



Natural Resources

Mines Branch

GEOCHEMICAL DATA FROM THE TALLY POND VOLCANIC BELT

P.J.M. Moore, G.C. Squires and H. Rafuse

Open File 012A/1375

**St. John's, Newfoundland
February, 2009**

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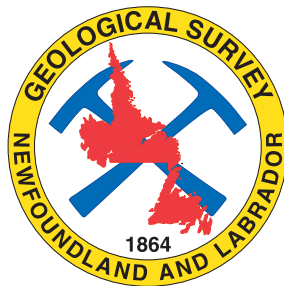


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SUMMARY

This data release consists of whole-rock geochemical data from the Tally Pond volcanic belt and adjacent areas, which represent a volcanogenic massive sulphide environment in central Newfoundland. This area contains the Duck Pond Cu–Zn–Pb–Ag + Au deposit, and numerous other prospects. The geological context of these rocks and a description of the regional stratigraphy are contained in reports by Moore (2003) and Squires and Moore (2004). All of the sampled locations lay within 1:50 000 topographic map sheets 12A/09 and 12A/10. This open file provides no attempt at interpretation of these data; its purpose is to place them in the public domain (Appendix A).

The present release includes locational data, major element and trace element data. All of these samples were acquired in 2002 by Paul Moore or in 2003 by Gerald Squires. The data are tabulated below and are also available in digital format, *i.e.*, Microsoft Excel (*.xls file). The samples include field samples from outcrops and samples collected from diamond drill core.

Note that the release also includes data for several standards, and for analytical blanks completed at Memorial University. These may be used to assess accuracy. Duplicate analyses of selected samples are also included.

Major elements and most trace elements were analyzed at the Department of Natural Resources laboratory by inductively-coupled-plasma–emission-spectrometry (ICP-ES) methods. The trace element Rb was determined by atomic absorption (AA) methods. Rare-earth-element (REE) analysis was carried out at Memorial University of Newfoundland by inductively-coupled-plasma–mass-spectrometry (ICP-MS) methods. Note that a negative value reported for a given element indicates that its concentration was below the detection limit. Major elements are reported in weight percent, and trace elements are reported in ppm.

The drill holes that provided samples for analyses were completed by a variety of exploration companies active in this area. Some of the drill holes are now archived within the Department of Natural Resources Core-Storage Program, but others are in the care of mineral exploration companies. Information on the drill holes and other units encountered are contained in assessment reports. For information on which report should be consulted for a specific drill hole, *see* Table 1. Note that locational data for drillhole samples represents the collar location. In cases where the hole was not drilled vertically, the projected surface location of a given sample may differ from these coordinates.

Table 1. Drill hole and reference information

Drill Hole	Reference	Drill Hole	Reference	Drill Hole	Reference
DP-87-116	12A/0484	EP-01-06	12A/0933	DP-88-173	
DP-87-122	12A/0484	EP-96-01	12A/0933	DP-88-176	
DP-87-123	12A/0484	EP-96-02	12A/0933	DP-99-207	
DP-87-97	12A/0484	SP-01-03	12A/0987	DP-99-214	
DP-87-107	12A/0484	SP-01-04	12A/0987	EO-90-01	DNR
TP-88-52A	12A/0537	BD-99-126	12A/1016	EO-90-02	DNR
HL-91-01	12A/0630	BD-99-127	12A/1016	LM-91-04	DNR
HL-91-02	12A/0630	DP-88-146	12A/0484	LM-91-06	DNR
BP-01-02	12A/09/1125	DP-88-154	12A/0484	LM-92-07	DNR
BP-01-03	12A/09/1125	DP-88-155	12A/0484	LM-93-09	DNR
EP-01-04	12A/0933	DP-88-167		LM-93-10	DNR
EP-01-05	12A/0933	DP-88-168			

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Moore, P.J.

2003: Stratigraphic implications for mineralization: preliminary findings of a metallogenic investigation of the Tally Pond volcanics, central Newfoundland. *In* Current Research. Newfoundland and Labrador Department of Mines and Energy, Geological Survey, Report 03-01, pages 241-257.

Squires, G.C. and Moore, P.J.

2004: Volcanogenic massive sulphide environments of the Tally Pond volcanics and adjacent area: geological, lithogeochemical and geochronological results. *In* Current Research. Newfoundland and Labrador Department of Mines and Energy, Geological Survey, Report 04-01, pages 63-91.

APPENDIX A

Lab Num	Field Num	Rock Type	DDH	From (m)	To (m)	Interval (m)	UTM Zone	Easting	Northing	SiO2	Al2O3	Fe2O3T_	Fe2O3
6840001	PJM-02-002	basalt	O/C	N/A	N/A	N/A	21	485817	5363662	46.27	13.76	12.91	6.98
6840002	PJM-02-006	basalt	O/C	N/A	N/A	N/A	21	469685	5355170	48.28	20.12	11.83	1.74
6840003	PJM-02-012	rhyolite	O/C	N/A	N/A	N/A	21	574159	5396983	76.04	14.21	2.72	1.74
6840006	PJM-02-018	basalt	DP-99-207	52.7	53	0.3	21	537506	5386479	47.74	14.09	15.23	2.37
6840007	PJM-02-019	basalt	DP-99-207	59	59.3	0.3	21	537506	5386479	47.52	15.94	8.65	1.64
6840008	PJM-02-020	basalt	DP-88-176	43.6	43.9	0.3	21	537556	5386537	49.76	15.3	9.58	1.26
6840009	PJM-02-021	basalt	DP-88-176	76.3	76.6	0.3	21	537556	5386537	42.9	14.12	9.32	0.65
6840011	PJM-02-022	melano-gabbro	DP-87-116	113.4	113.7	0.3	21	537299	5386233	47.7	12.44	15.54	1.68
6840012	PJM-02-023	melano-gabbro	DP-87-116	129.5	129.8	0.3	21	537299	5386233	46.91	14.07	15.42	4.07
6840013	PJM-02-024	gabbro	DP-87-116	89.7	90	0.3	21	537299	5386233	47.89	13.55	14.29	2.54
6840014	PJM-02-025	gabbro	DP-87-116	151.4	151.7	0.3	21	537299	5386233	48.79	13.73	14.56	2.56
6840015	PJM-02-026	melano gabbro	DP-87-97	117.7	118	0.3	21	537363	5386310	43.96	12.03	17.47	3.06
6840016	PJM-02-027	melano gabbro	DP-87-97	119.2	119.5	0.3	21	537363	5386310	43.51	11.77	18.59	3.98
6840017	PJM-02-028	gabbro	DP-87-97	98.2	98.5	0.3	21	537363	5386310	43.68	12.55	13.47	1.26
6840018	PJM-02-029	gabbro	DP-87-97	140	140.3	0.3	21	537363	5386310	47.73	13.75	14.58	2.61
6840019	PJM-02-030	rhyolite	DP-99-214	130	130.4	0.4	21	537418	5386372	83.15	8.67	1.41	0.28
6840021	PJM-02-031	rhyolite	DP-99-214	169.3	169.6	0.3	21	537418	5386372	67.95	14.79	5.96	0.81
6840022	PJM-02-032	rhyolite	DP-87-95	136.1	136.4	0.3	21	537400	5386370	62.53	16.7	3.09	0.36
6840023	PJM-02-033	rhyolite	DP-87-95	158.7	159	0.3	21	537400	5386370	68.73	14.22	5.17	0.94
6840024	PJM-02-034	rhyolite	DP-99-207	94	94.3	0.3	21	537506	5386479	80.01	10.3	1.16	0.81
6840025	PJM-02-035	rhyolite	DP-99-207	129.8	130.1	0.3	21	537506	5386479	76.92	11.83	2.25	0.92
6840026	PJM-02-036	rhyolite	DP-88-176	87.8	88.1	0.3	21	537556	5386537	78.27	11.17	2.04	0.06
6840027	PJM-02-037	rhyolite	DP-88-176	98.6	98.9	0.3	21	537556	5386537	70.49	13.22	2.72	0.49
6840028	PJM-02-038	basalt	DP-87-97	199.7	200	0.3	21	537363	5386310	46.34	16.19	9.71	2.5
6840029	PJM-02-039	basalt	DP-87-97	250.1	250.4	0.3	21	537363	5386310	43.16	16.89	10.47	0.9
6840031	PJM-02-040	basalt	DP-99-214	204.1	204.4	0.3	21	537418	5386372	49.51	16.51	13.52	1.57
6840032	PJM-02-041	basalt	DP-99-214	233	233.3	0.3	21	537418	5386372	41.23	15.96	11.51	0.98
6840033	PJM-02-042	basalt	DP-87-116	190.9	191.2	0.3	21	537299	5386233	48.89	15.16	13.38	2.44
6840034	PJM-02-043	basalt	DP-87-116	233.4	233.7	0.3	21	537299	5386233	47.51	16.64	9.4	2.78
6840035	PJM-02-044	rhyolite	DP-99-214	213.2	213.5	0.3	21	537418	5386372	70.38	15.19	2.6	1.14
6840036	PJM-02-045	rhyolite	DP-88-168	247.6	247.9	0.3	21	537540	5386510	59.36	18.64	2.57	0.46
6840037	PJM-02-046	rhyolite	DP-88-168	253.9	254.9	1	21	537540	5386510	72.42	12.75	1.75	
6840038	PJM-02-047	rhyolite	DP-87-97	374.1	374.5	0.4	21	537363	5386310	78.35	9.44	3.69	0.98
6840039	PJM-02-048	rhyolite	DP-87-97	393.8	394.1	0.3	21	537363	5386310	59.17	10.59	4.42	1.84
6840041	PJM-02-049	rhyolite	DP-87-116	436.8	437.1	0.3	21	537299	5386233	77.97	11.73	1.52	
6840042	PJM-02-050	rhyolite	DP-88-154	366	367.3	1.3	21	537492	5386458	76.35	10.14	2.53	0.77
6840043	PJM-02-051	rhyolite	DP-88-154	467	468.5	1.5	21	537492	5386458	75.05	10.08	3.99	0.79
6840044	PJM-02-052	rhyolite	DP-88-176	377.6	377.9	0.3	21	537556	5386537	73.1	10.91	2.64	0.86
6840045	PJM-02-053	rhyolite	DP-88-155	206.3	206.7	0.4	21	537622	5386614	79.49	10.67	1.09	0.18
6840046	PJM-02-054	diabase	DP-88-154	238.8	239.8	1	21	537492	5386458	43.25	14.64	9.29	0.68
6840047	PJM-02-055	diabase	DP-99-207	224.7	225	0.3	21	537506	5386479	42.87	15	9.89	0.71
6840048	PJM-02-056	diabase	DP-99-207	264.3	264.6	0.3	21	537506	5386479	43.41	14.75	9.9	0.66
6840049	PJM-02-057	rhyolite	DP-88-176	680.9	681.4	0.5	21	537556	5386537	80.21	10.13	4.53	2.75
6840051	PJM-02-058	rhyolite	DP-87-97	563.8	564.1	0.3	21	537363	5386310	77	10.69	1.57	0.92
6840052	PJM-02-059	rhyolite	BD-99-126	17.1	17.8	0.7	21	541118	5389365	64.62	17.49	4.83	2.39
6840053	PJM-02-060	rhyolite	BD-99-127	13.1	14.8	1.7	21	541102	5389383	80.94	10.75	1.65	
6840054	PJM-02-061	rhyolite	DP-88-168	224.1	224.6	0.5	21	537540	5386510	81.2	7.82	0.76	0.13
6840055	PJM-02-062	rhyolite	DP-88-154	568.2	568.6	0.4	21	537492	5386458	76.06	9.95	4.22	2.26

