Feldspar-quartz-(amph) porphyry	20	6157160	623485	56.6	13.34	12.86	1.84	9.92
5541549	FR-91-129	Feldspar-quartz-(amph) porphyry	20	6157160	623487	60.5	13.3	10.51	2.12	7.55
5541551	FR-91-130	Feldspar-quartz-amph porphyry	20	6156760	623185	75	11.22	4.16	0.04	3.71
5541552	FR-91-133	Feldspar-quartz porphyry	20	6156950	621310	74.25	10.38	5.96	4.81	1.03
5541553	FR-91-134	Quartz-poor flow	20	6156950	621205	75.84	8.56	7.66	1.46	5.58
5541554	FR-91-135	Mafic-quartz porphyry	20	6156910	621190	76.45	11.41	5.33		
5541555	FR-91-136	Quartz-mafic porphyry	20	6159260	620200	74.95	10.07	7.67	2.63	4.54
5541556	FR-91-137	Quartz-poor ignimbritic flow	20	6159105	619870	79.7	9.25	5.51	0.93	4.12
5541557	FR-91-138	Feldspar-quartz-(amph) porphyry	20	6155980	622895	53.15	13.94	14.21	2.31	10.71
5541558	FR-91-139	Quartz (amph) porphyry	20	6155800	622905	78.8	11.76	2.6	0.34	2.04
5541559	FR-91-140	Quartz ignimbritic flow	20	6157175	621170	82.6	8.2	3.58		
5541561	FR-91-141	Quartz poor ignimbritic flow	20	6157160	621125	50.84	17.17	18.47	4.74	12.36
5541562	FR-91-142	Quartz porphyry	20	6157040	621190	78.1	15.69	0.72		
5541563	FR-91-144	Quartz-mafic porphyry	20	6156605	621070	79.1	11.25	4.01	0.73	2.95
5541564	FR-91-145	Layered tuff?	20	6155900	621195	69.15	15.52	10.85	1.04	8.83
5541565	FR-91-146	Quartz porphyry	20	6155850	621145	83.65	10.73	0.53	0.16	0.33
5541567	FR-91-148	Amphibole ignimbritic flow	20	6156595	622600	73.73	9.8	6.13	4.91	1.09
5541568	FR-91-149	Quartz-poor flow	20	6156605	622605	76.35	8.96	9.19	1.46	6.96
5541569	FR-91-161	Feldspar-quartz-amph porphyry	20	6155695	623030	60	14.72	10.33	2.67	6.89
5541571	FR-91-164	Quartz porphyry	20	6155760	620995	81.15	12.4	0.67	0.2	0.42
5541572	FR-91-165	Quartz ignimbrite	20	6159805	619600	78.5	9.73	5.51	3.04	2.22
5541573	FR-91-166	Aphyric flow	20	6157310	620415	81.95	9.45	3.18	1.38	1.62

Appendix A

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Lab Num	Field Num	Rock Type	UTM zone	Northing	Easting	SiO2	Al2O3	Fe2O3T	Fe2O3	FeO
5541574	FR-91-167	Quartz-feldspar-poor flow	20	6156110	620600	77.55	8.47	8.73	1.87	6.17
5541575	FR-91-168	Feldspar-quartz porphyry	20	6155580	620600	76.8	11.81	4.14	3.75	0.35
5541576	FR-91-170	Feldspar-quartz-(amph) porphyry	20	6154895	620270	71.15	12.14	4.98	2.31	2.41
5541577	FR-91-171	Quartz vein network breccia	20	6157060	619935	92.75	3.88	1.05		
5541578	FR-91-172	Feldspar-quartz porphyry	20	6157300	619320	74.15	11.44	4.6	3.26	1.21
5541579	FR-91-173		20	6159045	619160	78.3	9.83	5.12	1.41	3.34
5541581	FR-91-174	Feldspar-quartz-(amph) porphyry	20	6159810	619095	77.25	11.14	2.38	1.17	1.09
5541582	FR-91-175	Feldspar-quartz-amphibole porphyry	20	6159495	618900	69.5	12.38	5.51	1.71	3.42
5541583	FR-91-176	Amphibole-quartz syenite	20	6159505	618850	72.7	10.72	4.93	1.78	2.84
5541584	FR-91-177	Feldspar-quartz-(amph) porphyry	20	6159525	618795	73.9	12.06	3.17	0.23	2.65
5541585	FR-91-178	Quartz ignimbritic flow	20	6159070	619870	75.05	9.4	6.73	1.32	4.87
5541586	FR-91-179	Quartz-mafic porphyry	20	6156030	619100	75.55	12.22	4.27	1.45	2.54
5541587	FR-91-180	Feldspar-quartz-amphibole porphyry	20	6155110	619190	70.5	12.36	5.44	0.88	4.1
5541588	FR-91-181	Quartz-mafic porphyry	20	6155110	619105	74.55	13.33	4.36	0.69	3.3
5541589	FR-91-182	Quartz-amph porphyry dyke	20	6155050	618700	72.75	12.72	3.47	1.54	1.74
5541591	FR-91-183	Banded flow	20	6155150	618510	62.7	15	4.95	0.74	3.79
5541592	FR-91-184	Feldspar-quartz-amphibole porphyry	20	6158240	618405	73.65	12.1	4.33	1.09	2.92
5541593	FR-91-185	Quartz poor flow	20	6159850	617845	76.75	9.8	6.34	0.68	5.1
5541594	FR-91-187	Quartz-mafic porphyry	20	6158330	617070	74.22	12.3	5.62	0.21	4.87
5541595	FR-91-188	Quartz-feldspar porphyry	20	6158130	616905	73.1	11.47	6.94	2.35	4.13
5541596	FR-91-189	Feldspar-quartz-amph porphyry	20	6158210	616700	72.7	11.74	3.9	0.99	2.62
5541597	FR-91-190	Gabbro	20	6157995	616615	47.27	15.86	14.35	0.64	12.34
5541598	FR-91-191	Banded flow	20	6157940	616600	62.8	15.68	2.67	0.4	2.04
5541599	FR-91-192	Banded flow	20	6156975	617255	67.7	11.5	3.65	0.21	3.1
5541601	FR-91-193	Peralkaline granite	20	6156620	617070	66.97	13.66	5.95	2.25	3.33
5541602	FR-91-194	Feldspar-quartz-amphibole porphyry	20	6156900	616490	68.5	13.3	5.47	2.04	3.08
5541603	FR-91-195	Feldspar-quartz-(amph) porphyry	20	6160020	617900	75.85	11.37	4.31	0.51	3.42
5541604	FR-91-196	Quartz porphyry	20	6159050	617410	71.55	12.85	5.27	1.37	3.51
5541605	FR-91-197	Feldspar-quartz porphyry	20	6157620	617450	69.75	12.46	6.13	1.36	4.3
5541606	FR-91-199	Banded flow	20	6155350	615845	62.5	17.06	1.62	0.11	1.36
5541607	FR-91-200	Carbonate unit	20	6155445	615600	3.95	0.22	0.12	0.01	0.12
5541609	FR-91-202	Feldspar-quartz-amphibole porphyry	20	6155430	615305	73.05	11.15	5.18	2.98	1.98
5541611	FR-91-203	Feldspar-quartz-amphibole porphyry	20	6155980	615080	69.4	12.36	6.65	1.7	4.46
5541612	FR-91-205	Feldspar-quartz-(amph) porphyry	20	6158375	615730	62.8	14.38	8.5	0.96	6.78
5541613	FR-91-207	Ignimbritic flow	20	6160785	620955	76.35	9.27	5.8	3.51	2.06
5541614	FR-91-209	Amphibole-quartz-poor flow	20	6161050	621020	73.85	10.04	6.22	3.28	2.65
5541615	FR-91-210	Feldspar-quartz-amphibole porphyry	20	6162100	621295	76.55	10.78	4.62	1.91	2.44
5541616	FR-91-211	Quartz ignimbritic flow	20	6161080	622435	77.55	8.91	6.62		
5541617	FR-91-212	Feldspar-quartz-amphibole porphyry	20	6161095	622390	75.5	10.75	4.25	2.27	1.78
5541618	FR-91-213	Aphyric flow	20	6161030	622495	77.5	9.04	4.58		
5541619	FR-91-214	Ignimbritic flow	20	6161010	622570	76.35	8.6	6.95		
5541621	FR-91-215	Aphyric flow	20	6161080	622595	76.57	12.55	3.87	3.17	0.63
5541622	FR-91-216	Quartz-poor flow	20	6161070	622660	76.95	10.39	5.77	0.79	4.48
5541623	FR-91-217	Quartz porphyry	20	6161095	622920	71.5	17.28	4.07	0.65	3.08
5541624	FR-91-218	Quartz porphyry (zeal)	20	6160850	623000	86.3	10.14	0.7		
5541625	FR-91-219	Aphyric (amph) flow	20	6160460	623340	79.8	8.88	5.54	0.86	4.22
5541626	FR-91-220	Quartz porphyry	20	6160460	623345	83.4	10.52	0.47		
5541627	FR-91-221	Feldspar-quartz-amphibole porphyry	20	6160390	621110	73.35	9.69	5.98	1.75	3.8
