UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Major Element X-ray Fluorescence Analyses of Rock Samples from the Selway-Bitterroot Wilderness, Idaho County, Idaho, and Missoula and Ravalli Counties, Montana

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Open-File Report 82-1094

1982

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STUDIES RELATED TO WILDERNESS

The Wilderness Act (Public Law 88-577, September 3, 1964) and related acts require the U.S. Geological Survey and U.S. Bureau of Mines to survey certain areas on Federal lands to determine their mineral resource potential. Results must be made available to the public and be submitted to the President and Congress. This report presents the results of a geochemical survey of the Selway-Bitterroot Wilderness in the Clearwater National Forest, Idaho County, Idaho; the Bitterroot National Forest, Ravalli County, Montana, and Idaho County, Idaho; the Lolo National Forest, Missoula and Ravalli Counties, Montana; and the Nez Perce National Forest, Idaho County, Idaho. The Selway-Bitterroot Wilderness was established as a primitive area by the U.S. Forest Service in 1932, received wilderness classification in 1963, and became a part of the National Wilderness Preservation System with the passage of the Wilderness Act in 1964. It is located southwest of Missoula, Montana in north-central Idaho and western Montana (fig. 1).

INTRODUCTION

The mineral resource appraisal of the Selway-Bitterroot Wilderness consisted in part of the analysis of rock samples by major element X-ray fluorescence spectroscopy. The data were used to delineate plutons within the Idaho batholith (Toth, 1983) and as an aid in the interpretation of the mineral resource potential of the Wilderness (Toth and others, 1983). Analyses, rock type designations, and sample localities (latitude and longitude) are presented in tables 1 and 2.

Analyses in table 1 were performed by J. Wahlberg (Project Leader), A. Bartel, J. Taggart and J. Baker of the U.S. Geological Survey, Denver, Colorado. Analyses in table 2 were performed by V. Mossotti (Project Leader), H. N. Elsheimer, B. S. King, L. Espos, S. Morgan, and K. Wong of the U.S. Geological Survey, Menlo Park, California. The analytical data were entered into the U.S. Geological Survey RASS II computer storage system and retrievals of the data were handled by B. Barr. Bert Coxe, through the use of the STAT-PAC computer program, was a great help in organizing the data presented in this paper.

SAMPLING TECHNIQUE AND SAMPLE PREPARATION

Approximately 300 grams of small, unweathered rock chips were collected at each sample site. If a structural element was present in the outcrop, the chips were taken perpendicular to that element. Prior to submittal to the analytical labs, the samples were crushed and pulverized to less than 100 mesh (0.015 mm) in a vertical pulverizer with ceramic plates. A few samples that were difficult to fuse were ground in a Fisher automatic mortar and pestle for 15 minutes.