APPENDIX A

Lab Num	Field Num	Rock Type	DDH	From (m)	To (m)	Interval (m)	UTM Zone	Easting	Northing	SiO2	Al2O3	Fe2O3T_	Fe2O3
6840056	PJM-02-063	rhyolite	DP-87-97	734	734.3	0.3	21	537363	5386310	80.23	9.45	1.2	1.14
6840057	PJM-02-064	basalt	TP-88-52A	469.5	469.8	0.3	21	540814	5389445	41.44	18.9	14.64	1.57
6840058	PJM-02-065	basalt	TP-88-52A	473.3	473.6	0.3	21	540814	5389445	51.49	15.76	11.5	1.3
6840059	PJM-02-066	basalt	TP-88-52A	488.7	489	0.3	21	540814	5389445	43.65	17	12.36	1.34
6840061	PJM-02-089	microgranite	O/C	N/A	N/A	N/A	21	519633	5375549	75.05	13.15	1.34	0.46
6840062	PJM-02-098	gabbro	O/C	N/A	N/A	N/A	21	535022	5392704	49.98	14.03	13.29	2.2
6840063	PJM-02-100	gabbro	O/C	N/A	N/A	N/A	21	529905	5391702	48.2	15.07	12.4	1.83
6840064	PJM-02-102	feldspar-phyric rhyolite	O/C	N/A	N/A	N/A	21	527327	5384790	70.36	10.79	1.45	1.32
6840065	PJM-02-103	intermediate intrusive phase of Harpoon	O/C	N/A	N/A	N/A	21	527762	5380095	67.27	15.57	5.39	3.7
6840066	PJM-02-106	basalt sill	LM-91-04	44.9	45.2	0.3	21	520813	5374633	44.38	13.3	11.78	1.41
6840067	PJM-02-107	basalt sill	LM-91-04	62.7	63	0.3	21	520813	5374633	43.87	15.2	13.35	2.08
6840068	PJM-02-108	basalt sill	LM-91-04	97.5	97.8	0.3	21	520813	5374633	43.98	14.49	8.73	0.9
6840069	PJM-02-109	basalt sill	LM-91-04	123.4	123.7	0.3	21	520813	5374633	44.85	13.95	11.25	4.47
6840071	PJM-02-110	foliated/sheared gabbro	DP-88-173	82.5	85.8	3.3	21	537420	5386550	41.42	15.78	9.59	0.94
6840072	PJM-02-111	foliated/sheared gabbro	DP-87-107	118.8	119	0.2	21	537325	5386435	42.76	15.26	16.54	2.2
6840073	PJM-02-112	basalt sill/flow	LM-92-07	29.7	30	0.3	21	520996	5374619	51.04	15.08	12.41	4.69
6840074	PJM-02-113	basalt sill/flow	LM-92-07	107.7	108	0.3	21	520996	5374619	45.37	17.35	14.87	2.18
6840075	PJM-02-114	basalt sill/flow	LM-92-07	166	166.3	0.3	21	520996	5374619	65.09	13.6	5.88	3.2
6840076	PJM-02-115	basalt sill/flow	LM-92-07	205.3	205.6	0.3	21	520996	5374619	46.67	16.07	11.98	1.84
6840077	PJM-02-116	basalt sill/flow	LM-91-06	21.2	21.5	0.3	21	520878	5375142	47.49	14	12.92	1.82
6840078	PJM-02-117	basalt sill/flow	LM-91-06	42.85	43.2	0.35	21	520878	5375142	45.73	17.76	8.31	0.82
6840079	PJM-02-118	basalt sill/flow	LM-91-06	131.9	132.2	0.3	21	520878	5375142	50.21	17.45	9.83	1.38
6840081	PJM-02-119	basalt flows	EO-90-01	6.2	6.5	0.3	21	549740	5394295	47.39	18.46	10.37	1.22
6840082	PJM-02-120	basalt/dacite	EO-90-01	27.4	27.7	0.3	21	549740	5394295	67.43	15.04	4.22	1.95
6840083	PJM-02-121	basalt/dacite	EO-90-01	40.3	40.6	0.3	21	549740	5394295	58.66	15.48	7.45	3.7
6840084	PJM-02-122	dacite/basalt	EO-90-01	105.8	106.1	0.3	21	549740	5394295	61.59	13.12	4.53	1.04
6840085	PJM-02-125	quartz-feldspar rhyolitic porphyry	EO-90-02	17.5	17.8	0.3	21	550050	5394530	57.79	16.72	6.02	3.07
6840086	PJM-02-128	quartz-feldspar rhyolitic porphyry	BP-2001-02	13.9	14.2	0.3	21	549867	5394340	57.48	17.69	5.84	3.47
M23693R	GCS-03-01	Qtz monz-diorite	BP-01-02	48.1	48.45	0.35	21	549867	5394340	66.39	14.41	2.92	1.75
M23693R*	GCS-03-01	Qtz monz-diorite	BP-01-02	48.1	48.45	0.35	21	549867	5394340	66.28	14.35	2.91	1.74
M23694J	GCS-03-02	Tuff	BP-01-02	132.5	132.8	0.3	21	549867	5394340	54.91	16.9	8.07	0.87
M23695C	GCS-03-03	N/A	BP-01-02	162.6	162.9	0.3	21	549867	5394340	64.76	15.98	3.22	1.11
M23697M	GCS-03-04	N/A	BP-01-02	181.5	181.75	0.25	21	549867	5394340	45.39	17.05	10.28	0.18
M23698E	GCS-03-05	Dacite	BP-01-02	225.86	226.86	1	21	549867	5394340	65.25	15.43	3.26	0.47
M23699X	GCS-03-06	N/A	BP-01-02	245.3	245.6	0.3	21	549867	5394340	46.39	14.66	12.8	2.32
M23700P	GCS-03-07	Dacite	BP-01-02	302.4	302.65	0.25	21	549867	5394340	59.31	11.72	4.85	
M23701I	GCS-03-08	Dacite	BP-01-02	328.7	328.95	0.25	21	549867	5394340	66.21	17.4	2.85	
M23702A	GCS-03-09	Rhyolite	BP-01-02	383.8	384.1	0.3	21	549867	5394340	63.52	11.65	5.1	
M23702A*	GCS-03-09	Rhyolite	BP-01-02	383.8	384.1	0.3	21	549867	5394340				
M23702A*	GCS-03-09	Rhyolite	BP-01-02	383.8	384.1	0.3	21	549867	5394340	63.41	11.91	5.39	
M23703T	GCS-03-10	N/A	BP-01-03	54.35	54.6	0.25	21	549950	5394295	55.64	13.38	8.07	1
M23704M	GCS-03-11	Qtz monzonite	BP-01-03	120.1	120.4	0.3	21	549950	5394295	58.29	17.96	4.62	0.89
M23705F	GCS-03-12	Tuff	BP-01-03	130.3	130.6	0.3	21	549950	5394295	58.43	15.38	6.33	1.07
M23707Q	GCS-03-13	Tuff	BP-01-03	135.4	135.7	0.3	21	549950	5394295	57.91	16.32	5.94	
M23708J	GCS-03-14	Tuff	BP-01-03	154.25	154.55	0.3	21	549950	5394295	64.11	16.01	3.34	
M23709C	GCS-03-15	Dacite to felsic tuff	BP-01-03	183	183.3	0.3	21	549950	5394295	62.29	14.27	6.09	
M23710I	GCS-03-16	Dacite	BP-01-03	240.5	240.8	0.3	21	549950	5394295	65.46	13.83	6.66	
M23711E	GCS-03-17	Dacite	BP-01-03	305.3	305.6	0.3	21	549950	5394295	66.54	18.16	4.57	0.86

APPENDIX A

Lab Num	Field Num	Rock Type	DDH	From (m)	To (m)	Interval (m)	UTM Zone	Easting	Northing	SiO2	Al2O3	Fe2O3T_	Fe2O3
M23712B	GCS-03-18	N/A	BP-01-03	372	372.3	0.3	21	549950	5394295	57.05	14.7	5.67	
M23712B*	GCS-03-18	N/A	BP-01-03	372	372.3	0.3	21	549950	5394295				
M23713Y	GCS-03-19	Dacite	BP-01-03	437	437.25	0.25	21	549950	5394295	50.27	19.95	8.53	
M23713Y*	GCS-03-19	Dacite	BP-01-03	437	437.25	0.25	21	549950	5394295				
M23714U	GCS-03-20	N/A	BP-01-03	465.35	465.6	0.25	21	549950	5394295	61.31	16.92	7.21	
M23715R	GCS-03-21	N/A	BP-01-03	479.3	479.55	0.25	21	549950	5394295	61.46	15.63	3.71	
M23717K	GCS-03-22	Diorite	BP-01-03	497.6	497.9	0.3	21	549950	5394295	49.47	16.22	8.71	
M23718H	GCS-03-23	N/A	HL-91-01	50.1	50.25	0.15	21	523016	5377398	43.81	16.85	8.99	
M23719E	GCS-03-24	N/A	HL-91-01	65.1	65.5	0.4	21	523016	5377398	41.62	19.33	4.98	0.18
M23720A	GCS-03-25	N/A	HL-91-01	69.5	70.2	0.7	21	523016	5377398	55.34	17.78	4.34	
M23721B	GCS-03-26	N/A	HL-91-01	75.2	75.6	0.4	21	523016	5377398	66.62	15.34	2.97	0.27
M23722B	GCS-03-27	N/A	HL-91-01	79.9	80.4	0.5	21	523016	5377398	67.61	15.71	3.05	0.05
M23723C	GCS-03-28	N/A	HL-91-02	51.45	51.9	0.45	21	522956	5377481	68.64	14.87	4.13	0.3
M23723C*	GCS-03-28	N/A	HL-91-02	51.45	51.9	0.45	21	522956	5377481				
M23724D	GCS-03-29	Rhyolite	HL-91-02	73	73.3	0.3	21	522956	5377481	60.58	16.63	4.75	0.49
M23725D	GCS-03-30	N/A	HL-91-02	79.4	79.7	0.3	21	522956	5377481	38.61	15.59	9.32	
M23727E	GCS-03-31	N/A	HL-91-02	125	125.4	0.4	21	522956	5377481	68.37	14.52	3.05	0.18
M23728F	GCS-03-32	N/A	EP-96-01	108.3	108.7	0.4	21	540464	5391836	57.77	16.68	7.11	0.3
M23729F	GCS-03-33	Rhyolite	EP-96-01	200.6	200.9	0.3	21	540464	5391836	67.6	13.27	4.89	0.12
M23730T	GCS-03-34	Rhyolite	EP-96-01	264.7	265	0.3	21	540464	5391836	70.51	12.97	2.75	
M23731Y	GCS-03-35	Rhyolite	EP-96-02	25.4	25.7	0.3	21	540403	5391330	76.3	11.79	2.07	
M23731Y*	GCS-03-35	Rhyolite	EP-96-02	25.4	25.7	0.3	21	540403	5391330	76.41	12.14	2	
M23732C	GCS-03-36	N/A	EP-96-02	59.5	59.8	0.3	21	540403	5391330	42.29	14.51	9.81	0.91
M23733G	GCS-03-37	N/A	EP-01-04	17.15	17.25	0.1	21	540623	5391791	76.88	10.94	1.67	
M23733G*	GCS-03-37	N/A	EP-01-04	17.15	17.25	0.1	21	540623	5391791				
M23734L	GCS-03-38	N/A	EP-01-04	39.5	39.65	0.15	21	540623	5391791	75.56	10.14	2.15	
M23734L*	GCS-03-38	N/A	EP-01-04	39.5	39.65	0.15	21	540623	5391791				
M23735P	GCS-03-39	N/A	EP-01-05	50.7	50.8	0.1	21	540715	5391838	72.7	9.31	5.61	
M23737Y	GCS-03-40	N/A	EP-01-06	60.4	60.55	0.15	21	540443	5391704	60.66	18.03	5.71	0.48
M23738D	GCS-03-41	N/A	EP-01-06	84.3	84.4	0.1	21	540443	5391704	77.28	10.23	2.14	
M23739H	GCS-03-42	N/A	LM-91-04	71.8	72.4	0.6	21	520813	5374633	66.66	14.25	5.88	
M23740M	GCS-03-43	N/A	LM-91-04	109.2	109.9	0.7	21	520813	5374633	62.69	12.5	2.09	
M23740M*	GCS-03-43	N/A	LM-91-04	109.2	109.9	0.7	21	520813	5374633	63.78	12.55	2.17	
M23741U	GCS-03-44	N/A	LM-92-07	135.8	136.3	0.5	21	520996	5374619	56.04	17.02	1.37	
M23742D	GCS-03-45	N/A	LM-92-07	151	151.55	0.55	21	520996	5374619	64.89	16.61	2.13	
M23743L	GCS-03-46	N/A	LM-92-07	193.7	194.35	0.65	21	520996	5374619	67.37	10.62	1.17	
M23744T	GCS-03-47	N/A	LM-92-07	224.7	225.2	0.5	21	520996	5374619	70.22	12.95	3.03	
M23744T*	GCS-03-47	N/A	LM-92-07	224.7	225.2	0.5	21	520996	5374619				
M23745C	GCS-03-48	N/A	LM-93-10	100.5	100.8	0.3	21	521097	5374605	52.42	15.49	10.88	2.25
M23747S	GCS-03-49	N/A	LM-93-10	157	157.4	0.4	21	521097	5374605	65.39	12.73	5.84	
M23748A	GCS-03-50	N/A	LM-93-10	231.1	231.3	0.2	21	521097	5374605	40.61	16.48	12.14	1.63
M23749J	GCS-03-51	N/A	LM-93-09	21	21.2	0.2	21	521297	5374605	46.25	15.6	13.01	1.36
M23750F	GCS-03-52	N/A	LM-93-09	100.6	100.75	0.15	21	521297	5374605	45.62	15.22	12.5	3.19
M23751R	GCS-03-53	N/A	LM-93-09	165.1	165.3	0.2	21	521297	5374605	47.27	14.68	14.09	5.31
M23752D	GCS-03-54	N/A	LM-93-09	410.6	410.75	0.15	21	521297	5374605	56.84	17.61	9.2	1.25
M23753P	GCS-03-55	N/A	SP-01-03	24.5	24.7	0.2	21	521397	5373171	51.28	18.1	9.09	
M23754C	GCS-03-56	Rhyolite	SP-01-03	96.7	96.9	0.2	21	521397	5373171	65.44	15.76	3.31	1.06
M23754C*	GCS-03-56	Rhyolite	SP-01-03	96.7	96.9	0.2	21	521397	5373171				

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Lab Num	Field Num	Rock Type	DDH	From (m)	To (m)	Interval (m)	UTM Zone	Easting	Northing	SiO2	Al2O3	Fe2O3T_	Fe2O3
M23755O	GCS-03-57	Rhyolite	SP-01-04	34.6	34.7	0.1	21	521022	5372603	65.05	17.3	4.38	0.48
M23755O*	GCS-03-57	Rhyolite	SP-01-04	34.6	34.7	0.1	21	521022	5372603				
M23757M	GCS-03-58	Rhyolite	SP-01-04	53.1	53.3	0.2	21	521022	5372603	66.82	15.31	2.55	
M23758Y	GCS-03-59	Rhyolite	SP-01-04	194.7	195	0.3	21	521022	5372603	62.48	16.4	5.2	0.83
M23761O	GCS-03-63	Tuff	DP-99-214	212.8	213	0.2	21	537418	5386372	62.33	17.13	5.11	0.99
M23762E	GCS-03-64	N/A	DP-99-214	263.5	263.65	0.15	21	537418	5386372	71.6	12.82	1.92	
M23763U	GCS-03-65	N/A	DP-87-123	201.45	201.55	0.1	21	537169	5386072	74.48	12.27	2.28	0.19
M23764K	GCS-03-66	N/A	DP-87-122	502.75	502.9	0.15	21	537237	5386152	74.71	12.47	1.74	0.07
M23765A	GCS-03-67	Rhyolite	DP-87-122	522.8	522.95	0.15	21	537237	5386152	77.46	11.16	1.05	0.51
M23765A*	GCS-03-67	Rhyolite	DP-87-122	522.8	522.95	0.15	21	537237	5386152				
M23767G	GCS-03-68	N/A	DP-88-167	331	331.1	0.1	21	537050	5385932	46.61	14.83	9.36	1
M23768W	GCS-03-69	N/A	DP-88-167	469.5	469.75	0.25	21	537050	5385932	45.58	16.71	9.09	0.56
M23769M	GCS-03-70	Tuff	DP-88-167	567.9	568.2	0.3	21	537050	5385932	69.09	15.5	2.28	0.73
M23770Q	GCS-03-71	N/A	DP-88-167	672	672.1	0.1	21	537050	5385932	45.04	16.87	12.9	1.56
M23771K	GCS-03-72	Rhyolite	DP-88-146	184.8	184.95	0.15	21	537108	5385999	70.82	15.38	2.4	0.35
M23771K*	GCS-03-72	Rhyolite	DP-88-146	184.8	184.95	0.15	21	537108	5385999				
M23772E	GCS-03-73	Gabbro	DP-88-146	473.6	473.75	0.15	21	537108	5385999	44.94	15.97	9.86	0.52
M23772E*	GCS-03-73	Gabbro	DP-88-146	473.6	473.75	0.15	21	537108	5385999				
BLANK-39		N/A											
BLANK-40		N/A											
BLANK-41		N/A											
BLANK-42		N/A											
BLANK-43		N/A											
BLANK-44		N/A											
BLANK-45		N/A											
BLANK-46		N/A											
BR-688-39		N/A											
BR-688-41		N/A											
BR-688-43		N/A											
BR-688-45		N/A											
GA-1		N/A								54.36	16.74	9.29	
GD-1		N/A								70.95	14.66	2.25	
MRG-1-39		N/A											
MRG-1-41		N/A											
MRG-1-43		N/A											
MRG-1-45		N/A											
QLO-1		N/A								65.49	16.53	4.27	
SDC-1		N/A								65.61	16.17	7.1	