5541628	FR-91-223	Feldspar-quartz-amphibole porphyry	20	6161890	618050	73.85	10.32	4.93	2.52	2.17
5541629	FR-91-224	Feldspar-quartz porphyry	20	6162090	618140	76.45	12.28	2.54		
5541631	FR-91-225	Feldspar-quartz porphyry	20	6166550	620090	76	11.89	2.58	0.78	1.62
5541632	FR-91-226	Peralkaline granite	20	6169950	623285	75	10.93	3.4	1.14	2.03
5541633	FR-91-228	Feldspar-quartz porphyry	20	6167770	617600	75.15	11.6	3.3	1.98	1.19
5541634	FR-91-229	Feldspar-quartz-amph porphyry	20	6167580	616345	74.55	11.88	3.41	1.26	1.93
5541635	FR-91-230	Porphyritic feldspar peralkaline granite	20	6165655	609205	75.05	11.45	2.96	1.16	1.62
5541636	FR-91-231	Peralkaline granite	20	6161680	611150	75.9	10.74	4.32	2.37	1.75
5541637	FR-91-232	Porphyritic feldspar peralkaline granite	20	6160800	610620	72.82	11.96	4.02	1.17	2.57
5541638	FR-91-233	Porphyritic feldspar peralkaline granite	20	6160700	609660	76.45	11.24	2.64	0.91	1.56
5541639	FR-91-234	Peralkaline granite	20	6161800	609045	75.45	11.1	3.62	1.67	1.76
5541641	FR-91-235	Porphyritic feldspar peralkaline granite	20	6160770	608090	72.85	11.8	3.71	1.58	1.92

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Lab Num	Field Num	Rock Type	UTM zone	Northing	Easting	SiO2	Al2O3	Fe2O3T	Fe2O3	FeO
5541642	FR-91-236	Peralkaline granite	20	6158395	612680	74.75	10.65	3.86	2.24	1.46
5541643	FR-91-239	Peralkaline granite	20	6152320	613285	73.55	11.01	4.24	2.42	1.64
5541644	FR-91-240	Peralkaline granite	20	6154385	615000	72.73	12.52	3.95	1.72	2.01
5541645	FR-91-242	Porphyritic feldspar peralkaline granite	20	6154580	615910	73	11.43	4.88	3.67	1.09
5541646	FR-91-243	Aplitic granite	20	6154810	616450	75.85	8.98	6.65	4.35	2.07
5541647	FR-91-244	Peralkaline granite	20	6154010	619085	74.89	11.32	3.05	0.99	1.86
5541648	FR-91-245	Quartz-mafic porphyry	20	6155640	621755	75.85	10.07	5.1	1.72	3.04
5541649	FR-91-246	Quartz-mafic porphyry	20	6155805	622270	75.85	10.88	4.53	2.63	1.71
5541651	FR-91-247	Peralkaline granite	20	6154560	624850	75.35	11.27	3.3	1.39	1.72
5541652	FR-91-248	Aphyric flow	20	6158845	623005	72.85	10.66	6.81	3.31	3.15
5541653	FR-91-249	Fragmental	20	6158840	623025	82.6	9.19	1.73	0.53	1.08
5541654	FR-91-251	Feldspar-quartz-(amph) porphyry	20	6158015	622420	75.5	10.2	5.39	4.1	1.16
5541655	FR-91-252	Peralkaline granite	20	6166090	624550	72.8	12.15	2.95	1.23	1.55
5541656	FR-91-254	Peralkaline granite	20	6160710	624430	72.4	12.78	3.59	1.64	1.76
5541658	FR-91-257	Aphyric flow	20	6159180	622750	76.88	10.55	4.02	1.07	2.66
5541659	FR-91-258	Feldspar-quartz-amphibole porphyry	20	6159130	622800	76.65	10.35	3.81	0.75	2.75
5541661	FR-91-259		20	6153495	617710	74.8	11.41	3.66	1.04	2.36
5541662	FR-91-260	Gabbro	20	6153995	616950	48.95	15.64	12.2	3.66	7.69
5541663	FR-91-261	Banded felsic	20	6153990	616945	65.85	16.62	0.92	0.16	0.68
5541664	FR-91-262	Banded aplitic felsic	20	6153970	616930	89.35	4.67	0.71	0.07	0.58
5541665	FR-91-263	Banded aplitic felsic	20	6153930	616910	81.55	7.64	2.23	0.66	1.41
5541666	FR-91-265	Aplitic peralkaline granite	20	6153850	616900	75.55	10.92	3.88	2.69	1.07
5541667	FR-91-266	Quartz-poor flow	20	6163630	614070	78.7	6.68	9.78	0.99	7.91
5541668	FR-91-267	Amphibole ignimbritic flow	20	6164390	615990	74	9.79	5.85	4.51	1.21
5541669	FR-91-269	Aphyric flow	20	6165405	617280	76.7	11	4.84	0.92	3.53
5541671	FR-91-270	Feldspar-quartz-amph porphyry	20	6165295	617395	68	13.24	7.01	3.42	3.23
5541672	FR-91-272	Aphyric (amph) flow	20	6165350	617580	78.6	10.28	2.88	1.41	1.32
5541673	FR-91-273	Peralkaline granite	20	6165880	617020	75.05	11.2	3.14	1.91	1.1
5541674	FR-91-274	Amphibole syenite	20	6165890	616980	65.71	15.84	4.84	2.45	2.15
5541675	FR-91-275	Feldspar-quartz-(amph) porphyry	20	6165700	616230	71.3	12.68	5.1	0.33	4.29
5541676	FR-91-276	Feldspar-quartz-amphibole porphyry	20	6163750	613410	73.9	12.36	3.43	1.11	2.09
5541677	FR-91-277	Quartz-poor ignimbritic	20	6164010	613730	77.35	8.88	7.02	1.29	5.16
5541678	FR-91-278	Quartz-mafic porphyry	20	6164080	613810	80.1	10.81	3.51	1.17	2.11
5541679	FR-91-279	Quartz-poor flow	20	6164180	613810	75.1	9.04	8.5	1.34	6.45
5541681	FR-91-280	Feldspar-quartz-amphibole porphyry	20	6164210	613810	72.85	11.52	4.23	3.05	1.06
5541682	FR-91-281	Amphibole ignimbritic flow	20	6164220	613820	73.75	9.93	5.93	3.58	2.12
5541683	FR-91-283	Feldspar-quartz-amphibole porphyry	20	6164225	613830	72.05	11.93	4.76	3.41	1.22
5541684	FR-91-284	Amphibole ignimbritic flow	20	6164230	613835	73.4	9.81	6.7	3.89	2.53
5541685	FR-91-285	Amphibole ignimbritic flow	20	6164240	613835	73.6	9.75	6.11	3.19	2.63
5541686	FR-91-286	Feldspar-quartz-amphibole porphyry	20	6164260	613840	71.95	11.3	5.05	3.2	1.66
5541687	FR-91-288	Aphyric (amph) flow	20	6164460	613870	77.45	10.41	4.58	0.56	3.62
5541689	FR-91-290	Quartz-feldspar (amph) poor flow	20	6164470	613880	74.2	10.8	5.51	0.95	4.1
5541691	FR-91-291	Quartz (amph) porphyry	20	6164490	613900	73.8	10.53	5.26	0.72	4.08
5541692	FR-91-292	Ignimbritic (amph) flow	20	6164660	613910	80.3	9.86	3.97	0.54	3.08
5541693	FR-91-293	Quartz-feldspar (amph) poor flow	20	6164580	614000	73.5	10.03	6.57	3.52	2.74

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Lab Num	MgO	CaO	Na2O	K2O	TiO2	MnO	P2O5	Zr (1)	Ba (1)	LOI	Total	Zn	Pb	Co	Ni	Fe%	Ga	Ti
5541437	0.2	1.02	2.33	4.73	0.5	0.06	0.08	568	1553	1.58	100.04	108	19	3	2	3.61	24	3079
5541438	0.11	0.03	0.02	2.54	0.33	0.06	0.07	669	97	2.05	99.09	99	71	2	2	3.77	33	2118
5541439	0.09	0.03	0.05	3.46	0.29	0.05	0.03	860	97	1.88	99.57	64	8	1	2	2.28	30	1836
5541441	0.27	0.48	3.35	4.53	0.33	0.06	0.03	799	252	0.91	98.79	277	210	4	2	2.26	27	2095
5541442	0.01	0.36	2.99	4.46	0.3	0.07	0.01	3574	24	0.74	98.15	453	27	1	6	4.74	51	1714
5541444	0.03	0.81	4.43	4.52	0.34	0.09	0.02	1469	172	0.99	99.44	232	33	1	2	3.25	48	1982
5541445	0.27	0.02	0.06	5.22	0.23	0.02	0.01	846	335	1.42	99.2	84	10	2	2	3.12	25	1301
5541446	0.24	0.07	0.04	3.83	0.32	0.04	0.05	804	92	2.5	99.25	43	6	2	2	3.27	36	2038
5541447	0.12	0.01	0.02	3.53	0.39	0.03	0.05	938	180	2.18	99.52	39	17	1	1	2.39	32	2547
5541448	0.01	0.03	0.23	0.58	0.38	0.01	0.01	1378	57	1.18	99.91	19	14	1	-1	0.76	27	2077