APPENDIX A

Lab Num	Field Num	FeO	MgO	CaO	Na2O	K2O	TiO2	MnO	P2O5	LOI	Ba	Mo	Cr	Zn	Pb	Co	N	Cd	V	Be	Cu	Sc
6840001	PJM-02-002	5.34	3.51	5.85	5.62	0.59	1.972	0.232	0.24	7.24	154	-1	58	112	12	36	30	-0.1	320	1.2	80	35.6
6840002	PJM-02-006	9.08	6.39	3	4.88	0.57	1.152	0.143	0.09	4.15	132	-1	53	136	10	49	30	0.1	500	0.9	50	45.6
6840003	PJM-02-012	0.88	0.22	0.64	3.15	4.75	0.323	0.02	0.08	1.54	621	2	5	69	28	2	4	-0.1	12	3.5	7	6.3
6840006	PJM-02-018	11.58	5.71	8.47	3.39	0.64	2.674	0.229	0.33	2.35	178	1	26	145	4	45	36	-0.1	299	1.5	83	30.5
6840007	PJM-02-019	6.31	7.16	9.97	4.54	0.17	0.576	0.156	0.04	6.11	30	-1	209	67	11	37	46	-0.1	264	0.5	97	38
6840008	PJM-02-020	7.49	7.89	7.47	4.41	0.8	0.689	0.137	0.06	4.31	91	1	191	65	9	37	43	-0.1	287	0.6	52	39.5
6840009	PJM-02-021	7.8	7.07	7.3	2.55	1.5	0.832	0.208	0.08	13.42	216	2	231	76	9	41	98	-0.1	299	1	58	33.7
6840011	PJM-02-022	12.47	2.61	6.28	3.58	1.34	2.72	0.251	0.61	6.39	495	3	2	169	4	28	8	0.1	86	2.1	16	20.8
6840012	PJM-02-023	10.22	3.88	9.44	2.73	1.35	3.233	0.222	0.38	2.8	259	1	7	144	5	41	21	0.1	334	1.7	66	29.5
6840013	PJM-02-024	10.57	5.14	7.96	2.83	1.15	2.657	0.206	0.33	4.64	234	1	26	128	5	45	38	-0.1	294	1.6	107	30.8
6840014	PJM-02-025	10.8	5.52	8.58	3.24	0.98	2.617	0.223	0.33	2.21	277	2	29	131	4	46	37	-0.1	308	1.4	90	32.4
6840015	PJM-02-026	12.97	4.14	8.25	2.1	1.57	4.149	0.245	0.35	4.54	196	1	2	161	1	44	12	0.1	348	1.7	40	35
6840016	PJM-02-027	13.15	4.52	9.42	1.87	1.3	4.574	0.253	0.31	3.42	214	-1	2	166	1	49	14	-0.1	384	1.7	52	34.6
6840017	PJM-02-028	10.99	4.68	8.67	3.06	0.43	2.391	0.192	0.31	9.29	170	1	24	106	4	40	31	-0.1	256	1.5	55	26.4
6840018	PJM-02-029	10.78	5.84	9.74	3.36	0.54	2.633	0.212	0.26	2.16	104	2	31	139	6	50	41	0.1	315	1.4	112	29.5
6840019	PJM-02-030	1.02	0.2	0.72	4.4	0.28	0.097	0.02	0.01	1.28	61	2	1	38	8	1	2	0.1	-1	0.3	5	6.7
6840021	PJM-02-031	4.64	1.54	0.69	5.15	1.42	0.262	0.093	0.03	3.84	326	2	2	146	11	2	5	-0.1	-1	1.1	4	15.6
6840022	PJM-02-032	2.46	3.31	0.98	5.03	2.1	0.295	0.039	0.04	4.7	325	4	2	24	14	1	3	-0.1	-1	1.6	4	14.4
6840023	PJM-02-033	3.81	1.26	0.3	5.71	0.77	0.256	0.081	0.03	2.2	208	2	2	47	12	1	4	-0.1	-1	0.8	21	14
6840024	PJM-02-034	0.32	0.14	1.3	2.73	2	0.116	0.031	0.01	2.17	281	1	1	69	9	-1	1	-0.1	-1	0.9	2	7.9
6840025	PJM-02-035	1.21	0.43	0.6	1.81	3.03	0.132	0.028	0.01	2.68	404	2	1	71	8	-1	3	-0.1	-1	1	3	10.7
6840026	PJM-02-036	1.78	0.61	0.81	4.17	1.02	0.122	0.018	0.01	1.99	184	2	1	77	13	-1	2	-0.1	-1	0.8	5	11.1
6840027	PJM-02-037	2.01	1.71	1.49	0.54	3.54	0.162	0.032	0.01	4.47	456	2	2	100	13	-1	3	-0.1	-1	1.4	3	13.3
6840028	PJM-02-038	6.49	5.76	10.11	4.68	0.08	1.018	0.15	0.11	5.24	17	1	217	83	9	44	70	-0.1	307	0.7	63	36.2
6840029	PJM-02-039	8.62	7.22	5.39	4.1	0.97	0.829	0.094	0.09	10.8	168	-1	10	94	11	44	16	-0.1	325	0.6	35	34.6
6840031	PJM-02-040	10.75	6.58	1.76	4.23	0.08	1.19	0.141	0.12	5.44	12	-1	9	129	11	46	16	-0.1	439	0.9	61	36.3
6840032	PJM-02-041	9.48	6.3	6.37	4.29	0.2	0.798	0.15	0.11	11.89	89	-1	11	101	11	49	18	-0.1	321	0.6	40	36.5
6840033	PJM-02-042	9.85	5.05	6.73	4.61	0.22	1.803	0.199	0.5	3.39	27	1	30	112	8	30	18	-0.1	310	0.7	54	36.6
6840034	PJM-02-043	5.95	8.08	7.12	3.45	1.2	0.561	0.117	0.06	4.71	111	1	164	67	11	42	66	-0.1	277	0.6	69	33.9
6840035	PJM-02-044	1.32	1.93	1.2	0.81	4.3	0.152	0.025	0.02	4.04	1014	2	3	70	16	7	7	0.2	11	1.4	8	9.2
6840036	PJM-02-045	1.9	2.33	3.22	0.42	5.02	0.314	0.047	0.05	6.78	2194	2	4	119	40	4	4	0.2	35	1.4	55	9
6840037	PJM-02-046		1.38	2.23	0.36	3.45	0.215	0.032	0.04	4.63	1534	3	3	40	19	3	3	-0.1	12	1	11	5.3
6840038	PJM-02-047	2.44	0.37	1.5	0.14	2.91	0.1	0.019	0.02	3.84	1330	2	1	1632	102	-1	4	4.6	4	0.5	79	8.3
6840039	PJM-02-048	2.32	0.47	9.02	0.11	3.34	0.109	0.213	0.11	6.61	1709	7	1	41	24	2	8	-0.1	10	0.7	16	11.9
6840041	PJM-02-049		0.13	0.4	3.67	1.75	0.129	-0.001	0.02	1.78	645	3	1	31	12	-1	3	-0.1	2	0.7	4	9.5
6840042	PJM-02-050	1.58	4.71	0.13	0.19	1.79	0.105	0.028	0.01	3.92	1050	14	1	71	11	5	3	-0.1	7	0.5	4	8.4
6840043	PJM-02-051	2.87	4.15	0.09	0.21	2.1	0.098	0.024	-0.01	4.62	858	7	1	309	22	-1	4	1.1	3	0.5	94	10.4
6840044	PJM-02-052	1.61	3.12	0.33	0.24	2.41	0.118	0.007	-0.01	3.94	1933	26	1	65	15	4	3	0.2	6	0.5	3	10.7
6840045	PJM-02-053	0.82	2.6	0.69	0.28	2.44	0.113	0.041	-0.01	3.46	923	10	1	34	10	2	2	-0.1	7	0.6	3	9.9
6840046	PJM-02-054	7.75	6.21	8.27	1.62	0.64	1.388	0.116	0.16	14.12	1193	2	89	87	14	39	39	-0.1	194	0.9	75	25.7
6840047	PJM-02-055	8.26	6.29	7.29	1.84	0.49	1.48	0.135	0.16	14.09	529	2	92	88	12	40	42	-0.1	201	1	81	26.6
6840048	PJM-02-056	8.32	5.64	7.33	1.72	0.39	1.372	0.13	0.17	13.72	290	1	86	90	9	40	39	-0.1	196	0.9	77	26.2
6840049	PJM-02-057	1.6	0.47	0.12	0.28	2.75	0.076	-0.001	-0.01	3.91	4170	24	1	98	86	2	4	0.2	4	0.6	193	7.2
6840051	PJM-02-058	0.59	1.27	2.09	0.25	3.09	0.081	0.055	0.03	4.54	1472	4	1	374	40	2	2	1.2	5	0.8	61	7.4
6840052	PJM-02-059	2.2	4.11	0.03	0.18	4.6	0.189	0.23	0.01	4.52	2202	8	2	1787	472	3	6	10.7	12	1.1	170	11.7
6840053	PJM-02-060		1.09	-0.01	0.08	3.31	0.103	0.046	0.01	2.64	2627	2	1	2696	250	1	2	11.8	4	0.8	389	8
6840054	PJM-02-061	0.57	0.55	0.7	0.13	2.28	0.081	0.024	0.01	2.84	980	2	1	97	18	-1	2	0.4	9	0.5	33	5
6840055	PJM-02-062	1.76	0.95	1.38	0.26	2.77	0.084	0.024	0.01	4.58	1238	5	1	33	19	6	4	-0.1	7	0.4	31	6.6