5541449	0.02	0.01	0.06	1.69	0.17	0.07	0.01	3819	32	2.28	99.35	71	17	1	1	5.22	49	1014
5541451	0.02	0.01	0.08	2.92	0.25	0.02	0.01	5838	29	2.06	98.79	94	20	-1	-1	2.12	54	1642
5541452	0.08	0.02	0.14	3.18	0.32	0.03	0.01	7154	38	2.08	98.57	79	8	1	-1	5.25	32	2105
5541453	0.37	0.25	1.89	4.92	0.41	0.06	0.06	803	279	1.06	99.64	130	35	3	3	3.15	27	2648
5541454	0.05	0.02	0.08	5.33	0.39	0.07	0.01	4429	50	1.4	99.39	427	109	1	1	5.49	39	2514
5541455	0.12	0.01	0.1	5.54	0.38	0.07	0.01	4382	40	0.93	98.85	802	119	1	-1	4.94	30	2500
5541456	0.07	0.01	0.08	5.69	0.38	0.04	0.01	4205	34	1.07	98.75	519	77	1	1	4.31	36	2542
5541457	0.07	0.01	0.05	5.11	0.37	0.05	0.01	4055	39	1.15	99.45	200	96	1	1	3.76	26	2385
5541458	0.08	0.01	0.05	4.51	0.23	0.04	0.02	738	117	1.13	99.86	136	23	1	1	2.72	21	1546
5541459	0.08	0.01	0.04	4.38	0.29	0.03	0.01	1253	114	2.02	99.43	54	6	1	1	3.91	34	1922
5541461	0.09	0.01	0.02	1.14	0.35	0.05	0.01	3736	27	2.51	98.58	69	38	2	1	6.51	46	2236
5541462	0.02	0.24	2.91	4.23	0.3	0.1	0.01	3771	18	1.61	99.79	398	15	1	1	4.44	49	1848
5541463	0.01	0.01	3.02	4.36	0.29	0.08	0.01	3604	14	0.74	99.11	373	12	1	2	4.4	49	1767
5541464	0.02	1.07	4.96	4.87	0.43	0.13	0.04	1662	184	0.64	100.17	214	30	1	-1	4.18	46	2687
5541465	0.1	0.03	0.11	5.22	0.34	0.04	0.04	866	232	1.58	99.35	81	15	1	1	2.67	33	2133
5541466	0.08	0.01	0.03	3.34	0.38	0.08	0.01	4535	41	2.15	98.69	658	139	2	2	6.97	47	3044
5541467	0.14	0.85	3.01	5.25	0.44	0.03	0.08	1135	858	1.73	99.63	83	9	2	-1	3.71	32	2681
5541468	0.01	0.34	4.51	4.3	0.29	0.09	0.01	3550	21	0.52	99.26	508	87	1	1	4.19	49	1844
5541469	0.07	0.08	4.43	4.32	0.31	0.08	0.01	3781	12	0.46	98.65	382	53	-1	1	4.4	48	1864
5541471	0.04	0.27	4.33	4.41	0.32	0.11	0.02	2986	72	0.57	99.61	299	66	1	1	4.37	47	2027
5541472	0.01	0.29	3.28	4.14	0.3	0.03	0.01	3645	20	0.54	99.26	344	149	-1	-1	4.17	49	1846
5541473	0.07	0.37	2.87	4.19	0.3	0.01	0.02	884	172	1.07	99.61	54	33	1	1	2.09	25	1821
5541474	0.18	0.05	0.09	2.81	0.52	0.02	0.08	732	133	2.01	99.6	30	4	2	3	2.87	26	2954
5541475	0.03	0.1	0.17	4.6	0.35	0.02	0.01	1831	28	1.24	98.2	32	11	1	1	3.63	36	2310
5541476	0.16	0.02	0.07	3.1	0.31	0.04	0.01	937	104	1.94	99.54	135	18	1	1	2.7	38	1977
5541477	0.07	0.01	0.07	3.19	0.47	0.03	0.03	1289	71	2.23	99.54	348	24	1	1	2.62	38	3067
5541478	0.23	0.01	0.03	1.43	0.33	0.07	0.02	3825	85	2.86	99.38	222	86	2	1	7.41	39	2109
5541479	0.04	0.91	4.85	4.77	0.38	0.12	0.03	1594	220	0.48	99.97	232	22	-1	-1	3.87	43	2497
5541481	0.12	0.01	0.05	2.25	0.36	0.03	0.03	1052	124	1.61	98.34	144	136	2	2	2.84	40	2211
5541482	0.01	0.01	0.17	5.23	0.79	0.02	0.04	2259	75	2.47	98.92	39	6	-1	1	1.21	62	5135
5541483	0.02	0.01	0.12	2.29	0.19	0.01	0.01	3806	40	1.27	98.4	20	11	-1	1	1.84	43	1132
5541484	0.27	0.85	2.63	4.64	0.56	0.06	0.09	567	1594	1.32	98.67	124	23	3	1	3.56	21	3197
5541485	0.16	0.31	3.15	5.07	0.36	0.06	0.03	1192	417	0.88	98.31	102	13	1	1	3.06	32	2057
5541486	0.09	0.13	2.24	5.39	0.43	0.05	0.03	1497	137	1.21	98.73	138	6	1	-1	3.51	34	2221
5541487	0.19	0.01	0.07	5.73	0.31	0.06	0.03	768	587	1.34	98.41	121	21	1	1	2.62	22	1885
5541488	0.31	0.11	0.08	5.54	0.42	0.06	0.08	714	299	1.55	99.01	117	50	3	2	2.91	26	2672
5541489	0.24	2.03	0.15	5.77	0.59	0.09	0.11	576	2088	2.02	99.08	131	54	3	1	4.33	28	3744
5541491	0.11	0.04	0.02	2.25	0.34	0.03	0.05	759	124	1.57	98.9	37	2	1	1	2.34	20	2045
5541492	0.02	0.01	0.03	1.61	0.32	0.02	0.01	1689	25	2.05	99.08	92	17	1	1	4.36	40	2013
5541493	0.02	0.01	0.22	3.58	0.45	0.01	0.03	1682	57	2.53	98.42	12	24	-1	-1	0.93	52	2778
5541494	0.04	0.12	0.02	4.58	0.22	0.07	0.01	4912	31	1.85	98.47	453	156	1	-1	4.86	47	1366
5541495	0.02	0.16	0.05	4.43	0.23	0.08	0.01	5185	23	1.76	98.44	516	169	-1	-1	4.8	43	1432
5541496	0.08	0.06	0.06	3.18	0.3	0.03	0.01	2409	20	2.54	98.24	567	379	1	2	5.11	43	1879
5541497	0.1	0.01	0.01	3.11	0.26	0.01	0.04	743	61	1.65	98.68	34	39	-1	1	1.75	27	1579
5541498	0.09	0.06	0.14	6.33	0.42	0.07	0.03	1325	258	1.16	98.96	112	27	1	1	3.34	33	2544
5541499	0.03	0.01	0.05	2.71	0.34	0.03	0.01	1980	47	1.73	99.27	64	12	-1	1	1.65	41	1986
5541501	0.03	0.02	0.07	2.29	0.25	0.01	0.02	1470	36	1.6	99.29	17	14	-1	-1	1.13	36	1562
5541502	0.19	0.08	0.1	5.47	0.34	0.04	0.04	796	275	1.48	100.31	98	24	1	1	2.42	27	2139
5541503	0.09	0.2	2.1	5.28	0.28	0.06	0.02	953	159	0.96	98.52	171	47	-1	1	2.5	27	1692
5541504	0.04	0.18	3.17	2.66	0.17	0.06	0.01	2100	10	0.97	98.26	141	11	-1	1	2.97	40	1133

Appendix A

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Lab Num	MgO	CaO	Na2O	K2O	TiO2	MnO	P2O5	Zr (1)	Ba (1)	LOI	Total	Zn	Pb	Co	Ni	Fe%	Ga	Ti
5541505	0.04	0.03	4.05	4.72	0.36	0.02	0.02	1438	105	0.59	98.94	89	28	-1	1	3.65	38	2138
5541506	0.01	0.01	0.06	0.08	0.42	0.01	0.01	3987	20	1.21	98.22	19	5	-1	1	0.69	39	2670
5541507	0.02	0.01	0.06	4.06	0.51	0.01	0.03	1990	129	2.21	98.65	19	20	-1	-1	1.54	42	2831
5541508	0.09	0.01	0.02	2.96	0.33	0.04	0.01	3910	105	1.92	98.22	189	100	1	-1	3.53	32	2034
5541509	0.16	0.1	2.4	5.29	0.29	0.04	0.02	785	235	1.03	98.57	68	9	-1	-1	2.55	28	1818
5541511	0.08	0.01	0.03	4.12	0.29	0.03	0.02	829	204	1.63	98.63	114	31	-1	-1	2.25	27	1776
5541512	0.05	0.01	0.02	2.48	0.35	0.04	0.01	4203	250	1.83	98.03	780	197	-1	-1	2.36	28	2116
5541513	0.03	0.01	0.01	1.76	0.29	0.04	0.01	3728	48	1.43	98.72	207	23	-1	-1	2.52	31	1853
5541514	0.02	0.01	0.03	3.26	0.44	0.01	0.03	1174	90	1.57	99.82	33	3	-1	-1	1.09	31	2739
5541515	0.03	0.01	0.03	2.28	0.21	0.03	0.01	4961	34	2.01	98.95	233	56	1	-1	3.77	42	1317
5541516	0.04	0.01	1.07	1.75	0.35	0.03	0.01	4702	29	2.71	98.26	249	210	-1	-1	5.18	56	2130
5541517	0.03	0.29	2.51	4.57	0.23	0.09	0.01	5300	32	0.48	98.2	459	133	-1	-1	4.62	43	1413
5541519	0.12	0.36	3.42	3.52	0.25	0.04	0.01	2806	21	1.01	98.31	184	116	-1	2	4.23	43	1594
5541521	0.04	0.12	2.17	5.11	0.25	0.08	0.01	3478	19	0.98	99.88	257	44	-1	1	4.21	42	1564
5541522	0.05	-0.01	0.12	2.94	0.38	0.03	0.01	1686	45	2.03	98.35	56	9	-1	1	2.88	37	1967
5541523	0.03	0.01	0.07	2.76	0.39	0.02	0.02	1253	45	1.68	98.24	39	14	-1	-1	1.43	37	2568
5541524	0.09	0.01	0.13	8.79	1.16	0.07	0.05	4539	162	4.94	99.25	198	63	-1	-1	5.95	98	7448
5541525	0.03	0.01	0.05	2.88	0.38	0.03	0.03	1595	91	1.81	98.08	54	25	-1	-1	2.25	37	2319