APPENDIX A

Lab Num	Field Num	FeO	MgO	CaO	Na2O	K2O	TiO2	MnO	P2O5	LOI	Ba	Mo	Cr	Zn	Pb	Co	N	Cd	V	Be	Cu	Sc
6840056	PJM-02-063	0.06	0.44	1.08	3.86	0.77	0.141	0.019	0.02	2.28	205	2	1	23	26	-1	2	0.1	4	0.6	3	6.5
6840057	PJM-02-064	11.77	10.33	0.27	3.55	0.73	1.06	0.256	0.13	7.13	216	2	67	115	18	35	30	-0.1	422	1	1	46.5
6840058	PJM-02-065	9.19	7.34	0.14	3.18	1.02	0.859	0.279	0.1	6.46	276	2	48	69	12	35	25	-0.1	319	0.9	3	36.1
6840059	PJM-02-066	9.92	13.88	0.43	1.93	0.15	1.003	0.138	0.12	7.4	56	-1	43	80	11	33	26	-0.1	352	0.8	3	26.6
6840061	PJM-02-089	0.79	0.56	0.24	6.26	0.31	0.213	0.016	0.05	0.87	198	2	1	18	10	1	2	0.1	4	0.9	3	5
6840062	PJM-02-098	9.99	5.04	8.92	3.13	1.32	2.217	0.205	0.36	1.69	227	1	26	124	5	41	20	0.1	256	1.3	30	29.6
6840063	PJM-02-100	9.51	6.29	8.28	3.96	0.43	1.778	0.186	0.15	4.18	80	1	28	91	5	43	28	0.1	384	0.9	61	41.7
6840064	PJM-02-102	0.12	1.74	3.09	2.33	3.69	0.185	0.04	0.05	4.92	497	2	1	70	11	1	2	0.1	4	0.9	5	4.5
6840065	PJM-02-103	1.53	1.12	0.34	4.56	1.37	0.622	0.021	0.22	1.86	348	2	1	38	10	4	5	-0.1	13	1.4	6	14.4
6840066	PJM-02-106	9.34	6.41	8.06	3.64	0.05	1.057	0.196	0.15	11.3	59	-1	178	90	9	38	81	-0.1	343	0.6	35	29.1
6840067	PJM-02-107	10.15	4.57	7.49	0.24	1.85	1.269	0.135	0.17	8.24	2187	-1	5	236	26	45	19	-0.1	391	1	86	30.6
6840068	PJM-02-108	7.05	8.48	6.65	3.01	0.91	0.651	0.196	0.09	12.58	988	1	201	69	16	36	55	-0.1	203	0.5	63	30.4
6840069	PJM-02-109	6.1	5.01	7.03	2.6	1.61	1.13	0.117	0.16	11.92	2147	-1	4	98	14	44	13	0.3	355	0.9	45	28.8
6840071	PJM-02-110	7.78	3.85	8.24	1.12	2.92	0.607	0.21	0.06	14.44	442	1	37	87	12	39	26	0.1	275	1.4	69	36.9
6840072	PJM-02-111	12.91	5.68	3.78	3.47	0.14	3.321	0.163	0.33	7.4	17	1	24	320	13	51	33	0.4	333	2.1	93	29.4
6840073	PJM-02-112	6.95	4.05	5.14	3.84	0.57	1.108	0.125	0.15	4.49	95	-1	5	108	12	33	13	-0.1	366	1	32	31.8
6840074	PJM-02-113	11.42	7.85	2.17	4.62	0.06	1.531	0.12	0.26	5.75	66	-1	3	185	11	35	13	-0.1	407	0.9	19	34.3
6840075	PJM-02-114	2.41	2.08	3.25	4.03	1.13	0.749	0.081	0.27	4.27	2308	2	1	177	15	4	5	0.1	14	0.5	6	16.3
6840076	PJM-02-115	9.12	8.39	3.69	3	0.4	1.27	0.139	0.19	7.32	704	-1	6	191	14	32	14	0.2	425	0.9	115	34.9
6840077	PJM-02-116	9.99	7.1	4.3	3.47	0.09	1.256	0.16	0.21	8.95	69	1	4	117	14	30	13	-0.1	311	0.7	29	24.8
6840078	PJM-02-117	6.74	2.59	9.01	1.4	1.88	1.115	0.151	0.14	10.52	4561	1	50	187	20	17	27	0.4	337	1.5	53	34.4
6840079	PJM-02-118	7.6	7.1	3.56	0.35	2.22	1.197	0.114	0.13	7.37	3107	1	77	638	22	23	34	0.2	308	1	202	40
6840081	PJM-02-119	8.24	2.94	4.76	1.43	3.74	0.832	0.094	0.29	8.46	1078	-1	4	121	18	24	11	-0.1	263	0.9	101	24.4
6840082	PJM-02-120	2.03	1.24	1.4	0.07	4.92	0.743	0.092	0.36	4.97	981	4	2	401	90	9	4	1.4	52	0.9	175	15.6
6840083	PJM-02-121	3.38	2.01	1.07	0.17	5.39	0.765	0.26	0.39	6.99	1830	3	2	714	133	8	6	1.5	55	0.9	53	16.5
6840084	PJM-02-122	3.13	1.15	3.94	1.37	5.54	0.644	0.202	0.28	6.13	2077	5	2	837	222	7	6	3.5	33	1.1	18	15.3
6840085	PJM-02-125	2.66	2.57	2.24	1.12	5.56	0.456	0.211	0.31	6.88	1591	2	7	103	18	12	8	-0.1	134	2.1	7	9.3
6840086	PJM-02-128	2.13	2.74	2.49	3.57	3.8	0.523	0.274	0.23	4.89	1923	2	6	185	28	11	12	0.1	86	2.2	31	8.7
M23693R	GCS-03-01	1.05	1.16	2.42	2.55	3.62	0.327	0.189	0.12	4.64	1002	3	3	70	21	5	7	-0.1	46	1.7	19	5.2
M23693R*	GCS-03-01	1.05	1.15	2.4	2.54	3.58	0.328	0.19	0.12	4.56	1003	3	3	70	21	4	6	-0.1	45	1.6	18	5.2
M23694J	GCS-03-02	6.48	2.31	4.95	4.96	0.94	0.839	0.105	0.41	5.55	511	-1	1	115	8	17	7	-0.1	148	0.5	34	21.3
M23695C	GCS-03-03	1.9	0.91	2.92	2.72	3.34	0.352	0.055	0.13	4.1	683	1	5	45	26	5	6	-0.1	61	2.1	13	4.8
M23697M	GCS-03-04	9.09	3.83	5.97	0.33	3.56	0.743	0.27	0.15	11.09	854	1	20	129	29	39	24	-0.1	338	0.8	159	29.3
M23698E	GCS-03-05	2.51	0.98	2.06	1.87	3.62	0.74	0.144	0.32	4.39	1315	9	11	225	193	5	8	0.6	28	0.8	45	15.6
M23699X	GCS-03-06	9.43	3.98	1.88	1.19	3.71	0.741	0.989	0.18	12.47	1133	1	9	482	29	30	18	0.6	316	0.9	124	31.1
M23700P	GCS-03-07		2.83	5.01	0.25	3.27	0.553	0.322	0.22	7.27	884	8	2	1097	157	6	5	3.7	64	0.6	179	15.4
M23701I	GCS-03-08		0.69	0.72	0.32	4.79	0.822	0.029	0.35	4.04	1191	4	1	274	171	3	8	0.8	27	1	310	18.4
M23702A	GCS-03-09		2.08	3.32	0.13	3.45	0.595	0.131	0.27	6.46	1644	6	2	111	48	3	5	0.1	32	1.1	20	13.2
M23702A*	GCS-03-09																					
M23702A*	GCS-03-09		2.13	3.31	0.15	3.46	0.629	0.13	0.27	6.48	1614	6	1	107	45	3	4	0.1	32	1.1	19	13.2
M23703T	GCS-03-10	6.37	2.4	7.71	1.82	1.63	0.589	0.19	0.3	8.07	571	-1	15	73	9	33	15	-0.1	230	0.6	92	21.6
M23704M	GCS-03-11	3.35	2.05	3.4	3.36	3.47	0.464	0.118	0.18	4.9	1405	2	4	80	12	12	7	-0.1	94	2	64	7.9
M23705F	GCS-03-12	4.74	2.93	2.72	1.29	3.13	0.662	0.177	0.28	6.72	1006	2	9	85	10	9	9	-0.1	117	2	206	10.7
M23707Q	GCS-03-13		1.58	2.9	1.21	4.84	0.583	0.315	0.24	6.47	1305	2	9	74	13	15	10	-0.1	122	2	68	12
M23708J	GCS-03-14		0.94	2.09	3.91	3.3	0.382	0.176	0.13	4.22	1194	2	5	43	18	6	5	-0.1	53	1.8	66	6.3
M23709C	GCS-03-15		1.91	2.53	2.97	2.94	0.531	0.24	0.19	4.57	827	6	21	87	33	23	11	-0.1	106	1.5	17	11
M23710I	GCS-03-16		1.06	0.72	0.17	4.79	0.518	0.108	0.14	5.38	1325	87	25	36	29	16	13	-0.1	135	2.2	14	11.3
M23711E	GCS-03-17	3.34	0.67	0.63	1.18	4.13	0.414	0.044	0.15	3.29	941	-1	5	72	10	7	7	-0.1	80	1.7	9	6.5

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Lab Num	Field Num	FeO	MgO	CaO	Na2O	K2O	TiO2	MnO	P2O5	LOI	Ba	Mo	Cr	Zn	Pb	Co	N	Cd	V	Be	Cu	Sc	
M23712B	GCS-03-18		2.42	4.51	0.31	3.96	0.697	0.367	0.29	8.28	1111	3	2	317	106	6	5	0.7	25	0.9	35	17.2	
M23712B*	GCS-03-18																						
M23713Y	GCS-03-19		1.97	4.37	0.3	4.96	0.898	0.236	0.23	8.3	1206	1	5	123	54	13	9	0.1	317	1.3	129	28.5	
M23713Y*	GCS-03-19																						
M23714U	GCS-03-20		1.35	0.64	0.29	4.52	0.801	0.039	0.26	6.85	1092	2	3	26	21	11	7	-0.1	92	1.2	47	19.6	
M23715R	GCS-03-21		3.74	1.29	0.45	4.28	0.833	0.064	0.31	7.43	1570	3	1	1215	504	4	7	3.8	38	1.1	123	15.2	
M23717K	GCS-03-22		10.18	3.36	2.47	1.37	1.077	0.101	0.72	7.17	275	1	316	86	17	39	183	-0.1	183	0.9	66	18.4	
M23718H	GCS-03-23		6.35	4.53	3.34	1.33	0.685	0.095	0.55	14.09	163	1	241	78	12	43	104	-0.1	314	0.4	74	35.8	
M23719E	GCS-03-24	4.32	3.96	8.41	1.18	4.1	0.598	0.137	0.13	15.01	387	1	184	67	9	35	72	-0.1	288	0.6	102	45	
M23720A	GCS-03-25		2.25	4.43	1.43	3.59	0.387	0.102	0.04	9.38	393	17	2	57	13	4	17	-0.1	19	1.8	14	13.8	
M23721B	GCS-03-26	2.43	2.1	1.88	1.09	2.74	0.311	0.063	0.03	6.28	294	2	1	64	8	-1	4	-0.1	6	1.8	5	11.3	
M23722B	GCS-03-27	2.7	1.01	1.56	5.16	1.31	0.307	0.06	0.04	4.73	218	1	2	72	9	-1	5	-0.1	6	1.5	3	10.6	
M23723C	GCS-03-28	3.45	2.33	0.61	2.94	1.59	0.382	0.028	0.07	3.21	300	2	3	81	16	3	9	-0.1	15	1.6	4	12	
M23723C*	GCS-03-28																						
M23724D	GCS-03-29	3.83	2.88	3.21	2.56	2.04	0.455	0.051	0.09	6.55	245	1	3	60	8	3	11	-0.1	18	1.5	7	11.1	
M23725D	GCS-03-30		5.38	7.28	1.93	2.42	0.625	0.154	0.1	14.93	213	9	76	69	16	35	61	-0.1	268	0.6	72	36.8	
M23727E	GCS-03-31	2.58	1.02	1.58	4.41	1.35	0.297	0.057	0.04	4.64	232	1	1	63	9	-1	4	-0.1	5	1.6	2	10.7	
M23728F	GCS-03-32	6.13	2.78	3.46	3.44	2.09	0.803	0.173	0.18	5.62	107	1	1	115	9	8	5	-0.1	37	0.7	2	21.9	
M23729F	GCS-03-33	4.3	0.92	3.35	2.11	1.13	0.585	0.161	0.19	4.52	68	-1	3	99	6	5	4	-0.1	13	0.8	1	18	
M23730T	GCS-03-34		0.66	2.57	1.66	4.28	0.198	0.104	0.03	3.68	562	3	2	33	11	-1	6	-0.1	6	1.1	6	15.7	
M23731Y	GCS-03-35		1.25	1.01	3.69	1.36	0.096	0.025	-0.01	2.7	193	-1	2	32	4	-1	3	-0.1	3	0.7	2	10.1	
M23731Y*	GCS-03-35		1.25	0.96	3.76	1.36	0.093	0.024	-0.01	2.54	199	1	2	32	4	-1	3	-0.1	3	0.7	2	10.2	
M23732C	GCS-03-36	8.01	7.29	7.05	3.4	1.11	0.897	0.181	0.11	13.1	97	-1	230	76	7	37	78	-0.1	298	0.5	71	36.8	
M23733G	GCS-03-37		0.27	1.99	1.58	3.12	0.077	0.048	-0.01	2.69	169	2	4	68	9	2	6	-0.1	3	0.8	13	7.4	
M23733G*	GCS-03-37																						
M23734L	GCS-03-38		0.29	0.98	0.17	6.9	0.078	0.059	-0.01	2	349	2	2	65	10	-1	4	-0.1	5	0.6	5	11.9	
M23734L*	GCS-03-38																						
M23735P	GCS-03-39		2.74	1.9	1.99	0.3	0.211	0.09	0.04	3.34	42	1	5	110	20	4	5	0.1	35	0.4	9	11.2	
M23737Y	GCS-03-40	4.7	1.87	2.54	3.83	2.18	0.755	0.112	0.19	4.19	158	1	5	79	8	6	9	-0.1	32	0.9	2	21.4	
M23738D	GCS-03-41		0.35	1.74	3.81	1.01	0.067	0.085	-0.01	2.35	114	1	2	70	11	-1	3	-0.1	3	0.6	41	8.6	
M23739H	GCS-03-42		1.84	1.29	0.68	2.85	0.46	0.033	0.13	5.66	1811	27	1	882	19	3	7	4	26	0.6	2466	13.9	
M23740M	GCS-03-43		1.25	1.16	2.87	2.18	0.393	0.016	0.08	5.56	59350	15	1	595	192	-1	3	2.2	14	0.8	80	11.3	
M23740M*	GCS-03-43		1.26	1.19	2.93	2.21	0.392	0.017	0.08	5.34	59720	15	1	592	186	-1	3	2.3	14	0.8	81	11	
M23741U	GCS-03-44		1.04	0.94	6.06	2.06	0.271	0.007	0.01	3.99	85636	16	8	818	141	-1	5	2.3	19	1.2	114	8.9	
M23742D	GCS-03-45		1.48	2.18	0.57	4.9	0.299	0.026	0.04	4.16	12539	13	1	1566	789	-1	4	5.2	16	1.1	57	9.5	
M23743L	GCS-03-46		4.01	2.4	4.31	0.42	0.347	0.066	0.07	5.81	16480	4	1	233	78	-1	2	0.5	10	0.2	9	8.3	
M23744T	GCS-03-47		4.08	0.56	0.28	2.82	0.477	0.089	0.11	4.07	2048	8	2	347	23	4	9	0.4	56	0.5	24	15.6	
M23744T*	GCS-03-47																						
M23745C	GCS-03-48	7.77	6.71	3.26	3.95	0.31	1.111	0.145	0.19	6.17	116	-1	14	89	8	29	14	-0.1	306	0.6	-1	31.1	
M23747S	GCS-03-49		2.99	5.53	0.64	2.27	0.454	0.117	0.11	4.67	2507	11	7	705	66	5	8	3.5	80	0.7	110	14.2	
M23748A	GCS-03-50	9.46	4.58	10.04	1.83	0.66	1.224	0.196	0.55	11.41	179	-1	7	132	9	32	13	-0.1	215	0.7	-1	27.6	
M23749J	GCS-03-51	10.49	5.99	5.86	0.59	0.81	0.785	0.135	0.18	9.39	69	-1	2	125	9	30	13	-0.1	193	0.6	-1	20.8	
M23750F	GCS-03-52	8.38	3.86	8.51	2.2	0.97	0.839	0.189	0.14	9.98	108	-1	13	100	9	41	29	-0.1	290	0.5	28	34.2	
M23751R	GCS-03-53	7.9	5.41	9.61	1.81	0.02	2.589	0.209	0.31	3.52	12	-1	48	127	7	44	27	-0.1	289	1.4	34	30	
M23752D	GCS-03-54	7.16	2.42	2.78	3.19	1.09	1.301	0.088	0.23	4.81	159	-1	16	101	10	38	23	-0.1	364	0.9	84	37.1	
M23753P	GCS-03-55		4.5	6.52	4.5	0.12	0.549	0.104	0.14	6.06	222	-1	4	77	11	27	10	-0.1	238	0.6	86	24.3	
M23754C	GCS-03-56	2.03	1.45	2.51	0.43	4.16	0.318	0.14	0.13	5.85	728	-1	2	82	26	3	4	-0.1	57	1.7	11	6.7	
M23754C*	GCS-03-56																						