5541526	0.04	0.01	0.03	4.05	0.45	0.01	0.02	2500	78	1.98	98.46	35	41	-1	-1	1.2	52	2981
5541527	0.06	0.01	0.02	1.57	0.25	0.08	0.05	10688	23	2.3	97.97	432	350	-1	-1	4.66	44	1526
5541528	0.02	0.01	0.01	3.31	0.45	0.02	0.02	1209	32	1.95	98.93	22	12	-1	-1	1.63	45	2966
5541529	0.06	0.06	0.02	2.79	0.39	0.04	0.01	4250	26	2.32	99.2	459	119	-1	1	5.07	53	2632
5541531	0.04	0.04	1.52	5.34	0.48	0.02	0.03	1359	115	0.9	98.58	223	22	-1	-1	4.04	41	2902
5541532	0.05	0.02	0.94	4.77	0.21	0.04	0.01	6195	31	1.14	98.52	683	174	-1	-1	4.54	40	1338
5541533	0.03	0.06	2.19	5.48	0.29	0.01	0.03	2041	51	0.58	98.65	50	58	-1	-1	2.45	36	1856
5541534	0.05	0.03	0.13	5.62	0.32	0.01	0.01	2030	69	1.57	99.02	15	21	-1	2	1.26	37	2060
5541535	0.04	0.01	0.02	1.18	0.36	0.07	0.02	9382	26	2.3	97.4	924	133	-1	1	5.29	46	2334
5541536	0.04	0.01	0.07	2.26	0.21	0.05	0.01	4226	16	1.93	98.23	238	82	-1	-1	3.52	41	1382
5541537	0.16	0.02	0.51	5.08	0.36	0.05	0.01	2976	51	1.7	98.37	257	29	-1	-1	4.56	39	2218
5541538	0.07	0.2	3.04	4.54	0.23	0.05	0.01	4502	18	0.64	98	527	147	-1	2	4.78	42	1455
5541539	0.86	1.05	3.73	3.11	1.48	0.2	0.52	709	295	1.63	99.66	270	14	11	10	5.97	32	8696
5541541	0.1	0.02	0.08	3.99	0.3	0.01	0.03	838	132	1.74	99.46	42	9	1	3	2.06	32	1827
5541542	0.06	0.06	1.97	4.9	0.29	0.03	0.01	1918	55	0.94	99.51	52	7	1	1	2.9	34	1809
5541543	0.03	0.01	0.06	2.24	0.37	0.05	0.01	3101	20	2.45	98.49	119	33	1	2	5.88	39	2259
5541544	0.02	0.07	0.14	3.98	0.34	0.06	0.01	3073	44	1.45	98.31	444	140	1	1	4.56	37	2266
5541545	0.04	0.01	0.05	3.1	0.3	0.07	0.01	2935	21	1.91	99.02	165	43	1	2	4.69	38	1835
5541546	0.13	0.07	0.07	4.28	0.62	0.12	0.02	2826	231	2.54	98.65	341	70	1	1	6.79	61	3943
5541547	0.02	0.14	3.7	4.56	0.29	0.06	0.01	2585	37	0.47	98.74	312	65	1	1	3.89	39	1896
5541548	1.6	3.76	4.81	3.51	1.6	0.24	0.95	1410	1182	1.29	99.46	214	21	11	2	8.71	40	9776
5541549	0.99	3.29	5.1	3.77	1.22	0.21	0.63	1501	926	0.93	99.61	264	25	8	1	7.33	41	7582
5541551	0.06	0.02	1.33	5.7	0.31	0.06	0.02	1576	93	1.33	98.8	199	51	1	2	3.02	34	1987
5541552	0.04	0.02	0.57	6.03	0.35	0.04	0.01	2954	40	0.91	98.44	333	89	1	1	4.32	36	2274
5541553	0.02	-0.01	0.01	1.99	0.4	0.1	0.02	11065	26	2.6	97.21	606	134	-1	-1	5.6	48	2539
5541554	0.03	0.01	0.01	2.67	0.36	0.04	0.02	4769	37	2.72	99.05	322	166	-1	1	3.94	48	2278
5541555	0.1	0.01	0.04	3.51	0.22	0.06	0.01	4723	26	1.99	98.13	450	62	1	2	5.37	50	1371
5541556	0.02	0.01	0.01	2.34	0.35	0.04	0.01	3903	31	2.13	98.91	196	110	1	1	4.02	48	2257
5541557	1.69	4.93	4.55	3.44	1.8	0.27	1.07	1314	1445	0.98	98.84	221	17	12	1	9.3	37	11074
5541558	0.05	0.02	0.05	3.45	0.24	0.03	0.02	868	129	1.86	98.66	88	7	1	1	2.05	40	1537
5541559	0.03	0.01	0.06	2.45	0.29	0.03	0.01	2522	27	1.8	99.06	180	71	1	2	2.85	31	1864
5541561	0.12	-0.01	0.16	2.8	0.83	0.44	0.04	20344	61	5.38	96.24	2809	537	2	1	13	92	5158
5541562	0.01	0.02	0.12	1.75	0.49	0.01	0.01	6977	39	2.09	99.01	14	18	-1	1	0.55	51	2891
5541563	0.04	0.01	0.01	2.82	0.31	0.05	0.01	2179	28	2.05	99.33	165	20	-1	1	2.96	37	1884
5541564	0.05	0.01	0.03	1.45	0.61	0.09	0.05	2123	108	3.65	100.48	148	36	2	1	7.61	62	3822
5541565	0.01	0.34	0.05	1.76	0.5	0.01	0.01	4144	111	1.8	99.35	17	26	-1	1	0.38	42	3076
5541567	0.04	0.14	3.8	4.16	0.3	0.06	0.01	3540	18	0.38	98.55	327	37	-1	2	4.37	53	1842
5541568	0.05	0.05	0.07	2.39	0.41	0.09	0.01	6622	64	1.99	98.79	644	125	1	2	6.21	46	2533
5541569	0.64	2.53	4.93	4.66	0.84	0.26	0.22	2148	1677	1.29	99.65	223	17	2	2	7.06	40	5097
5541571	0.01	0.01	0.05	3.02	0.36	0.01	0.03	866	85	1.98	99.64	16	21	1	1	0.47	30	2242
5541572	0.09	0.01	0.04	3.02	0.38	0.04	0.01	3755	79	1.82	98.9	317	20	1	1	4.22	50	2423
5541573	0.02	0.01	0.01	2.67	0.32	0.03	0.02	1434	47	1.76	99.24	91	8	1	-1	2.53	35	2178

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Lab Num	MgO	CaO	Na2O	K2O	TiO2	MnO	P2O5	Zr (1)	Ba (1)	LOI	Total	Zn	Pb	Co	Ni	Fe%	Ga	Ti
5541574	0.14	0.01	0.01	1.42	0.33	0.1	0.01	2673	68	2.36	98.44	346	24	1	-1	6.8	33	2109
5541575	0.12	0.01	0.01	5.65	0.29	0.02	0.01	844	491	1.15	99.97	94	15	1	-1	3.17	32	1856
5541576	0.1	0.56	4.52	4.78	0.36	0.09	0.04	1500	203	0.71	99.17	235	33	1	-1	3.81	44	2354
5541577	0.06	0.01	0.01	1.12	0.07	0.01	0.01	199	34	0.51	99.48	39	15	1	1	0.9	10	415
5541578	0.16	0.01	0.11	7.09	0.3	0.05	0.02	794	233	1.19	98.99	266	25	1	1	3.41	26	1974
5541579	0.08	0.01	0.04	3.15	0.38	0.03	0.01	4001	50	1.91	98.49	406	84	1	2	4.27	38	2484
5541581	0.06	0.06	1.93	5.17	0.36	0.04	0.03	780	222	0.65	98.95	142	37	1	2	1.99	29	2251
5541582	0.05	0.87	4.93	4.76	0.39	0.12	0.05	1699	210	0.58	98.76	225	49	1	1	4.36	49	2594
5541583	0.01	0.34	4.6	4.52	0.28	0.08	0.01	1934	20	0.53	98.41	341	46	-1	-1	3.58	48	1844
5541584	0.07	0.12	3.06	5.16	0.44	0.04	0.04	840	213	1.05	98.82	158	37	1	2	2.37	32	2770
5541585	0.07	0.01	0.1	5.38	0.4	0.07	0.01	4615	42	1.43	98.11	639	126	-1	2	4.94	39	2577
5541586	0.23	0.01	0.03	5.4	0.28	0.06	0.02	779	286	1.75	99.54	164	18	1	1	3.22	34	1806
5541587	0.25	2.07	0.91	6.67	0.52	0.06	0.09	592	2603	1.25	99.66	86	34	5	2	3.9	29	3343
5541588	0.25	0.33	0.12	3.88	0.47	0.05	0.09	552	535	2.08	99.14	68	-1	3	1	3.16	28	2987
5541589	0.28	0.5	4.57	4.69	0.28	0.07	0.05	841	188	0.48	99.67	181	11	1	1	2.4	44	1694
5541591	3.96	3.65	0.78	7.34	0.52	0.05	0.15	205	793	1.62	100.3	37	-1	12	30	3.77	22	3274
5541592	0.13	0.05	2.84	4.78	0.35	0.05	0.04	870	246	1.01	99.01	124	8	2	15	3.25	32	2078
5541593	0.08	0.24	0.17	4.62	0.38	0.07	0.02	3044	83	1.25	99.16	229	52	2	93	4.74	37	2415
5541594	0.32	0.42	0.08	3.69	0.55	0.08	0.11	521	603	2.25	99.64	120	8	5	2	3.96	30	3397
5541595	0.32	1.13	0.19	4.32	0.56	0.1	0.11	566	2135	1.97	99.75	143	14	5	5	4.74	28	3415
5541596	0.35	1.58	1.47	6.18	0.55	0.04	0.09	612	1885	1.67	99.98	39	16	5	3	2.61	20	3030
5541597	5.5	8.35	3.1	1.47	2.11	0.19	0.32	162	448	1.52	100.04	148	6	52	66	9.42	29	12590
5541598	3.13	3.53	5.09	6.57	0.58	0.04	0.07	235	636	0.38	100.31	32	11	7	22	1.85	20	3659
5541599	4	4.61	2.41	4.94	0.25	0.1	0.06	204	795	0.61	99.84	17	4	3	10	2.51	17	1437
5541601	0.25	1.36	4.26	5.45	0.5	0.12	0.07	1488	438	0.98	99.57	87	26	2	2	4.21	41	3167
5541602	0.11	1.11	4.28	5.25	0.43	0.1	0.05	1413	336	0.97	99.22	249	65	2	1	3.8	42	2743
5541603	0.07	0.06	0.17	6.21	0.36	0.04	0.02	1260	196	1.25	99.33	241	30	1	2	3.23	34	2305