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Lab Num	Field Num	FeO	MgO	CaO	Na2O	K2O	TiO2	MnO	P2O5	LOI	Ba	Mo	Cr	Zn	Pb	Co	N	Cd	V	Be	Cu	Sc
M23755O	GCS-03-57	3.51	1.12	0.81	0.26	4.49	0.285	0.165	0.29	4.49	895	-1	1	234	82	7	6	0.5	29	1.9	36	4.4
M23755O*	GCS-03-57																					
M23757M	GCS-03-58		1.32	2.37	0.3	3.92	0.277	0.127	0.14	5.57	979	-1	2	45	11	4	4	0.1	49	1.9	2	5.6
M23758Y	GCS-03-59	3.94	1.67	2.39	1.47	2.33	0.302	0.159	0.3	6.33	401	2	1	129	21	7	8	0.3	47	1.6	7	5.4
M23761O	GCS-03-63	3.71	0.31	1.53	1.61	4.03	0.237	0.028	0.03	4.85	965	2	6	103	8	9	14	0.4	55	1.3	22	12.3
M23762E	GCS-03-64		0.96	1.7	4.77	0.87	0.189	0.028	0.03	3.65	230	1	1	42	6	1	3	0.1	8	0.5	5	9.9
M23763U	GCS-03-65	1.88	0.6	1.07	4.78	2.01	0.148	0.033	0.02	1.72	243	1	1	76	2	-1	3	0.1	5	0.8	3	9.8
M23764K	GCS-03-66	1.51	0.51	1.54	1.85	3.11	0.159	0.042	0.03	3.17	623	2	5	54	11	2	8	0.1	10	1.1	17	5.8
M23765A	GCS-03-67	0.49	0.25	1.43	3.49	1.72	0.12	0.043	0.02	2.34	470	2	1	84	8	-1	3	0.3	3	0.7	1	10.2
M23765A*	GCS-03-67																					
M23767G	GCS-03-68	7.53	7.56	5.94	3.92	0.41	0.734	0.236	0.11	8.77	148	-1	221	81	4	39	79	-0.1	243	0.4	5	33.4
M23768W	GCS-03-69	7.68	9.9	3.17	4.33	0.19	0.884	0.293	0.13	8.7	63	-1	199	130	6	34	62	-0.1	228	0.6	33	32
M23769M	GCS-03-70	1.4	2.26	1.19	1.12	3.35	0.247	0.042	0.04	4.16	685	-1	3	42	10	2	4	-0.1	24	1.5	10	7.7
M23770Q	GCS-03-71	10.21	3.41	7.12	0.44	3.54	0.737	0.155	0.23	8.67	307	-1	18	98	5	39	22	0.1	353	0.5	66	45.6
M23771K	GCS-03-72	1.85	1.41	0.45	5.57	2.02	0.272	0.02	0.05	1.55	509	1	4	86	11	2	4	0.1	37	1.7	5	10.2
M23771K*	GCS-03-72																					
M23772E	GCS-03-73	8.41	8	5.23	4.23	0.11	0.913	0.44	0.09	11.14	25	-1	187	142	11	41	90	-0.1	212	0.5	17	30.1
M23772E*	GCS-03-73																					
BLANK-39																						
BLANK-40																						
BLANK-41																						
BLANK-42																						
BLANK-43																						
BLANK-44																						
BLANK-45																						
BLANK-46																						
BR-688-39																						
BR-688-41																						
BR-688-43																						
BR-688-45																						
GA-1			5.86	8.49	2.82	1.14	0.847	0.163	0.15		420	1	282	40	9	29	66	-0.1	241	0.4	112	42.5
GD-1			0.64	1.47	4.23	3.39	0.214	0.08	0.07		1040	-1	286	176	1			0.1		0.5		
MRG-1-39																						
MRG-1-41																						
MRG-1-43																						
MRG-1-45																						
QLO-1			1.03	3.1	4.13	3.62	0.613	0.09	0.25		1460	-1	286	187	2			-0.1		0.5		
SDC-1			1.71	1.37	2.07	3.27	1.002	0.111	0.14		653	2	14	102	15	2	11	-0.1	12	2.6	2	0.4

APPENDIX A

Lab Num	Field Num	Sr	Li	As	Rb	Y	Zr	Nb	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
6840001	PJM-02-002	126	7.5	6	15	39.79	217.65	6.43	187.62	9.74	25.04	3.80	19.35	5.55	1.76	7.28	1.29	8.71	1.72
6840002	PJM-02-006	147	22.2	5	9	16.14	52.88	1.66	162.38	4.08	10.69	1.46	7.26	2.12	0.60	2.86	0.51	3.40	0.68
6840003	PJM-02-012	48	32.6	-2	202	46.96	406.15	17.19	651.56	44.69	94.36	11.06	44.45	9.58	1.21	10.07	1.69	10.43	1.90
6840006	PJM-02-018	319	16.1	8	8	32.38	263.42	23.30	209.99	17.54	40.54	5.39	24.60	6.18	1.81	7.19	1.20	7.33	1.39
6840007	PJM-02-019	178	27.9	10	-5	11.47	31.71	1.20	43.57	2.47	6.08	0.87	4.31	1.35	0.48	1.79	0.31	2.17	0.46
6840008	PJM-02-020	117	29.9	8	7	11.66	37.86	1.54	115.63	3.24	7.81	1.08	5.35	1.59	0.58	1.95	0.35	2.36	0.49
6840009	PJM-02-021	197	43.5	79	21	15.46	58.07	2.75	263.27	5.06	12.11	1.64	7.56	2.04	0.70	2.49	0.43	2.99	0.64
6840011	PJM-02-022	220	9	-2	28	49.01	393.34	35.35	570.13	27.98	64.65	8.72	39.29	9.70	2.87	10.39	1.65	10.19	1.98
6840012	PJM-02-023	420	5.2	4	23	35.66	271.55	25.57	309.57	19.34	44.88	6.14	27.82	7.03	2.19	7.53	1.20	7.40	1.46
6840013	PJM-02-024	347	15.5	8	28	30.49	243.70	21.27	261.49	17.59	40.67	5.41	24.53	6.62	2.09	7.91	1.14	7.03	1.35
6840014	PJM-02-025	332	13.1	35	11	29.57	246.84	20.52	312.60	16.16	37.00	5.02	22.47	6.11	2.01	7.20	1.06	6.66	1.29
6840015	PJM-02-026	296	12.2	3	43	30.83	247.19	24.90	206.74	16.03	36.95	5.05	22.65	6.15	2.10	7.53	1.08	6.79	1.28
6840016	PJM-02-027	320	10.7	5	31	28.34	217.64	21.12	232.97	14.87	34.73	4.78	21.59	5.94	2.03	7.04	1.00	6.44	1.20
6840017	PJM-02-028	335	24.5	15	9	28.23	219.48	19.79	200.97	16.54	37.85	5.11	22.65	6.24	1.99	7.39	1.07	6.54	1.25
6840018	PJM-02-029	260	15	4	9	24.41	190.98	14.94	117.75	13.99	32.10	4.34	19.40	5.34	1.82	6.15	0.96	5.75	1.10
6840019	PJM-02-030	47	2.1	-2	6	26.50	119.46	4.24	77.37	11.97	26.31	3.34	14.55	3.54	0.72	4.17	0.66	4.42	1.06
6840021	PJM-02-031	53	12.4	-2	18	46.37	187.27	6.86	392.54	19.14	41.92	5.39	23.53	6.19	1.60	7.81	1.19	7.62	1.73
6840022	PJM-02-032	75	22.4	4	31	50.30	212.99	6.98	371.84	25.60	54.48	6.94	30.37	7.36	1.82	9.02	1.29	8.37	1.97
6840023	PJM-02-033	46	18.5	79	13	39.78	166.83	6.85	242.72	17.43	39.07	5.02	21.29	5.37	1.30	6.63	0.97	6.67	1.56
6840024	PJM-02-034	36	2.8	7	25	32.60	113.61	5.93	298.83	16.61	35.52	4.41	18.79	4.69	1.05	5.36	0.93	6.20	1.24
6840025	PJM-02-035	25	4.1	-2	41	36.73	152.15	6.67	471.63	20.21	43.57	5.42	23.36	5.78	1.33	6.26	1.06	7.15	1.44
6840026	PJM-02-036	80	7.2	10	17	27.72	136.73	6.15	211.42	16.04	34.71	4.34	18.63	4.88	1.06	5.33	0.90	5.69	1.09
6840027	PJM-02-037	47	13	4	56	44.07	201.71	6.33	517.54	18.72	41.25	5.20	22.25	6.00	1.21	7.15	1.33	8.82	1.67
6840028	PJM-02-038	116	16.5	6	-5	19.92	61.40	2.26	31.46	5.21	12.45	1.78	8.57	2.50	1.00	3.29	0.55	3.58	0.78
6840029	PJM-02-039	129	49.4	52	14	15.09	51.44	3.09	214.05	4.79	10.93	1.50	6.73	1.92	0.69	2.37	0.43	2.80	0.64
6840031	PJM-02-040	100	45.6	37	-5	20.91	56.40	2.22	35.54	14.13	29.37	3.74	16.36	3.96	1.11	4.11	0.61	3.95	0.85
6840032	PJM-02-041	246	68.3	59	-5	14.10	50.53	2.92	116.57	7.39	16.85	2.26	9.57	2.53	0.64	2.66	0.44	2.78	0.59
6840033	PJM-02-042	169	7.7	15	-5	18.37	48.74	2.61	39.73	5.71	13.88	1.95	9.23	2.72	1.05	3.31	0.52	3.45	0.72
6840034	PJM-02-043	243	20	24	15	13.04	37.08	1.27	150.34	2.91	7.27	1.03	5.04	1.45	0.60	2.23	0.38	2.56	0.52
6840035	PJM-02-044	44	11.3	15	73	52.30	210.10	11.75	1156.73	26.44	55.70	6.70	28.27	7.05	1.09	8.27	1.41	9.34	1.91
6840036	PJM-02-045	33	11.2	171	98	40.32	210.28	12.39	2465.54	19.56	39.71	4.59	18.61	4.31	0.90	5.72	0.97	6.89	1.47
6840037	PJM-02-046	26	5.8	19	62	18.62	155.27	9.50	1743.30	16.05	32.67	3.70	14.38	3.13	0.57	3.46	0.55	3.49	0.69
6840038	PJM-02-047	14	3.3	257	38	31.03	100.78	7.35	1418.95	13.55	27.36	3.23	13.67	3.26	1.19	4.32	0.72	4.97	1.05
6840039	PJM-02-048	97	3.2	338	41	42.44	140.67	7.94	1962.55	14.91	31.53	3.90	16.18	4.14	1.12	5.75	0.97	6.48	1.35
6840041	PJM-02-049	47	1.1	15	20	30.62	130.76	8.07	671.44	16.13	33.37	4.12	17.09	4.27	1.02	5.12	0.86	5.87	1.17
6840042	PJM-02-050	9	35.1	6	31	24.22	122.48	7.16	1112.72	12.81	27.39	3.34	13.75	3.20	0.37	4.01	0.67	4.49	0.93
6840043	PJM-02-051	14	42.9	35	37	27.15	118.70	6.70	901.01	15.10	31.35	3.90	16.55	4.12	0.70	4.76	0.77	5.13	1.04
6840044	PJM-02-052	14	17.4	16	45	28.65	157.66	8.51	2179.22	13.18	29.68	3.87	16.66	4.26	0.66	4.75	0.88	6.03	1.22
6840045	PJM-02-053	26	13.2	10	41	26.48	140.86	7.64	967.13	14.11	29.87	3.62	15.09	3.75	0.72	4.23	0.77	5.27	1.11
6840046	PJM-02-054	172	57.5	121	9	16.49	121.50	12.66	1295.23	8.95	21.08	2.94	13.59	3.49	1.23	3.64	0.56	3.42	0.65
6840047	PJM-02-055	178	64.4	106	8	16.39	119.45	11.96	604.18	9.64	21.77	3.05	14.24	3.67	1.30	3.72	0.58	3.53	0.66
6840048	PJM-02-056	229	62.8	76	6	15.30	109.64	11.29	329.92	9.43	21.56	2.94	13.62	3.74	1.29	3.81	0.55	3.31	0.65
6840049	PJM-02-057	21	9.2	54	52	28.28	111.96	6.66	4040.30	14.81	30.48	3.73	15.76	4.26	0.68	4.56	0.76	4.97	1.09
6840051	PJM-02-058	29	8.2	101	55	31.77	114.07	7.24	1496.78	16.61	35.23	4.28	17.57	4.61	0.67	4.87	0.82	5.66	1.24
6840052	PJM-02-059	7	17.1	10	80	38.93	213.58	10.03	2169.88	25.12	54.55	6.93	29.26	7.51	1.75	7.43	1.16	7.44	1.58
6840053	PJM-02-060	5	5.1	20	60	25.57	115.96	5.10	2610.81	15.60	33.09	4.09	17.54	4.52	1.09	4.75	0.76	4.89	1.09
6840054	PJM-02-061	11	1.5	10	29	19.87	80.05	5.49	952.33	12.27	25.76	3.10	12.99	3.51	0.93	3.97	0.66	4.30	0.87
6840055	PJM-02-062	26	5.5	318	52	26.26	125.95	5.46	1299.61	11.01	24.28	3.00	12.73	3.52	0.50	3.85	0.63	4.57	1.01

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Lab Num	Field Num	Sr	Li	As	Rb	Y	Zr	Nb	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
6840056	PJM-02-063	78	2.5	7	13	30.90	94.04	6.22	228.12	16.02	32.63	4.07	17.39	4.54	1.27	4.89	0.79	5.65	1.26
6840057	PJM-02-064	30	55.9	20	13	17.85	49.38	2.38	263.10	5.20	12.33	1.71	8.22	2.56	0.89	3.14	0.51	3.48	0.74
6840058	PJM-02-065	28	39.2	32	17	16.27	39.65	1.91	328.95	4.12	9.45	1.34	6.41	2.05	0.72	2.74	0.45	3.08	0.66
6840059	PJM-02-066	22	83.1	22	5	16.52	45.32	1.56	68.98	3.70	9.17	1.31	6.38	2.01	0.50	2.72	0.46	3.17	0.69
6840061	PJM-02-089	71	2	3	8	26.67	98.05	4.14	209.32	18.35	39.43	4.63	19.03	4.56	1.09	4.51	0.78	5.08	1.01
6840062	PJM-02-098	299	10.7	3	24	29.36	188.05	18.94	251.78	15.54	36.13	4.93	22.46	5.96	1.84	6.36	1.05	6.44	1.17
6840063	PJM-02-100	219	14.2	4	6	25.04	102.06	2.81	92.52	3.87	11.33	1.87	9.79	3.35	1.28	4.15	0.75	5.08	0.99
6840064	PJM-02-102	73	8.8	6	28	36.40	157.19	5.39	530.35	14.81	32.81	4.34	18.93	5.08	1.01	5.61	1.03	6.90	1.40
6840065	PJM-02-103	60	5.3	3	24	30.54	135.39	6.27	397.78	12.38	29.27	4.10	18.81	4.40	1.09	5.18	0.82	5.52	1.25
6840066	PJM-02-106	143	7.8	69	-5	17.06	46.82	1.87	80.70	5.09	12.08	1.70	8.18	2.24	0.82	3.15	0.49	3.32	0.71
6840067	PJM-02-107	70	24.2	3080	28	24.54	82.48	3.15	2523.04	10.36	23.11	3.12	14.26	3.55	0.91	4.69	0.70	4.70	0.98
6840068	PJM-02-108	92	18	29	14	14.49	45.21	1.80	1090.03	4.01	9.97	1.48	7.22	2.01	0.74	2.66	0.41	2.82	0.60
6840069	PJM-02-109	82	9.4	4	27	21.76	72.65	2.77	2383.29	8.51	19.42	2.63	12.61	3.12	1.03	4.01	0.66	4.28	0.88
6840071	PJM-02-110	164	24.4	109	46	13.40	32.92	1.64	533.16	3.35	7.93	1.12	5.52	1.55	0.57	2.20	0.37	2.50	0.53
6840072	PJM-02-111	121	81.7	115	5	35.75	251.13	24.59	29.97	19.70	42.68	5.90	27.11	6.44	1.93	7.69	1.22	7.60	1.51
6840073	PJM-02-112	181	7.9	8	11	20.25	69.06	2.66	120.06	6.71	15.94	2.17	10.54	2.73	0.95	3.66	0.60	4.03	0.84
6840074	PJM-02-113	102	9	10	-5	26.75	97.67	3.43	88.53	11.52	27.27	3.65	16.95	3.76	1.06	4.73	0.77	5.08	1.08
6840075	PJM-02-114	70	6.9	5	18	28.93	117.72	4.78	2555.60	12.04	28.63	3.79	17.52	4.20	1.15	5.37	0.88	5.75	1.21
6840076	PJM-02-115	70	24.1	4	8	23.85	84.67	3.21	855.50	11.20	25.53	3.42	15.62	3.58	1.11	4.46	0.72	4.66	0.98
6840077	PJM-02-116	56	19.9	29	-5	22.49	76.40	3.63	93.76	10.03	23.30	3.09	13.92	3.31	0.97	4.17	0.70	4.61	0.94
6840078	PJM-02-117	157	23.2	26	24	25.21	88.09	3.52	5109.11	7.51	17.89	2.41	11.19	2.95	0.91	4.10	0.69	4.66	0.97
6840079	PJM-02-118	56	32.2	7	36	16.49	54.55	2.11	3450.45	2.74	6.62	0.92	4.44	1.54	0.50	2.64	0.45	3.18	0.66
6840081	PJM-02-119	95	25.4	29	65	18.32	74.85	2.97	1137.85	10.27	23.28	3.15	14.18	3.62	1.06	3.81	0.58	3.70	0.75
6840082	PJM-02-120	36	7.6	41	105	30.21	142.12	4.35	1032.70	25.91	55.70	7.06	30.15	6.97	1.69	6.89	1.03	6.32	1.23
6840083	PJM-02-121	45	8	34	111	29.58	146.35	4.38	1837.45	24.01	53.34	6.90	29.38	6.87	1.40	6.65	1.00	6.23	1.23
6840084	PJM-02-122	133	4.4	317	67	33.16	163.23	5.36	2155.82	28.51	59.99	7.58	31.75	7.51	2.21	7.52	1.13	6.98	1.34
6840085	PJM-02-125	166	11.4	10	195	17.22	148.16	7.10	1661.47	37.14	71.51	7.97	29.20	5.55	1.25	4.66	0.64	3.61	0.67
6840086	PJM-02-128	210	19.7	6	106	22.55	239.62	13.27	1955.61	42.73	87.09	10.17	37.55	7.22	1.61	5.67	0.80	4.73	0.87
M23693R	GCS-03-01	135	3.7	8	104	20.87	243.65	11.57	1115.94	47.67	87.64	9.77	35.04	6.37	1.20	5.23	0.74	4.22	0.80
M23693R*	GCS-03-01	135	3.7	6	105	21.41	252.72	11.91	1134.98	48.20	88.62	9.86	35.54	6.46	1.22	5.36	0.74	4.36	0.82
M23694J	GCS-03-02	201	27.8	-2	19	27.72	134.75	9.55	608.14	23.79	50.71	6.46	27.05	5.95	1.69	5.88	0.89	5.68	1.12
M23695C	GCS-03-03	183	5.8	-2	104	11.68	202.07	9.90	778.61	39.51	67.34	6.98	23.56	3.96	0.91	3.00	0.42	2.35	0.46
M23697M	GCS-03-04	116	23.4	38	66	14.56	57.48	5.14	985.65	8.89	19.21	2.55	11.16	2.54	0.76	2.90	0.46	2.92	0.60
M23698E	GCS-03-05	122	2.8	52	76	31.06	159.24	9.23	1521.49	29.08	61.74	8.04	33.99	6.79	1.44	6.38	0.99	6.08	1.26
M23699X	GCS-03-06	88	4.9	18	78	15.91	61.46	5.57	1360.43	7.73	16.31	2.15	9.58	2.59	0.74	3.02	0.51	3.22	0.66
M23700P	GCS-03-07	114	4.9	38	69	22.24	123.34	7.65	1063.56	16.33	35.76	4.72	20.41	4.41	1.01	4.46	0.72	4.42	0.91
M23701I	GCS-03-08	40	6.7	8	107	35.83	161.37	10.56	1344.04	28.76	60.49	7.85	33.49	6.61	1.50	6.81	1.10	6.87	1.41
M23702A	GCS-03-09	140	7.8	57	76	36.38	156.79	8.05	1931.86	35.63	75.82	9.81	40.75	7.43	2.33	7.12	1.16	7.10	1.42
M23702A*	GCS-03-09					37.74	150.29	8.42	1855.41	35.52	75.34	9.80	40.70	7.44	2.33	7.24	1.19	7.36	1.47
M23702A*	GCS-03-09	141	8	56	77	40.11	148.37	9.59	1926.66	37.04	79.32	10.27	42.34	7.66	2.37	7.40	1.19	7.38	1.55
M23703T	GCS-03-10	344	28	3	34	17.23	38.79	3.09	973.05	8.66	19.29	2.73	12.56	3.19	1.06	3.62	0.53	3.27	0.68
M23704M	GCS-03-11	218	15.1	7	102	17.30	285.98	16.13	1505.24	49.38	90.93	9.99	35.27	5.66	1.22	4.47	0.60	3.44	0.67
M23705F	GCS-03-12	66	16	8	94	25.57	298.73	21.05	1122.46	63.80	119.24	13.38	47.89	8.10	1.58	6.56	0.91	5.10	0.97
M23707Q	GCS-03-13	119	7.3	5	144	20.85	241.58	15.25	1421.70	41.37	78.05	8.84	32.41	5.82	1.12	5.00	0.70	4.11	0.81
M23708J	GCS-03-14	158	5.6	6	95	24.21	228.24	15.67	1307.92	51.68	94.87	10.52	38.13	6.65	1.33	5.57	0.78	4.53	0.91
M23709C	GCS-03-15	176	11.6	5	83	20.18	209.17	12.96	931.16	42.94	81.61	9.29	34.21	5.94	1.27	4.92	0.71	3.98	0.77
M23710I	GCS-03-16	26	10	17	164	19.59	178.92	12.62	1435.31	35.02	66.85	7.80	29.11	4.98	1.01	4.24	0.60	3.48	0.71
M23711E	GCS-03-17	47	9	7	114	13.88	199.16	11.57	1014.07	41.67	70.36	7.49	26.02	3.97	0.90	3.11	0.45	2.65	0.52

APPENDIX A

Lab Num	Field Num	Sr	Li	As	Rb	Y	Zr	Nb	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
M23712B	GCS-03-18	127	6.6	38	82	28.58	152.94	6.78	1276.90	25.28	54.69	7.13	29.96	6.10	1.27	6.17	0.94	5.66	1.12
M23712B*	GCS-03-18					29.73	144.23	7.01	1329.83	26.28	56.85	7.30	31.10	6.41	1.33	6.38	0.95	5.91	1.19
M23713Y	GCS-03-19	100	14.4	63	102	19.20	72.76	3.35	1399.45	9.64	22.59	3.17	14.59	3.38	0.95	3.76	0.60	3.82	0.78
M23713Y*	GCS-03-19					18.88	71.88	3.26	1375.40	9.49	22.28	3.07	13.95	3.31	0.91	3.68	0.57	3.64	0.75
M23714U	GCS-03-20	48	7.9	11	96	33.25	163.38	9.47	1337.69	29.92	64.16	8.43	35.64	7.19	1.71	6.63	1.00	6.18	1.34
M23715R	GCS-03-21	82	11.1	23	102	34.39	190.13	12.42	1892.87	31.18	67.77	8.84	36.82	7.27	1.76	6.71	1.01	6.36	1.38
M23717K	GCS-03-22	397	40.3	30	33	20.53	239.47	17.64	357.31	86.07	172.19	19.71	72.16	9.85	2.33	6.55	0.81	4.31	0.85
M23718H	GCS-03-23	147	21.9	186	20	21.39	53.45	5.30	214.67	12.92	21.19	2.84	12.53	2.86	1.22	3.33	0.52	3.39	0.75
M23719E	GCS-03-24	170	9.7	199	67	14.31	39.42	4.17	461.99	3.54	8.09	1.19	6.12	1.86	0.64	2.41	0.42	2.69	0.59
M23720A	GCS-03-25	174	7.4	27	58	48.15	260.11	10.53	468.45	26.48	54.30	6.93	29.73	6.86	1.64	7.41	1.25	8.33	1.90
M23721B	GCS-03-26	155	13.9	3	45	53.95	183.83	10.26	364.65	22.92	48.32	6.15	26.16	6.17	1.50	7.23	1.29	8.67	1.98
M23722B	GCS-03-27	165	5.2	4	22	48.49	225.45	9.42	266.06	17.92	39.19	5.08	22.24	5.34	1.31	6.53	1.17	7.98	1.82
M23723C	GCS-03-28	150	14	3	31	32.34	187.41	10.11	379.28	21.20	43.94	5.35	22.03	4.90	1.33	5.35	0.89	5.72	1.25
M23723C*	GCS-03-28					33.32	174.65	11.32	375.41	22.57	46.55	5.68	23.63	5.27	1.44	5.62	0.94	6.06	1.31
M23724D	GCS-03-29	144	13	11	34	32.26	191.78	10.81	340.93	18.36	40.25	4.93	20.09	4.74	1.05	5.46	0.92	5.99	1.29
M23725D	GCS-03-30	167	13.1	128	38	12.86	32.58	3.31	265.58	2.74	6.14	0.91	4.71	1.54	0.66	2.16	0.37	2.39	0.52
M23727E	GCS-03-31	174	5.1	2	23	43.65	211.58	4.73	277.80	16.93	37.99	4.93	21.03	5.25	1.15	6.25	1.11	7.60	1.69
M23728F	GCS-03-32	117	27.9	6	24	35.25	93.84	5.92	139.91	8.52	20.58	2.92	14.15	4.03	1.28	5.46	0.94	6.39	1.39
M23729F	GCS-03-33	165	20.1	-2	13	33.89	88.93	4.87	90.66	7.55	18.10	2.58	12.68	3.61	1.16	4.96	0.85	5.91	1.33
M23730T	GCS-03-34	75	4.4	13	38	45.62	136.66	6.52	623.78	17.41	39.68	5.22	24.15	6.13	1.62	7.58	1.32	9.09	1.85
M23731Y	GCS-03-35	110	6.3	5	15	27.07	104.52	5.25	225.94	10.80	24.03	3.24	14.67	3.88	0.78	5.10	0.85	5.54	1.06
M23731Y*	GCS-03-35	110	6.3	5	15	28.78	118.12	6.59	230.31	10.35	23.86	3.25	15.09	4.26	0.92	5.18	0.90	5.76	1.18
M23732C	GCS-03-36	148	23.4	61	15	13.90	46.73	2.99	128.04	4.90	11.00	1.48	6.41	1.66	0.55	2.44	0.36	2.72	0.56
M23733G	GCS-03-37	43	1.8	10	21	39.62	124.21	4.80	193.14	13.29	30.27	4.03	17.90	4.81	1.00	6.18	1.12	7.64	1.62
M23733G*	GCS-03-37					39.13	112.70	4.46	183.08	13.35	30.50	3.97	17.60	4.77	0.95	6.15	1.00	7.39	1.52
M23734L	GCS-03-38	40	4.1	6	37	27.12	97.86	3.15	404.65	7.55	17.26	2.26	10.21	2.84	0.68	3.74	0.63	4.81	1.06
M23734L*	GCS-03-38					26.35	77.29	2.98	399.93	7.29	16.75	2.23	9.66	2.68	0.65	3.53	0.61	4.67	1.07
M23735P	GCS-03-39	75	24.8	19	5	27.54	77.43	4.84	58.58	7.28	17.08	2.40	11.34	3.38	0.81	4.25	0.76	5.08	1.08
M23737Y	GCS-03-40	114	22.4	9	20	34.26	94.29	6.88	188.33	6.83	17.36	2.55	12.49	3.76	1.23	5.11	0.92	6.31	1.34
M23738D	GCS-03-41	91	2.8	7	8	42.73	122.80	5.99	128.13	11.28	25.67	3.54	16.31	4.69	1.06	6.09	1.10	7.66	1.68
M23739H	GCS-03-42	73	5.1	96	48	25.97	105.64	5.40	2058.39	17.08	36.57	4.68	19.82	4.14	0.78	4.42	0.70	4.47	0.94
M23740M	GCS-03-43	216	1.8	81	37	23.25	99.29	5.06	84604.45	10.41	20.23	2.60	11.20	3.26	-8.42	3.52	0.61	4.09	0.87
M23740M*	GCS-03-43	218	1.9	79	37	23.73	108.07	6.03	89669.97	11.20	21.80	2.81	12.33	3.92	-9.91	3.61	0.65	4.29	0.89
M23741U	GCS-03-44	239	8	101	31	49.86	169.38	7.40	107420.74	30.70	57.05	7.11	29.42	6.93	-10.91	7.37	1.25	8.36	1.75
M23742D	GCS-03-45	46	12.9	83	77	33.15	185.71	7.76	23084.83	26.88	53.89	6.61	27.25	5.60	-1.46	5.81	0.89	5.69	1.22
M23743L	GCS-03-46	375	6.3	25	8	30.35	83.84	4.56	24647.06	15.23	30.84	3.91	16.41	3.72	-1.53	4.44	0.73	5.00	1.09
M23744T	GCS-03-47	29	10.2	7	49	24.18	66.08	4.60	2492.21	10.81	23.67	3.15	13.78	3.19	0.44	3.89	0.66	4.31	0.91
M23744T*	GCS-03-47					24.32	69.22	4.62	2502.80	11.10	24.38	3.25	14.48	3.37	0.49	4.04	0.68	4.49	0.95
M23745C	GCS-03-48	88	12.4	3	6	22.57	71.54	4.45	213.89	6.84	16.24	2.23	10.39	2.80	1.05	3.68	0.62	4.02	0.85
M23747S	GCS-03-49	49	7.3	25	29	16.52	79.32	4.51	2652.07	12.38	26.96	3.50	15.05	3.33	0.73	3.19	0.50	3.02	0.65
M23748A	GCS-03-50	176	17	-2	9	22.15	68.95	4.93	237.69	9.77	22.68	3.15	14.87	3.69	1.31	4.13	0.66	4.18	0.89
M23749J	GCS-03-51	82	26.5	-2	11	29.92	119.18	5.62	101.64	13.36	30.40	4.13	18.49	4.70	1.45	5.16	0.87	5.49	1.18
M23750F	GCS-03-52	137	19.5	-2	15	12.91	61.16	3.48	151.26	2.69	6.74	0.99	4.88	1.44	0.48	1.86	0.34	2.30	0.52
M23751R	GCS-03-53	375	4.7	8	-5	34.71	265.16	23.24	24.93	19.24	43.68	5.95	26.85	6.37	2.05	7.70	1.22	7.38	1.40
M23752D	GCS-03-54	186	11	-2	19	14.83	77.15	4.05	202.55	8.27	19.40	2.73	12.77	3.07	1.06	3.21	0.47	2.96	0.61
M23753P	GCS-03-55	267	21.9	3	-5	19.44	63.61	2.90	280.27	12.76	26.56	3.28	13.52	3.00	0.82	3.56	0.56	3.72	0.75
M23754C	GCS-03-56	36	3.6	2	155	17.67	203.54	11.71	862.95	36.43	61.91	6.76	23.65	3.87	0.89	3.56	0.55	3.32	0.65
M23754C*	GCS-03-56					16.25	173.89	11.08	809.74	33.99	58.97	6.42	22.48	3.60	0.84	3.29	0.51	3.09	0.59