5541604	0.21	0.98	2.09	5.36	0.54	0.09	0.12	530	1752	1	99.67	116	22	3	2	3.6	21	3303
5541605	0.3	1.58	1.96	4.92	0.61	0.08	0.11	630	1829	1.48	98.91	132	19	4	3	4.39	28	3717
5541606	2.37	1.41	2.62	10.73	0.4	0.02	0.06	238	612	0.43	99.07	14	8	5	10	1.2	16	2577
5541607	0.35	55.09	0.01	0.02	0.01	0.06	0.01	3	43	41.09	100.93	89	4	1	1	0.08	2	48
5541609	0.07	0.67	3.69	4.5	0.39	0.08	0.02	1578	134	0.28	98.86	210	30	1	1	3.55	35	2435
5541611	0.21	2.22	3.28	4.16	0.62	0.08	0.12	625	1586	0.76	99.37	135	19	4	3	4.61	28	3883
5541612	0.85	1.1	1.49	7.08	1.13	0.13	0.36	737	760	2.49	99.55	222	31	10	5	5.98	42	6671
5541613	0.05	0.32	0.25	4.55	0.23	0.05	0.01	4151	54	1.37	98.02	249	42	-1	1	4.19	40	1489
5541614	0.03	0.1	4.39	3.9	0.24	0.05	0.01	4286	17	0.45	98.99	515	186	1	2	4.72	42	1531
5541615	0.04	0.06	1.68	5.2	0.27	0.05	0.01	1655	59	0.8	100.07	203	51	1	1	3.48	36	1747
5541616	0.1	0.04	0.08	3.46	0.25	0.04	0.01	8094	31	1.29	98.35	506	228	1	1	4.89	49	1561
5541617	0.05	0.05	0.85	5.82	0.28	0.03	0.06	1955	68	0.93	98.37	194	57	-1	1	3.17	33	1779
5541618	0.04	0.01	0.08	5.72	0.29	0.03	0.03	6293	62	0.86	98.18	183	100	-1	1	3.4	36	1879
5541619	0.05	0.01	0.01	3.4	0.28	0.02	0.02	10788	39	1.48	97.17	195	65	-1	1	5.32	44	1870
5541621	0.03	-0.01	0.16	3.68	0.41	0.03	0.04	2056	91	1.82	99.15	70	52	1	2	3.05	43	2693
5541622	0.05	0.28	0.05	3.09	0.36	0.09	0.02	2409	73	2.03	98.58	300	23	1	2	4.17	36	2322
5541623	0.01	0.04	0.22	3.17	0.45	0.01	0.08	1326	193	2.56	99.05	68	47	-1	1	3.07	54	2620
5541624	0.01	0.06	0.11	0.63	0.26	0.01	0.02	747	45	1.37	99.61	15	-1	-1	1	0.55	23	1448
5541625	0.02	0.27	0.17	1.68	0.21	0.05	0.01	4259	46	2.07	98.24	136	14	-1	2	4.12	42	1262
5541626	0.01	0.01	0.29	2.53	0.27	0.01	0.02	797	109	1.42	98.95	15	-1	-1	1	0.36	27	1354
5541627	0.23	0.31	3.64	4.43	0.29	0.11	0.01	3049	15	0.78	98.39	461	51	-1	2	4.2	52	1839
5541628	0.08	0.33	3.94	4.51	0.29	0.09	0.01	2579	29	0.49	98.6	314	60	-1	1	3.56	50	1868
5541629	0.04	0.07	2.51	4.33	0.38	0.04	0.02	1505	108	0.91	99.57	220	21	-1	2	1.88	36	2374
5541631	0.19	0.07	2.19	5.41	0.32	0.02	0.03	865	205	0.88	99.4	74	17	1	2	1.96	30	1886
5541632	0.03	0.26	3.82	4.85	0.28	0.05	0.01	1018	62	0.39	98.79	136	17	1	-1	2.46	31	1783
5541633	0.08	0.13	3.04	4.95	0.32	0.02	0.03	836	234	0.64	99.13	39	7	1	2	2.45	28	2037
5541634	0.25	0.23	3.46	4.15	0.32	0.05	0.02	887	210	1.07	99.17	377	15	2	2	2.51	31	1982
5541635	0.08	0.38	3.57	4.77	0.29	0.04	0.02	688	207	0.47	98.9	97	20	1	1	2.12	29	1733
5541636	0.03	0.15	3.33	4.35	0.31	0.05	0.01	1315	61	0.56	99.55	203	25	1	1	3.18	34	1948
5541637	0.09	0.62	4.1	5.03	0.36	0.06	0.05	837	315	0.58	99.7	99	22	1	1	2.91	32	2305
5541638	0.03	0.22	3.61	4.57	0.36	0.04	0.01	414	110	0.3	99.3	70	10	1	-1	1.95	31	2302
5541639	0.03	0.13	3.73	4.75	0.3	0.05	0.01	1195	72	0.5	99.48	143	25	-1	1	2.63	32	1859
5541641	0.09	0.44	4.09	4.84	0.38	0.05	0.03	835	234	0.39	98.46	104	22	1	1	2.88	30	2588

Appendix A

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Lab Num	MgO	CaO	Na2O	K2O	TiO2	MnO	P2O5	Zr (1)	Ba (1)	LOI	Total	Zn	Pb	Co	Ni	Fe%	Ga	Ti
5541642	0.07	0.32	2.26	5.43	0.3	0.04	0.01	2029	74	0.86	98.39	105	17	1	-1	2.81	32	1869
5541643	0.02	0.37	3.99	4.63	0.36	0.05	0.01	610	48	0.32	98.37	96	15	1	-1	3.09	35	2244
5541644	0.08	0.56	4.25	5.23	0.4	0.06	0.05	1341	311	0.55	100.36	127	25	1	-1	2.82	32	2488
5541645	0.14	0.5	3.9	4.71	0.43	0.06	0.03	1488	184	0.41	99.37	169	33	1	1	3.58	36	2685
5541646	0.04	0.29	2.47	3.64	0.29	0.1	0.01	5599	90	0.34	98.43	552	148	1	-1	4.46	37	1730
5541647	0.08	0.35	3.69	4.83	0.33	0.05	0.02	480	144	0.58	99.18	95	22	1	-1	2.22	29	1989
5541648	0.06	0.01	0.11	5.81	0.28	0.06	0.01	2055	90	1.32	98.34	842	199	1	-1	3.18	35	1455
5541649	0.15	0.03	1.21	4.86	0.26	0.04	0.01	1443	84	1.49	99.12	106	18	1	1	3.25	34	1554
5541651	0.05	0.36	3.75	4.84	0.34	0.05	0.01	844	113	0.46	99.59	106	26	1	-1	2.32	29	1968
5541652	0.06	0.15	3.06	4.29	0.25	0.06	0.01	4937	20	0.93	98.78	454	68	1	-1	4.5	47	1501
5541653	0.02	0.01	0.07	2.82	0.3	0.03	0.01	5118	25	1.58	98.24	628	21	1	-1	1.25	40	1827
5541654	0.02	0.03	2.55	4.6	0.36	0.02	0.01	2683	35	0.42	98.97	209	85	1	-1	3.92	39	1969
5541655	0.05	0.27	4.07	4.98	0.32	0.05	0.01	543	145	0.59	98.07	86	9	1	-1	2.15	36	1954
5541656	0.06	0.53	3.31	5.35	0.31	0.02	0.02	967	141	1.11	99.29	46	1	1	-1	2.57	44	1627
5541658	0.07	0.06	1.91	4.83	0.24	0.04	0.01	4999	27	0.99	99.31	171	183	-1	-1	2.89	43	1548
5541659	0.24	0.91	1.49	4.82	0.38	0.06	0.06	745	332	0.96	99.42	112	28	2	2	2.78	25	2413
5541661	0.07	0.48	3.86	4.79	0.33	0.06	0.03	904	237	0.46	99.69	119	15	1	2	2.82	31	2125
5541662	6.06	7.61	4.12	2.1	1.89	0.16	0.32	157	749	2.11	100.31	95	22	48	77	8.16	27	11400
5541663	2.64	2.51	9.85	0.37	0.51	0.02	0.07	309	141	0.63	99.91	41	-1	3	7	0.65	23	3087
5541664	1.06	0.46	2.39	0.37	0.14	0.01	0.05	200	16	0.57	99.72	30	1	6	5	0.56	8	804
5541665	0.93	0.09	0.17	5.47	0.33	0.02	0.01	1467	466	0.91	99.19	84	24	2	6	1.76	17	1447
5541666	0.03	0.17	4.17	3.82	0.23	0.04	0.01	1091	49	0.35	99.05	156	55	1	-1	2.93	35	1520
5541667	0.1	0.01	0.02	0.82	0.29	0.08	0.01	3905	24	2.54	98.15	1733	216	5	2	7.35	46	1525
5541668	0.02	0.1	4.7	4.38	0.3	0.09	0.01	3753	18	0.42	99.53	298	68	1	-1	4.25	50	1821
5541669	0.06	0.01	0.08	4.84	0.35	0.04	0.01	2102	82	1.52	99.06	125	-1	1	1	3.57	38	2308
5541671	0.15	0.27	1.98	7.94	0.44	0.11	0.04	1546	198	1.1	99.92	175	762	1	-1	5.21	37	2478
5541672	0.03	0.01	0.21	6.13	0.34	0.04	0.01	1566	72	0.9	99.28	38	15	-1	-1	2.25	25	2158
5541673	0.11	0.16	3.67	5.06	0.25	0.05	0.01	456	46	0.76	99.33	85	6	-1	1	2.4	33	1750
5541674	0.05	0.51	5.7	5.55	0.38	0.12	0.03	831	74	0.8	99.53	160	20	-1	-1	3.68	58	2643
5541675	0.1	0.52	3.34	4.98	0.32	0.05	0.01	1184	103	1.32	99.24	71	15	-1	-1	3.7	37	1997
5541676	0.16	0.02	0.64	7.03	0.32	0.03	0.01	947	205	1.41	99.08	170	32	1	2	2.75	24	1709
5541677	0.09	0.01	0.05	4.41	0.34	0.07	0.01	4578	55	1.47	99.13	463	129	1	2	5.67	34	1995
5541678	0.12	0.01	0.04	3.14	0.28	0.04	0.01	974	95	1.89	99.72	125	19	-1	7	2.57	44	1732
5541679	0.23	0.01	0.09	4.14	0.33	0.06	0.01	4576	60	2.01	98.81	523	54	1	1	6.73	43	2224
5541681	0.41	0.48	3.83	5.05	0.3	0.04	0.01	2105	37	0.92	99.52	370	41	-1	1	3.35	49	1987
5541682	0.07	0.04	3.76	4.59	0.29	0.07	0.01	3657	10	0.58	98.79	426	73	-1	1	4.58	52	1960
5541683	0.03	0.17	4.73	4.91	0.33	0.06	0.01	1645	72	0.53	99.38	237	41	-1	1	3.79	49	2193
5541684	0.03	0.04	3.93	4.56	0.29	0.08	0.01	3565	11	0.42	98.99	410	50	1	5	4.95	53	1946
5541685	0.11	0.23	4.09	4.44	0.29	0.08	0.01	3643	12	0.46	98.88	432	80	-1	3	4.65	53	1892
5541686	0.01	0.32	4.83	4.66	0.33	0.09	0.02	2861	44	0.5	98.87	177	50	-1	1	3.65	48	2019
5541687	0.03	0.03	0.16	4.06	0.3	0.03	0.01	2609	20	1.63	98.29	61	7	-1	1	3.53	39	1957
5541689	0.01	0.39	2.24	5.01	0.29	0.02	0.01	2788	21	1.03	99.05	82	16	-1	1	3.92	40	1822
5541691	0.16	0.54	2.32	4.51	0.27	0.05	0.01	2593	20	1.52	98.51	502	81	-1	1	3.84	40	1758
5541692	0.01	0.07	0.06	2.92	0.3	0.05	0.01	3455	13	1.84	99.04	156	13	-1	1	3.02	40	1927
5541693	0.05	0.31	2.2	5.93	0.29	0.05	0.01	3267	20	0.6	99.23	403	174	-1	2	4.58	38	1858

Lab Num	V	Be	Nb	Cu	Zr	Dy	Sc	Y	Mn	Sr	La	Ce	Ba	Li	Th	Cr	Mo	Rb	F
5541437	7	2.1	20	26	375	9.3	6.6	50	500	94	90	199	1559	20.3	-1	2	2		1020
5541438	7	5.9	45	21	568	11.1	2.2	69	400	10	128	268	95	17.7	-1	2	23	149	420
5541439	3	5.4	58	39	692	11.1	1.3	76	300	4	81	193	96	13.5	8	2	3	197	317
5541441	5	7.2	57	9	683	12.7	1.6	87	400	26	165	344	254	7.7	8	2	6	161	338
5541442	2	27.4	291	25	2647	49	-0.1	333	600	7	240	624	24	312	35	5	13	365	2460
5541444	2	12.1	114	17	909	19.5	0.4	120	600	13	264	562	168	77.2	5	2	7	168	1380
5541445	8	4.2	38	21	741	11.4	0.4	79	100	14	44	179	329	15.5	-1	2	7	217	272
5541446	8	8.5	48	20	701	15.1	1.6	89	300	4	261	505	92	20.6	7	2	4	228	440
5541447	8	4.3	67	17	807	14.2	2.1	92	200	7	165	358	179	8.8	14	2	20	176	403
5541448	1	5.2	72	13	1088	13	1.3	94	-100	4	118	317	59	149.7	21	1	4	29	179
5541449	-1	32.4	258	68		50.2	-0.1	361	700	4	277	811	33	25.3	49	2	33	217	439
5541451	1	28.3	429	31		86.5	-0.1	640	200	5	410	1237	30	23	116	2	6	429	503
5541452	1	12.7	473	11		85.9	0.2	692	200	5	59	593	40	52.2	116	2	10	313	838
5541453	8	5.5	54	15	717	12.7	2.6	83	500	29	156	338	288	22	5	3	10	240	206
5541454	1	16.4	208	24		50.3	-0.1	345	500	10	332	988	46	21.6	57	3	11	433	167
5541455	1	30.6	203	28		53.6	-0.1	392	700	11	379	988	41	14.3	57	2	5	420	155
5541456	1	36.5	204	31		49.5	-0.1	331	300	7	324	925	34	15.1	60	3	5	444	147
5541457	1	28.1	186	17		46.6	-0.1	333	400	10	261	826	40	17.4	57	2	12	332	111
5541458	1	4.4	52	6	666	11.5	1.1	73	300	14	103	243	119	15.5	7	3	4	253	84
5541459	1	6	82	4	1095	15.9	0.7	104	200	6	130	315	114	43.3	4	2	7	313	732
5541461	-1	3.8	184	18		36.3	-0.1	228	300	2	75	403	27	22.3	35	2	164	86	223
5541462	-1	31.3	288	6		54.5	-0.1	371	900	5	243	728	19	9.2	42	2	12	384	1540
5541463	-1	29.3	278	8		45.3	-0.1	320	700	3	128	461	13	9.4	43	2	14	407	258
5541464	-1	9.9	115	5	917	23.2	1.3	137	1100	15	427	860	181	51.1	5	1	32	171	1030
5541465	2	4.6	55	6	723	12.3	1.6	80	300	16	130	307	225	20.5	10	2	8	282	653
5541466	1	12.6	214	31		54.4	0.5	420	700	6	217	650	55	35.7	48	2	12	284	255
5541467	1	8.6	64	3	731	14	3.7	84	200	45	174	373	842	37	-1	1	7	333	939
5541468	-1	26.1	287	9		50.2	-0.1	339	700	7	236	701	20	224.2	36	2	16	407	2760
5541469	-1	28	317	9	2640	46.8	-0.1	283	700	4	214	612	11	186.4	33	2	7	351	1230
5541471	-1	21.8	240	6	2363	28.3	0.6	189	900	7	209	568	71	194	31	2	22	337	2250
5541472	-1	26	290	24	3041	44.3	-0.1	328	200	7	229	659	21	631	38	1	13	389	4070
5541473	2	63.3	54	9	703	11	1.4	70	100	21	158	339	170	61.8	13	2	5	254	3030
5541474	15	8.2	45	9	628	9.9	3.4	63	100	8	131	278	135	19.1	5	4	4	203	1170
5541475	1	304.7	88	49	1873	21.2	0.4	139	200	13	174	478	30	462.5	12	2	5	766	8770
5541476	3	4.4	51	5	817	12.6	0.7	85	300	5	105	210	108	18.6	9	2	6	183	710
5541477	1	5.2	74	13	1250	15.3	2	101	200	4	189	435	71	11.6	8	2	9	209	529
5541478	1	4.5	191	17	3673	41	0.1	275	500	3	40	341	84	34.1	38	2	14	90	285
5541479	-1	10.7	116	4	837	23.7	1.9	137	900	18	361	695	221	67.8	-1	2	8	180	1500
5541481	7	2.6	65	11	871	13.6	2.2	86	200	4	143	323	128	25	9	3	183	146	550
5541482	2	6.1	117	4	2217	25.3	3.6	166	100	7	176	493	75	13.9	29	2	54	423	700
5541483	-1	9.6	270	65	3804	46.3	0.1	338	100	5	128	476	43	13.1	66	2	22	261	584
5541484	4	1.9	20	9	388	10.1	7.2	58	400	99	100	208	1585	13.1	-1	2	3	144	1940
5541485	1	8.9	62	3	955	17	2.5	110	400	32	219	436	426	7.8	7	2	4	216	97
5541486	1	8.4	71	4	1313	12.8	1.1	82	400	18	218	397	130	15.4	8	2	4	233	83
5541487	2	10.6	54	9	711	12.8	1.5	82	500	20	123	282	596	9.4	12	2	12	272	183
5541488	9	5	50	9	658	12	2.8	76	400	24	141	306	306	12.2	7	3	11	289	247
5541489	6	3.6	20	16	403	10.8	8.5	62	700	142	95	204	2081	22.4	-1	3	7	225	702
5541491	5	8	48	5	648	11.3	2.2	68	300	6	100	234	124	10.6	10	4	10	122	606
5541492	-1	2.7	84	9	1454	18.8	0.4	119	200	3	52	192	25	15.5	5	4	2	153	284
5541493	1	4.2	100	3	1276	19	1.3	127	-100	7	135	315	57	52	23	3	6	404	723
5541494	-1	19.7	338	8		69.2	-0.1	492	500	7	392	1081	29	40.3	79	2	4	542	1170
5541495	-1	18.9	350	10		71.4	-0.1	499	700	9	359	1006	23	22	82	2	2	542	1200
5541496	-1	17	151	30	2253	34.8	-0.1	226	200	4	600	754	19	24	18	4	3	304	585
5541497	1	4	48	6	554	10.5	1.2	71	100	3	119	273	57	8.4	9	4	31	181	214
5541498	1	5.3	69	4	1190	15.6	1.7	100	500	16	186	425	252	26.4	8	3	16	330	111
5541499	1	5.6	90	4	1788	21.3	0.5	141	200	4	48	204	44	16.5	23	4	87	257	605
5541501	1	3.3	73	4	1469	15.4	0.3	111	100	3	48	174	36	9.2	20	2	7	206	315
5541502	2	5.3	52	5	662	10.6	1.8	69	300	15	89	236	280	10.6	10	2	5	254	165
5541503	-1	4.1	50	5	833	16.5	0.3	102	500	21	162	360	160	12.4	10	2	3	209	149
5541504	-1	16.6	325	5	2125	49.8	-0.1	373	500	4	140	410	9	48.5	44	2	4	215	1110

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Lab Num	V	Be	Nb	Cu	Zr	Dy	Sc	Y	Mn	Sr	La	Ce	Ba	Li	Th	Cr	Mo	Rb	F
5541505	-1	3.9	96	7	931	16	0.9	106	100	11	201	472	105	16.6	4	2	4	198	601
5541506	1	5.1	305	10		56.2	1	456	-100	1	27	328	20	84.1	91	3	3	-5	147
5541507	2	3.5	90	3	1572	18.9	1.3	122	100	7	195	399	125	3.8	21	1	13	220	306
5541508	1	7	182	6	3945	48.5	0.3	364	300	10	290	676	105	16.7	59	1	27	171	321
5541509	-1	4.2	50	3	677	12.1	1.5	79	300	19	183	375	232	15.7	10	1	7	192	134
5541511	-1	4.7	48	5	649	11.8	1.3	78	200	13	164	356	197	17.6	9	1	47	272	1130
5541512	1	12.5	203	7		52.7	0.2	397	300	7	332	740	247	20	66	3	218	169	636
5541513	2	6.9	180	10	3751	32.7	0.2	208	300	3	111	873	49	9.7	57	3	7	156	768