APPENDIX A

Lab Num	Field Num	Sr	Li	As	Rb	Y	Zr	Nb	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
M23755O	GCS-03-57	31	2.6	15	140	17.56	100.94	5.02	1015.44	27.99	55.01	6.69	26.34	4.25	1.03	3.91	0.56	3.28	0.64
M23755O*	GCS-03-57					17.45	94.20	5.02	1019.72	26.49	52.71	6.37	24.54	4.10	0.98	3.74	0.55	3.23	0.63
M23757M	GCS-03-58	45	2.7	7	114	13.24	136.27	10.35	1216.58	31.40	57.49	6.38	22.41	3.67	0.93	2.64	0.41	2.43	0.48
M23758Y	GCS-03-59	111	13.2	7	49	21.32	100.16	6.29	478.63	28.88	59.55	7.07	28.00	5.40	1.38	4.60	0.68	4.02	0.79
M23761O	GCS-03-63	51	15.4	24	68	35.15	195.57	14.48	1104.56	12.31	26.59	3.25	13.29	3.53	0.70	4.79	0.89	6.44	1.35
M23762E	GCS-03-64	88	6.2	13	11	37.65	136.18	6.10	263.05	9.94	23.13	3.05	13.92	4.17	0.97	5.50	0.99	6.89	1.41
M23763U	GCS-03-65	49	2.6	-2	19	44.00	136.77	5.89	288.31	12.23	27.90	3.82	17.68	5.11	1.16	6.54	1.16	7.97	1.63
M23764K	GCS-03-66	47	1.7	6	41	26.93	143.04	10.69	683.13	15.36	30.91	3.66	14.85	3.78	0.64	4.09	0.71	4.89	1.01
M23765A	GCS-03-67	54	1.1	-2	22	35.62	123.52	8.20	494.98	17.07	36.79	4.68	19.74	5.17	1.09	5.82	1.00	6.54	1.35
M23765A*	GCS-03-67					36.58	134.35	8.45	512.91	17.79	38.08	4.85	20.94	5.36	1.15	6.11	1.03	6.87	1.40
M23767G	GCS-03-68	129	20.4	8	7	15.79	56.15	4.04	216.75	6.42	14.38	1.99	8.79	2.22	0.74	2.65	0.44	2.91	0.62
M23768W	GCS-03-69	92	42.6	31	-5	15.23	57.85	3.72	108.59	7.70	17.28	2.39	11.07	2.94	0.89	3.20	0.49	3.15	0.64
M23769M	GCS-03-70	72	16.1	4	57	35.15	178.52	11.74	835.52	23.58	46.35	5.39	20.85	4.72	0.86	4.81	0.83	5.52	1.19
M23770Q	GCS-03-71	144	41.1	5	39	12.50	36.16	3.41	404.53	3.52	8.67	1.28	6.40	2.05	0.73	2.36	0.38	2.37	0.49
M23771K	GCS-03-72	107	10.6	2	27	50.80	244.41	9.46	589.65	28.33	58.25	7.36	30.85	7.39	1.66	7.87	1.35	9.06	1.94
M23771K*	GCS-03-72					53.21	238.13	8.93	603.06	29.84	61.27	7.73	32.88	7.68	1.77	8.59	1.47	9.75	2.13
M23772E	GCS-03-73	97	59.7	61	-5	19.80	52.55	1.44	39.54	3.77	10.32	1.70	8.99	2.88	1.04	3.74	0.64	4.12	0.85
M23772E*	GCS-03-73					18.95	50.64	1.54	38.02	3.61	9.87	1.63	8.68	2.69	0.97	3.57	0.61	3.88	0.80
BLANK-39						2.04	1.79	0.64	2.15	0.62	0.11	0.11	0.00	0.01	0.00	0.01	0.13	-0.01	0.01
BLANK-40						3.04	1.73	0.22	4.48	0.80	0.22	0.15	0.09	0.06	0.01	0.04	0.17	0.01	0.02
BLANK-41						2.79	1.80	0.51	5.62	0.75	0.34	0.14	0.23	0.09	0.04	0.06	0.35	0.06	0.02
BLANK-42						5.58	1.88	0.28	3.89	1.12	0.52	0.25	-0.02	0.00	0.00	0.02	0.57	-0.01	0.01
BLANK-43						15.02	1.94	0.41	2.89	1.04	0.50	0.59	0.19	0.02	0.00	8.42	0.41	0.03	0.01
BLANK-44						68.96	1.21	0.29	3.77	0.44	0.12	0.00	0.17	-0.04	-0.01	29.31	0.32	0.02	0.00
BLANK-45						74.80	1.32	0.80	4.83	0.53	0.26	0.02	0.33	0.07	0.01	44.35	0.38	0.05	0.01
BLANK-46						72.80	1.40	0.45	5.44	0.51	0.13	0.01	0.21	-0.03	-0.01	36.88	0.33	0.02	0.00
BR-688-39						16.15	59.50	7.11	203.50	4.73	10.49	1.53	7.57	2.27	0.92	2.91	0.48	3.26	0.66
BR-688-41						17.71	62.83	7.97	236.52	5.19	11.57	1.72	8.56	2.29	0.95	2.97	0.51	3.33	0.76
BR-688-43						16.61	57.70	7.42	214.12	4.74	10.60	1.57	7.74	2.22	0.91	2.73	0.49	3.16	0.65
BR-688-45						17.55	62.44	6.87	217.87	5.06	11.37	1.66	8.36	2.38	1.00	2.93	0.52	3.44	0.72
GA-1		107	44.9	3	13	10.96	115.09	26.19	68.17	8.68	24.16	3.59	17.51	4.12	1.30	3.97	0.52	2.85	0.49
GD-1		254	4.5	-2	-5	13.61	66.57	11.18	1056.90	7.73	15.71	2.16	9.71	2.59	1.13	2.82	0.42	2.73	0.54
MRG-1-39						10.54	113.81	28.94	58.91	8.27	22.70	3.41	16.46	4.17	1.34	3.99	0.53	2.85	0.47
MRG-1-41						11.71	122.48	32.74	68.62	9.17	25.28	3.82	18.69	4.40	1.38	4.17	0.57	2.95	0.54
MRG-1-43						10.72	113.30	29.50	62.61	8.21	23.11	3.43	16.83	4.14	1.30	3.79	0.54	2.80	0.46
MRG-1-45						11.65	122.23	23.87	85.49	8.98	24.82	3.73	18.68	4.64	1.48	4.10	0.58	3.04	0.51
QLO-1		252	4.3	-2	-5	12.19	61.55	8.54	932.72	7.09	14.62	2.01	9.19	2.50	1.04	2.71	0.42	2.60	0.51
SDC-1		1024	36.4	-2	41	112.33	618.45	20.79	420.80	58.79	121.18	14.85	58.05	12.39	1.86	13.59	2.61	18.43	4.33

APPENDIX A

Lab Num	Field Num	Er	Tm	Yb	Lu	Hf	Ta	Th
6840001	PJM-02-002	5.08	0.77	4.98	0.70	4.95	0.20	1.73
6840002	PJM-02-006	2.06	0.30	1.93	0.27	1.49	0.06	1.33
6840003	PJM-02-012	5.57	0.81	5.34	0.73	9.29	1.19	17.17
6840006	PJM-02-018	3.91	0.54	3.50	0.48	5.83	0.96	2.92
6840007	PJM-02-019	1.37	0.21	1.34	0.21	0.91	0.05	0.59
6840008	PJM-02-020	1.47	0.21	1.36	0.21	1.06	0.07	0.74
6840009	PJM-02-021	1.90	0.28	1.86	0.27	1.45	0.13	1.18
6840011	PJM-02-022	5.51	0.77	4.97	0.73	8.59	1.24	4.50
6840012	PJM-02-023	4.04	0.58	3.63	0.53	6.32	1.00	2.98
6840013	PJM-02-024	3.70	0.52	3.40	0.54	6.46	0.98	2.49
6840014	PJM-02-025	3.59	0.50	3.32	0.52	6.10	0.90	2.21
6840015	PJM-02-026	3.58	0.51	3.32	0.55	6.19	1.48	2.38
6840016	PJM-02-027	3.43	0.47	3.15	0.49	5.73	1.29	2.07
6840017	PJM-02-028	3.35	0.48	3.15	0.49	6.05	1.01	2.29
6840018	PJM-02-029	3.10	0.43	2.84	0.43	5.27	0.97	1.94
6840019	PJM-02-030	3.31	0.49	3.34	0.52	2.84	0.25	3.36
6840021	PJM-02-031	5.32	0.79	5.37	0.82	5.01	0.40	5.58
6840022	PJM-02-032	6.13	0.96	6.88	1.12	5.48	0.43	5.98
6840023	PJM-02-033	4.74	0.75	5.29	0.84	4.24	0.40	5.29
6840024	PJM-02-034	3.71	0.58	4.02	0.68	2.90	0.30	3.92
6840025	PJM-02-035	4.38	0.69	4.93	0.81	4.07	0.39	4.75
6840026	PJM-02-036	3.12	0.48	3.28	0.53	3.81	0.34	4.47
6840027	PJM-02-037	5.17	0.79	5.23	0.90	5.55	0.40	5.49
6840028	PJM-02-038	2.34	0.33	2.30	0.36	1.83	0.09	1.17
6840029	PJM-02-039	1.81	0.25	1.83	0.28	1.42	0.13	1.04
6840031	PJM-02-040	2.45	0.34	2.50	0.38	1.65	0.11	1.03
6840032	PJM-02-041	1.84	0.24	1.76	0.25	1.40	0.13	1.11
6840033	PJM-02-042	2.03	0.29	1.90	0.28	1.44	0.15	1.34
6840034	PJM-02-043	1.52	0.23	1.55	0.23	1.02	0.07	0.62
6840035	PJM-02-044	5.98	0.87	6.06	0.92	4.98	0.65	8.36
6840036	PJM-02-045	4.61	0.72	5.10	0.78	4.77	0.68	7.38
6840037	PJM-02-046	2.16	0.35	2.55	0.40	3.83	0.51	5.06
6840038	PJM-02-047	3.19	0.50	3.44	0.55	2.24	0.41	4.45
6840039	PJM-02-048	4.23	0.65	4.42	0.71	3.45	0.34	4.78
6840041	PJM-02-049	3.74	0.57	4.05	0.65	3.14	0.46	5.63
6840042	PJM-02-050	2.87	0.44	3.19	0.51	3.05	0.42	5.19
6840043	PJM-02-051	3.32	0.49	3.58	0.54	3.13	0.37	4.31
6840044	PJM-02-052	3.56	0.53	3.53	0.52	4.02	0.45	5.21
6840045	PJM-02-053	3.39	0.52	3.52	0.54	3.82	0.44	5.58
6840046	PJM-02-054	1.78	0.25	1.59	0.24	2.91	0.61	1.62
6840047	PJM-02-055	1.83	0.26	1.66	0.24	2.95	0.55	1.62
6840048	PJM-02-056	1.79	0.25	1.58	0.26	3.10	0.67	1.46
6840049	PJM-02-057	3.34	0.52	3.55	0.61	3.36	0.41	4.44
6840051	PJM-02-058	3.83	0.59	4.05	0.69	3.46	0.46	5.38
6840052	PJM-02-059	4.90	0.77	5.32	0.91	6.36	0.55	6.66
6840053	PJM-02-060	3.31	0.52	3.57	0.62	3.59	0.31	3.71
6840054	PJM-02-061	2.54	0.37	2.55	0.42	2.36	0.29	3.36
6840055	PJM-02-062	3.20	0.50	3.47	0.59	3.44	0.33	3.78