5541514	2	4.4	56	6	982	12.1	2.2	83	100	4	145	334	88	6	18	3	18	142	422
5541515	2	12.4	274	5		58	-0.1	416	200	3	345	993	35	16.7	85	3	33	243	413
5541516	-1	14.6	365	6		75.3	0.1	584	200	6	45	452	27	85.8	94	3	3	220	862
5541517	-1	28.9	405	7		76.6	-0.1	587	700	11	289	1062	32	8	107	3	2	707	1260
5541519	-1	13.9	218	25	2780	52.2	-0.1	379	300	9	356	689	21	18	48	3	2	234	1810
5541521	-1	10	262	12	3530	53.9	-0.1	425	700	10	90	536	19	38.4	64	4	2	481	891
5541522	-1	15.8	77	8	1460	14.7	0.6	93	200	3	215	414	44	14.5	13	4	4	177	328
5541523	-1	13.9	58	15	1215	15.2	1.4	101	100	2	502	921	43	5.8	14	3	5	185	305
5541524	1	64.3	222	2		52.9	3.1	392	500	10	560	1225	157	18.2	29	2	75	468	484
5541525	-1	6.8	74	14	1457	20.7	0.7	137	200	3	245	473	90	8.9	9	2	14	145	250
5541526	1	4.6	128	61	2433	32.3	0.7	256	100	7	225	563	79	12.5	40	2	7	484	544
5541527	1	32.1	616	18		130.3	-0.1	910	700	5	845	2278	27	19.5	211	2	7	171	583
5541528	-1	2.7	64	6	1138	13.1	2.2	85	100	5	117	305	33	7.9	9	2	7	126	526
5541529	-1	16.9	206	9		59.3	0.3	439	300	8	691	898	26	16	57	2	5	210	421
5541531	-1	7.3	65	9	1199	16.7	2.1	93	200	10	218	451	113	9.6	1	2	6	187	171
5541532	-1	50.5	357	12		79.9	-0.1	552	200	14	437	1180	32	26	113	3	3	637	169
5541533	-1	6.4	124	4	1963	24.8	0.3	169	100	11	155	354	50	3.2	29	2	4	327	128
5541534	1	6.6	137	8	1956	24.6	0.5	197	100	12	33	154	70	4.8	36	4	8	343	193
5541535	1	19.8	647	136		140.9	-0.1	1039	500	5	809	2151	27	16.9	202	2	4	135	369
5541536	1	12.5	259	18		54.5	-0.1	404	400	4	338	940	16	15.7	77	2	5	250	404
5541537	-1	17.2	203	20	3050	38.5	0.1	263	400	6	189	724	52	59	40	3	3	430	317
5541538	-1	13.2	329	8		70.3	-0.1	462	400	6	310	808	19	316	94	2	3	558	1930
5541539	46	6.2	45	4	595	12.9	10	71	1500	36	159	320	295	26.5	-1	11	8	185	391
5541541	2	6.2	65	8	770	14.3	1.1	93	100	7	151	343	130	19.4	23	3	14	188	400
5541542	1	11.2	114	5	1852	25.1	0.3	165	200	11	209	493	57	22	30	2	3	344	201
5541543	-1	7	191	8	3012	44.5	0.1	295	300	2	292	636	19	26.1	39	2	2	209	601
5541544	-1	13.5	205	9	3177	46.5	-0.1	303	500	6	327	790	45	24.8	47	2	3	367	516
5541545	-1	10.6	180	9	2912	38.6	0.1	264	500	3	250	647	21	23.5	46	3	5	257	380
5541546	1	11.7	142	9	2790	30.5	0.7	168	1000	9	399	922	226	27.8	18	2	22	263	956
5541547	-1	22.5	164	20	2404	37.2	0.2	249	400	7	278	688	37	93.2	35	2	4	277	747
5541548	5	8	82	22	804	21.3	21.6	119	1800	150	225	487	1158	39.3	-1	3	16	116	1490
5541549	2	9.6	100	25	658	22.3	16.8	132	1600	120	250	533	929	34.5	-1	3	16	117	1700
5541551	1	4.8	109	12	1344	18.7	0.4	111	700	10	200	468	93	23.7	22	2	6	272	138
5541552	-1	18.1	199	30	3031	43.1	-0.1	289	300	10	310	811	42	12.5	46	2	3	425	496
5541553	2	30.6	766	29		162.2	-0.1	1161	800	4	766	2237	29	13.1	247	2	3	295	447
5541554	1	6.7	262	19		59	-0.1	402	300	4	309	860	38	27.6	68	2	6	381	983
5541555	1	24.8	313	23		68.3	-0.1	453	500	7	175	1143	26	31.8	95	3	3	495	496
5541556	1	11.1	201	23	3653	46	0.4	317	200	4	93	499	32	22.2	57	2	3	172	167
5541557	5	6.4	66	22	996	19.4	26.8	106	1900	194	207	456	1419	23.9	-1	2	13	85	1270
5541558	1	3.8	45	14	775	13.5	0.5	85	300	5	106	252	131	31.9	17	2	55	196	328
5541559	1	12.9	164	15	2613	34.2	0.1	236	300	3	225	531	30	9.1	42	2	3	232	252
5541561	5	54.5	1414	37		275.6	-0.1	1888	3500	10	604	2518	68	155.3	403	4	6	568	785
5541562	2	6.3	349	27		66.5	0.3	446	-100	4	16	410	39	73.1	109	3	5	249	357
5541563	1	5.5	129	19	2064	29.1	0.2	189	300	2	216	566	27	11.9	34	2	11	188	342
5541564	-1	4.2	100	11	1871	25.5	1.8	147	700	5	240	575	107	78.6	5	2	2	103	169
5541565	1	5.3	196	15		34.6	0.4	234	-100	15	17	296	111	43.8	74	2	6	114	353
5541567	1	48.3	297	12	3297	51.5	-0.1	333	500	4	255	693	17	110.5	47	2	3	336	905
5541568	1	13.9	328	26		75.7	-0.1	499	700	7	551	1416	64	33.2	86	2	30	262	385
5541569	-1	7.7	78	12	1616	21	17	120	1900	129	296	643	1675	17.2	-1	2	14	119	1060
5541571	2	2	65	13	801	11.5	1.6	86	-100	8	148	328	85	20.5	27	2	13	187	314
5541572	1	17	187	18		33.7	0.5	166	300	4	284	895	79	18.9	55	2	21	293	354
5541573	-1	4.8	80	11	1574	17	0.6	122	200	4	178	333	47	5.7	17	2	7	177	259

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Lab Num	V	Be	Nb	Cu	Zr	Dy	Sc	Y	Mn	Sr	La	Ce	Ba	Li	Th	Cr	Mo	Rb	F
5541574	-1	3.5	139	9	2290	35.6	0.1	248	800	2	123	330	69	22.4	25	2	29	79	210
5541575	-1	3.7	49	14	783	13.4	0.6	90	200	13	76	207	475	4.4	9	2	11	240	233
5541576	-1	10.2	116	6	971	20.4	2	130	700	21	304	606	219	78.3	9	2	16	177	732
5541577	4	2.5	13	21	181	2.9	0.4	20	-100	4	39	83	35	8.4	-1	2	60	65	199
5541578	1	5.5	59	15	765	12.3	1.6	83	400	21	127	282	230	32.8	12	4	3	335	131
5541579	1	17.6	196	26		30.3	0.4	2	300	4	86	589	50	20.8	2484	2	2	220	269
5541581	1	19.3	54	12	714	12.1	1.8	82	300	23	166	325	228	6.9	16	3	2	234	112
5541582	-1	12.9	144	16	1384	23.8	1.9	145	1000	19	332	772	212	78	13	2	23	188	1680
5541583	-1	17.7	165	10	1921	17.2	-0.1	120	700	5	123	390	21	119.2	16	2	11	266	1780
5541584	3	5.8	60	26	731	13.6	2.3	90	300	29	223	423	218	15.4	16	3	4	176	162
5541585	-1	44.7	209	17		52.6	-0.1	377	600	10	315	851	43	15.4	64	5	2	481	234
5541586	3	3	51	27	629	11.3	1.5	74	500	18	134	290	287	17	8	2	26	250	403
5541587	4	5	21	16	352	12.2	7	79	500	102	125	226	2574	18.5	-1	3	3	202	999
5541588	8	6	17	14	342	9.1	6	51	500	19	111	221	529	39.2	1	6	2	166	437
5541589	-1	6	45	8	364	10.4	1.8	64	600	20	67	159	180	24.7	-1	6	4	147	746
5541591	59	4	13	21	185	6.1	13.1	36	400	177	43	93	776	70	-1	47	3	239	1100
5541592	2	12.5	50	8	708	12.7	2	83	300	19	169	347	248	11	12	2	4	173	43
5541593	1	10.5	145	19	2871	35.5	0.1	242	500	17	254	727	83	19	39	2	8	308	562
5541594	11	5.5	17	16	432	9.8	9	59	700	23	96	210	603	21.1	5	3	5	187	1020
5541595	4	4.6	19	12		11.1	9.1	68	800	87	105	212	2036	31.8	-1	2	16	193	630
5541596	10	2	16	11	375	8.1	6.2	56	200	171	94	186	1811	22.1	5	3	3	236	2300
5541597	218	1.2	3	46	109	7.2	27.7	31	1400	257	23	53	441	46	-1	119	5	91	557
5541598	31	11	13	15	223	7.4	13.9	57	300	137	25	83	622	25.9	8	19	5	246	1190
5541599	13	3.9	12	13	188	6.8	7.9	38	800	133	55	116	783	7	14	9	6	145	696
5541601	1	17.5	103	9	446	19.5	3.8	116	1000	47	422	763	438	15.8	16	1	18	220	2840
5541602	1	17.9	126	30	779	26.7	2.7	184	800	42	426	769	341	28	23	1	14	264	1690
5541603	1	5.4	72	11	1286	19.1	0.7	117	400	25	201	442	199	18	10	1	6	275	243
5541604	9	3	16	19	418	8.5	8.3	44	700	122	94	197	1718	38.5	1	3	5	154	179
5541605	9	3.5	20	13	398	11.5	8.3	3	600	148	104	218	1795	24.7	-1	2	4	138	366
5541606	23	2.5	22	23	218	4	9.3	22	100	162	18	57	604	35.9	20	19	4	471	1280
5541607	1	-0.1	1	4	6	0.4	0.2	3	400	107	6	9	41	0.2	-1	1	8	5	61
5541609	1	10	79	14	1300	19.3	1.2	115	600	18	212	492	129	4.5	9	-1	5	191	66
5541611	8	2.6	21	15	384	12.2	9.2	69	600	149	120	222	1552	9.9	-1	3	5	122	846
5541612	21	3.4	35	15	572	12.1	11.8	62	1000	41	119	250	751	27.5	-1	8	7	339	683
5541613	1	30.9	324	12		78.2	-0.1	533	400	15	338	929	54	122	86	3	4	702	3060
5541614	1	16.8	327	24		70.3	-1	546	400	6	107	558	19	248.4	82	4	3	468	2110
5541615	1	11.2	109	19	1633	23.4	0.2	161	400	11	176	440	63	20.8	21	2	2	290	391
5541616	2	36.5	521	28		108.2	-0.1	792	300	11	534	1542	32	40.9	164	2	3	721	622
5541617	-1	9.2	122	13	1885	24.7	0.3	175	300	12	205	493	66	16.6	27	2	3	408	147
5541618	1	25.3	375	20		73.6	-0.1	553	200	15	399	1178	62	30.6	118	2	3	938	350
5541619	1	47.3	646	22		141.6	-0.1	1024	200	11	596	1876	41	33.6	222	2	9	528	709
5541621	-1	5.4	112	18	1941	36.9	0.5	240	200	11	211	566	96	9.7	20	3	2	343	311
5541622	1	19.2	118	14	211	26.1	0.3	176	800	7	243	620	72	41.5	22	3	7	204	1630
5541623	3	3.8	89	15	1122	21.1	1.8	128	100	17	226	730	195	37.9	25	3	12	161	372
5541624	1	4.1	45	11	642	6.6	1.4	50	-100	8	58	139	45	30.3	18	2	4	33	221
5541625	-1	9.1	312	27		67.1	-0.1	442	300	9	308	894	45	41.3	85	2	13	181	2000
5541626	1	2.4	45	22	638	7.8	1.4	58	-100	8	145	262	111	10.8	20	2	20	235	698
5541627	-1	26.2	234	13	2913	43.5	-0.1	313	900	6	225	620	16	125.3	31	3	13	336	1920
5541628	-1	20.1	259	9	2490	44.8	-0.1	299	800	6	271	687	27	142.7	38	2	3	267	1640
5541629	1	6.8	89	29	1094	17.6	1	117	300	13	255	516	109	13.9	17	2	4	162	483
5541631	1	4.2	52	19	698	11.7	1.4	78	100	18	212	429	203	12.4	14	2	4	216	183
5541632	-1	7.7	74	10	497	9.3	1.2	59	400	6	130	271	61	54.2	9	2	9	199	878
5541633	1	3.9	56	20	687	9.6	1.6	72	200	23	138	302	236	6.6	10	3	3	178	241
5541634	1	4.5	57	26	712	16.5	1.4	108	400	26	308	404	208	5.8	13	3	4	130	344
5541635	-1	5.5	57	5	235	9.1	1.7	58	300	17	177	338	207	25.6	10	2	8	172	835
5541636	-1	10	85	5	631	15.9	0.8	108	400	10	152	302	56	7.2	8	2	3	210	231
5541637	1	4.9	52	4	299	9.7	2.9	59	500	24	213	384	325	16.5	7	2	4	130	467
5541638	-1	3.7	55	3	314	4.9	0.9	28	300	8	98	325	111	23	7	2	5	141	153
5541639	-1	8.8	87	24	971	11.7	1.2	84	300	5	101	258	69	68.7	12	2	4	206	477
5541641	-1	5.2	58	7	473	7.3	2.5	45	400	17	87	238	234	32.4	4	2	8	149	244

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Lab Num	V	Be	Nb	Cu	Zr	Dy	Sc	Y	Mn	Sr	La	Ce	Ba	Li	Th	Cr	Mo	Rb	F
5541642	-1	11.4	116	14	1921	25.4	0.3	175	300	16	234	529	72	8.9	34	2	3	227	96
5541643	-1	6.9	60	4	302	9.2	0.3	51	400	7	151	311	48	25.6	9	2	2	182	191
5541644	-1	6.6	74	4	383	10.5	2.6	65	400	21	103	251	302	47.7	5	3	5	176	552
5541645	-1	8.6	83	9	811	14.1	1.7	99	500	14	129	322	181	17.5	17	2	3	206	192
5541646	1	33	289	8		56.3	0.1	432	800	26	315	838	84	5.4	92	2	4	294	76
5541647	-1	6	66	3	308	7.5	1.7	46	300	12	145	371	139	29.1	12	2	5	170	683
5541648	-1	7	123	22	1818	25.9	0.2	183	400	10	172	455	82	8.2	30	3	3	337	119
5541649	-1	4.7	95	103	1249	18.4	0.3	131	300	9	158	329	81	11.3	18	2	3	218	98
5541651	-1	6.8	69	2	488	8.3	1.8	51	300	8	139	342	108	52.4	14	2	9	174	899
5541652	-1	8.8	365	18		74.2	-0.1	525	500	12	364	689	18	25.8	92	2	3	389	397
5541653	1	9.1	361	9		73.7	-0.1	537	200	7	480	1067	24	61.2	94	2	28	420	1020
5541654	-1	15.6	176	19	2559	34.9	0.1	258	200	9	379	530	34	14	36	2	3	317	174
5541655	-1	4.6	49	5	434	9.6	1	58	400	14	195	357	140	20.9	5	2	4	141	380
5541656	-1	15.3	116	4	708	13.2	0.9	89	200	12	280	573	138	24.4	22	1	7	265	2080
5541658	1	10.4	382	4	-1	69.5	-0.1	501	300	13	340	1130	26	24.5	104	-1	2	531	223
5541659	12	2.7	47	29	590	11.1	2.4	75	400	86	158	313	332	10.5	12	2	13	161	1090
5541661	1	6.8	65	5	476	11.1	2.5	69	400	16	206	450	237	41.5	10	3	8	156	684
5541662	199	2.9	4	22	111	6.2	26.2	31	1200	368	25	54	718	80.6	-1	118	6	147	1760
5541663	42	9.9	14	8	242	4	10.1	27	100	83	11	50	136	50.7	5	23	4	17	2130
5541664	7	0.9	4	5	103	1	2	7	100	15	11	26	16	66	3	28	1	41	2930
5541665	11	6.1	33	6	1413	14.7	2.6	120	200	21	115	397	458	39.5	30	19	1	255	409
5541666	-1	11.4	96	12	1004	16.3	0.3	127	300	8	114	345	47	12.6	26	2	6	230	539
5541667	2	26.5	153	32		67.4	-0.1	529	700	3	923	1867	25	13.9	57	2	37	55	300
5541668	-1	23	330	8	1657	21.9	-0.1	129	700	4	172	427	17	114.2	108	2	10	387	1220
5541669	1	7.6	110	12	2112	21.7	0.4	146	300	7	121	295	83	6.5	22	2	3	301	196
5541671	-1	8.6	79	11	897	16.3	2.3	96	800	20	239	497	200	16.7	4	2	13	314	1210
5541672	-1	5	81	17	1580	16.5	0.4	100	300	6	260	602	72	12.7	21	2	10	367	344
5541673	-1	4.8	34	6	309	7.9	0.5	45	400	8	133	282	46	43.7	4	2	7	164	675
5541674	-1	6.5	110	12	653	23.7	-0.1	139	900	11	411	834	76	12.3	10	2	15	159	644
5541675	-1	11.1	96	21	935	20	0.8	122	400	19	189	428	101	19.4	16	2	7	226	1380
5541676	3	4	41	15	918	18.7	0.6	122	200	29	302	502	220	13.8	21	3	4	304	204
5541677	1	14.2	205	23		74.2	-0.1	502	700	14	363	922	57	7.6	91	2	4	235	111
5541678	2	5.6	42	21	870	15.1	0.6	90	300	5	114	284	100	16.5	18	2	3	205	353
5541679	1	26.6	205	10		67.1	-0.1	411	500	14	872	1258	60	26.2	87	2	6	223	252
5541681	1	13.5	187	19	1919	27.7	0.2	170	300	10	224	579	39	60.4	23	1	16	230	2450
5541682	-1	30.9	316	17	4032	60.7	-0.1	418	700	6	258	739	13	151.6	51	2	16	414	1150
5541683	1	14.3	155	13	1124	21.2	0.2	120	400	8	290	630	76	73.2	23	2	18	201	811
5541684	1	31.3	310	20	3976	55.6	-0.1	385	500	6	274	783	11	125.3	56	4	12	402	859
5541685	1	31.9	307	19	3756	58.2	-0.1	390	700	7	247	734	12	157.3	56	2	13	391	1700
5541686	1	16.2	184	15	2514	27.1	-0.1	144	700	8	358	822	42	118.7	30	2	17	261	1450
5541687	1	8.4	185	14	2532	34.2	0.2	237	200	6	200	528	21	23.3	48	2	10	471	831
5541689	-1	39	182	17	2825	38.9	0.2	267	100	16	191	546	21	113.6	46	2	2	516	2110
5541691	1	23.4	168	30	2509	36.8	-0.1	253	300	8	209	571	21	21.3	44	2	12	255	2230
5541692	1	10.4	222	14	3364	47.1	-0.1	320	400	5	245	701	13	26.3	64	2	11	302	608
5541693	-1	18.3	204	23	3280	46.8	-0.1	327	400	7	224	637	20	96.2	52	3	3	566	1660