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Lab Num	Field Num	Er	Tm	Yb	Lu	Hf	Ta	Th
6840056	PJM-02-063	4.14	0.66	4.60	0.79	2.68	0.29	3.50
6840057	PJM-02-064	2.21	0.33	2.19	0.37	1.56	0.12	0.94
6840058	PJM-02-065	1.94	0.28	1.86	0.30	1.20	0.09	0.82
6840059	PJM-02-066	2.09	0.31	2.09	0.33	1.50	0.09	0.89
6840061	PJM-02-089	3.14	0.48	3.39	0.56	2.97	0.22	3.13
6840062	PJM-02-098	3.30	0.46	2.93	0.45	4.69	0.94	2.79
6840063	PJM-02-100	2.93	0.43	2.84	0.45	2.87	0.12	0.40
6840064	PJM-02-102	4.34	0.66	4.65	0.75	4.24	0.29	3.23
6840065	PJM-02-103	3.98	0.63	4.37	0.68	3.72	0.33	2.67
6840066	PJM-02-106	2.09	0.31	1.98	0.29	1.34	0.08	0.84
6840067	PJM-02-107	2.88	0.42	2.70	0.39	2.14	0.14	1.51
6840068	PJM-02-108	1.75	0.26	1.66	0.25	1.22	0.08	0.39
6840069	PJM-02-109	2.53	0.37	2.39	0.35	1.80	0.12	1.30
6840071	PJM-02-110	1.59	0.23	1.54	0.23	0.93	0.06	0.59
6840072	PJM-02-111	4.27	0.59	3.75	0.53	5.55	1.10	2.80
6840073	PJM-02-112	2.52	0.37	2.46	0.36	1.82	0.12	1.18
6840074	PJM-02-113	3.24	0.48	3.08	0.45	2.48	0.16	1.86
6840075	PJM-02-114	3.64	0.53	3.63	0.51	3.00	0.25	3.36
6840076	PJM-02-115	2.84	0.42	2.78	0.38	2.22	0.13	1.67
6840077	PJM-02-116	2.78	0.40	2.59	0.36	1.98	0.12	1.49
6840078	PJM-02-117	2.82	0.41	2.73	0.37	2.27	0.14	1.91
6840079	PJM-02-118	2.02	0.30	1.95	0.27	1.49	0.11	1.20
6840081	PJM-02-119	2.30	0.35	2.36	0.41	2.32	0.12	1.43
6840082	PJM-02-120	3.59	0.52	3.50	0.57	3.74	0.22	2.86
6840083	PJM-02-121	3.66	0.54	3.55	0.60	3.95	0.24	2.88
6840084	PJM-02-122	3.90	0.57	3.77	0.62	4.50	0.29	3.98
6840085	PJM-02-125	1.96	0.29	2.01	0.33	3.78	0.47	11.15
6840086	PJM-02-128	2.57	0.38	2.53	0.41	6.09	0.78	12.85
M23693R	GCS-03-01	2.37	0.34	2.31	0.37	5.87	0.61	17.39
M23693R*	GCS-03-01	2.41	0.36	2.47	0.39	6.13	0.64	17.58
M23694J	GCS-03-02	3.42	0.51	3.40	0.52	3.43	0.25	1.87
M23695C	GCS-03-03	1.42	0.23	1.65	0.28	4.87	0.59	14.05
M23697M	GCS-03-04	1.80	0.27	1.74	0.25	1.60	0.12	1.12
M23698E	GCS-03-05	3.80	0.59	4.04	0.57	3.73	0.32	4.64
M23699X	GCS-03-06	2.00	0.30	1.97	0.29	1.57	0.12	1.15
M23700P	GCS-03-07	2.78	0.43	2.90	0.42	2.97	0.23	3.42
M23701I	GCS-03-08	4.24	0.63	4.25	0.62	3.82	0.34	5.02
M23702A	GCS-03-09	4.13	0.60	3.79	0.54	3.69	0.28	3.83
M23702A*	GCS-03-09	4.22	0.60	3.90	0.55	3.48	0.28	3.77
M23702A*	GCS-03-09	4.45	0.65	4.10	0.56	3.28	0.28	3.98
M23703T	GCS-03-10	1.98	0.31	2.06	0.31	1.22	0.08	0.64
M23704M	GCS-03-11	2.02	0.30	2.13	0.33	6.39	0.67	17.84
M23705F	GCS-03-12	2.83	0.42	2.81	0.42	6.51	0.97	38.96
M23707Q	GCS-03-13	2.39	0.37	2.50	0.37	5.15	0.65	19.81
M23708J	GCS-03-14	2.72	0.42	2.94	0.44	4.85	0.75	18.34
M23709C	GCS-03-15	2.30	0.34	2.30	0.35	4.83	0.53	14.28
M23710I	GCS-03-16	2.19	0.34	2.26	0.35	3.88	0.55	11.17
M23711E	GCS-03-17	1.59	0.25	1.91	0.29	4.04	0.57	13.12

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Lab Num	Field Num	Er	Tm	Yb	Lu	Hf	Ta	Th
M23712B	GCS-03-18	3.38	0.50	3.39	0.50	3.74	0.25	3.95
M23712B*	GCS-03-18	3.48	0.53	3.55	0.52	3.13	0.24	4.12
M23713Y	GCS-03-19	2.29	0.34	2.24	0.32	1.97	0.11	0.91
M23713Y*	GCS-03-19	2.26	0.34	2.14	0.31	1.85	0.11	0.91
M23714U	GCS-03-20	4.11	0.62	4.21	0.60	3.76	0.30	3.26
M23715R	GCS-03-21	4.22	0.63	4.23	0.60	4.55	0.36	5.10
M23717K	GCS-03-22	2.37	0.34	2.28	0.32	4.78	0.56	15.90
M23718H	GCS-03-23	2.25	0.33	2.06	0.29	1.43	0.13	1.60
M23719E	GCS-03-24	1.85	0.27	1.80	0.25	1.22	0.11	0.81
M23720A	GCS-03-25	5.93	0.92	6.37	0.92	6.72	0.49	6.29
M23721B	GCS-03-26	6.22	0.95	6.24	0.90	4.38	0.43	5.51
M23722B	GCS-03-27	5.66	0.87	5.91	0.87	5.16	0.44	5.68
M23723C	GCS-03-28	3.78	0.56	3.88	0.55	4.28	0.48	6.80
M23723C*	GCS-03-28	3.96	0.57	3.96	0.57	4.21	0.50	6.86
M23724D	GCS-03-29	3.90	0.58	3.87	0.56	4.89	0.52	7.07
M23725D	GCS-03-30	1.61	0.25	1.73	0.25	1.00	0.10	0.78
M23727E	GCS-03-31	5.25	0.78	5.27	0.77	5.37	0.33	5.34
M23728F	GCS-03-32	4.19	0.64	4.34	0.64	2.52	0.22	1.26
M23729F	GCS-03-33	4.15	0.62	4.28	0.61	2.41	0.20	1.28
M23730T	GCS-03-34	5.51	0.79	5.49	0.77	2.86	0.16	4.10
M23731Y	GCS-03-35	3.23	0.44	3.01	0.50	2.46	0.15	2.94
M23731Y*	GCS-03-35	3.54	0.52	3.55	0.54	3.24	0.24	2.64
M23732C	GCS-03-36	1.51	0.21	1.47	0.19	1.02	0.05	1.16
M23733G	GCS-03-37	4.78	0.75	4.86	0.74	2.83	0.17	3.47
M23733G*	GCS-03-37	4.42	0.67	4.57	0.70	2.12	0.14	3.42
M23734L	GCS-03-38	3.38	0.51	3.75	0.59	2.24	0.09	1.92
M23734L*	GCS-03-38	3.28	0.53	3.72	0.54	1.36	0.09	2.00
M23735P	GCS-03-39	3.36	0.51	3.50	0.54	2.07	0.15	1.52
M23737Y	GCS-03-40	4.19	0.64	4.40	0.69	2.49	0.22	1.41
M23738D	GCS-03-41	5.17	0.78	5.41	0.87	3.23	0.23	2.53
M23739H	GCS-03-42	2.97	0.46	3.26	0.47	2.67	0.13	2.30
M23740M	GCS-03-43	2.73	0.44	2.94	0.42	2.63	0.14	2.31
M23740M*	GCS-03-43	2.76	0.44	3.03	0.48	3.28	0.19	2.59
M23741U	GCS-03-44	5.35	0.82	5.50	0.77	4.45	0.23	3.76
M23742D	GCS-03-45	3.87	0.60	4.29	0.61	4.57	0.23	3.65
M23743L	GCS-03-46	3.42	0.52	3.55	0.52	2.24	0.12	2.00
M23744T	GCS-03-47	2.80	0.43	2.92	0.42	1.71	0.11	1.72
M23744T*	GCS-03-47	2.91	0.45	2.99	0.42	1.83	0.11	1.80
M23745C	GCS-03-48	2.54	0.37	2.44	0.36	1.78	0.14	1.37
M23747S	GCS-03-49	2.04	0.32	2.24	0.36	2.11	0.13	1.95
M23748A	GCS-03-50	2.62	0.39	2.50	0.37	1.88	0.16	1.55
M23749J	GCS-03-51	3.58	0.53	3.65	0.53	3.18	0.19	2.35
M23750F	GCS-03-52	1.73	0.27	1.96	0.30	1.72	0.11	0.89
M23751R	GCS-03-53	3.97	0.56	3.60	0.50	5.98	0.80	3.09
M23752D	GCS-03-54	1.84	0.28	1.94	0.29	1.90	0.14	1.40
M23753P	GCS-03-55	2.30	0.35	2.26	0.32	1.68	0.10	2.18
M23754C	GCS-03-56	2.00	0.31	2.20	0.32	4.11	0.53	18.31
M23754C*	GCS-03-56	1.83	0.28	2.04	0.30	3.27	0.51	17.16

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Lab Num	Field Num	Er	Tm	Yb	Lu	Hf	Ta	Th
M23755O	GCS-03-57	1.97	0.30	2.13	0.32	2.20	0.17	1.87
M23755O*	GCS-03-57	1.93	0.30	2.13	0.32	2.00	0.16	1.83
M23757M	GCS-03-58	1.49	0.23	1.77	0.30	3.44	0.40	5.57
M23758Y	GCS-03-59	2.28	0.35	2.32	0.37	2.76	0.18	2.23
M23761O	GCS-03-63	4.48	0.73	5.33	0.89	5.00	0.63	6.91
M23762E	GCS-03-64	4.50	0.68	4.80	0.75	3.62	0.24	3.21
M23763U	GCS-03-65	5.15	0.78	5.36	0.82	3.70	0.22	3.26
M23764K	GCS-03-66	3.26	0.53	3.78	0.60	3.71	0.46	5.33
M23765A	GCS-03-67	4.21	0.64	4.44	0.69	2.86	0.33	3.95
M23765A*	GCS-03-67	4.34	0.67	4.54	0.72	3.24	0.34	4.09
M23767G	GCS-03-68	1.87	0.28	1.79	0.28	1.54	0.08	1.02
M23768W	GCS-03-69	1.84	0.27	1.80	0.27	1.70	0.08	0.77
M23769M	GCS-03-70	3.80	0.61	4.30	0.70	4.44	0.57	7.12
M23770Q	GCS-03-71	1.45	0.22	1.55	0.25	1.11	0.09	0.74
M23771K	GCS-03-72	6.06	0.94	6.46	1.02	6.01	0.42	5.85
M23771K*	GCS-03-72	6.59	1.00	6.96	1.06	5.97	0.41	6.19
M23772E	GCS-03-73	2.49	0.35	2.32	0.32	1.72	0.04	0.20
M23772E*	GCS-03-73	2.34	0.34	2.13	0.31	1.52	0.04	0.19
BLANK-39		0.00	0.00	0.29	0.01	0.13	0.01	0.03
BLANK-40		0.03	0.01	0.27	0.01	0.15	0.02	0.02
BLANK-41		0.06	0.01	0.45	0.03	0.22	0.02	0.03
BLANK-42		0.00	0.00	0.42	0.02	0.10	0.01	0.00
BLANK-43		0.02	0.01	1.52	0.07	0.14	0.01	0.01
BLANK-44		-0.02	0.01	6.31	0.23	0.12	0.00	0.00
BLANK-45		0.02	0.02	7.00	0.27	0.21	0.01	0.01
BLANK-46		0.01	0.01	6.60	0.24	0.15	0.00	0.00
BR-688-39		1.99	0.29	2.00	0.31	1.66	0.28	0.34
BR-688-41		2.29	0.33	2.25	0.31	1.70	0.36	0.36
BR-688-43		1.95	0.29	1.95	0.30	1.47	0.28	0.32
BR-688-45		2.14	0.33	2.16	0.33	1.82	0.31	0.33
GA-1		1.19	0.15	0.89	0.11	3.95	0.79	0.77
GD-1		1.56	0.21	1.44	0.21	1.80	0.41	1.04
MRG-1-39		1.11	0.14	0.80	0.11	4.09	0.88	0.76
MRG-1-41		1.34	0.17	0.93	0.13	4.13	0.94	0.77
MRG-1-43		1.09	0.14	0.76	0.11	3.95	0.73	0.78
MRG-1-45		1.26	0.15	0.86	0.12	4.58	0.79	0.75
QLO-1		1.50	0.22	1.36	0.21	1.64	0.34	1.83
SDC-1		14.55	2.29	15.42	2.04	9.82	0.80	1.34