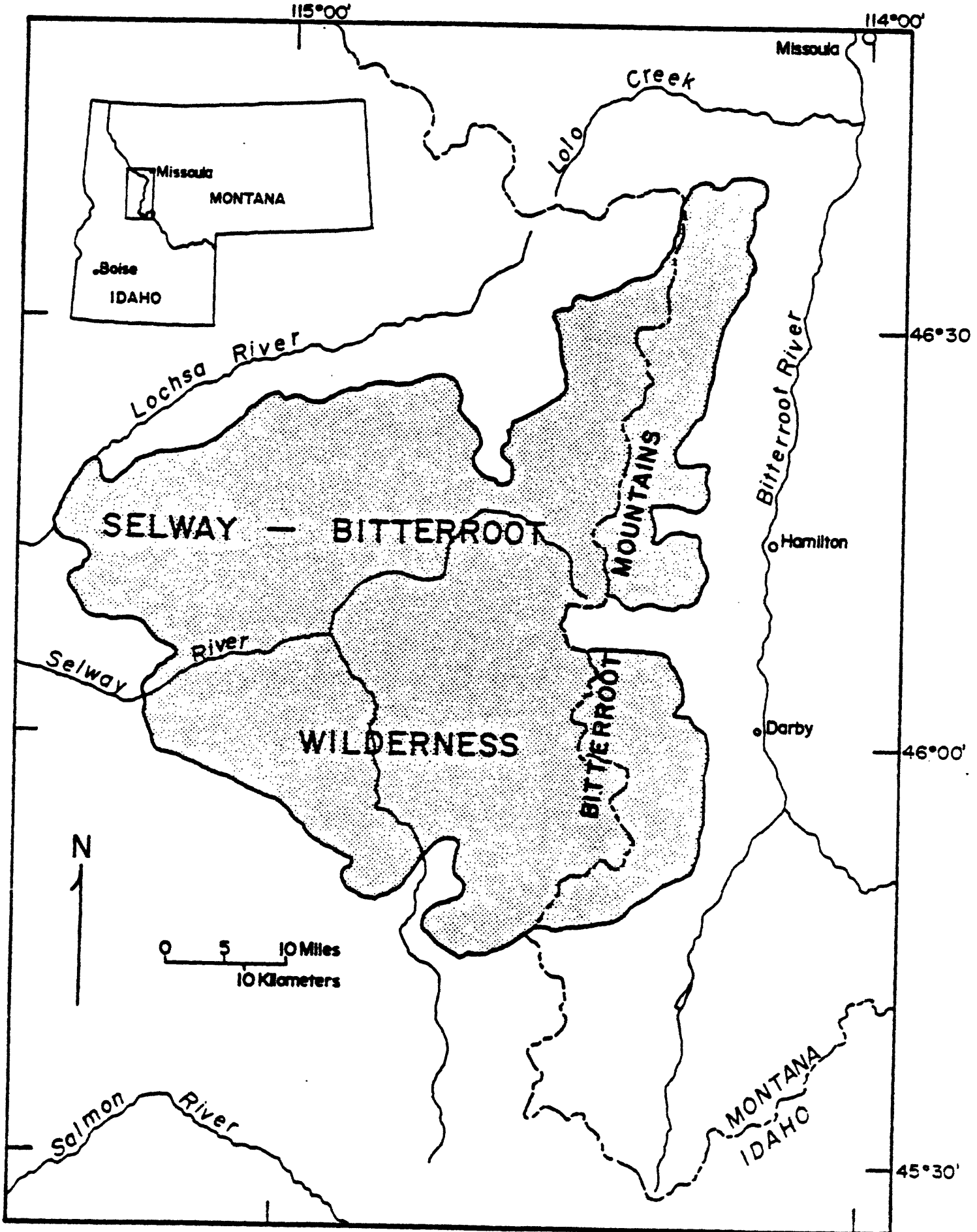

Figure 1.--Location map of the Selway-Bitterroot Wilderness

ANALYTICAL PROCEDURE

Analyses of major element rock-forming oxides by X-ray fluorescence spectroscopy were performed by the U.S. Geological Survey (USGS) Branch of Analytical Laboratories. The laboratory in Denver, Colorado analyzed 457 samples (table 1), and the laboratory in Menlo Park, California analyzed 106 samples (table 2).

Denver Laboratory Analytical Procedures:

An 0.8-g (gram) powdered (<100 mesh) portion of each sample was weighed into an ignited, tared, platinum-gold (95:5) crucible. The samples were then ignited for 20 minutes in a muffled furnace at 925°C, cooled in a desiccator, and reweighed. The weight loss is reported as percent loss on ignition (LOI).

In order to eliminate particle-size effects and to decrease matrix effects, samples were presented to the X-ray spectrometer as a lithium tetraborate glass-disc fusion product. An 8-g charge of lithium tetraborate was added to each crucible and mixed with the ignited sample. Four drops of concentrated hydrobromic acid were added to the contents of each crucible to serve as a nonwetting agent; this addition prevents the finished disc from sticking to the mold. Seven crucibles with sample, and seven empty molds (Taggart and Wahlberg, 1979) were loaded in an automatic fluxer (Taggart and Wahlberg, 1980) which was then placed in a muffled furnace at 1120°C for 17 minutes. During this time, the tilting action of the fluxer homogenizes the molten sample-flux mixture. After the mixing phase of the fusion is completed, the crucibles are inverted; thus, the fused mixture is poured into the molds. The fluxer is then removed from the muffle furnace and cooled to near room temperature. The hardened glass discs are removed from the molds, labeled, and stored in individual plastic boxes--all without touching the analytical surface of the disc (Taggart, Lichte and Wahlberg, 1982). The discs are then analyzed using a Phillips PW 1600 wavelength dispersive simultaneous X-ray spectrometer for 10 major rock-forming oxides: SiO_2, Al_2O_3, total Fe reported as Fe_2O_3, MgO, CaO, Na_2O, K_2O, TiO_2, P_2O_3, and MnO. Analytical procedures for this method are discussed in detail by Taggart, Wahlberg and Taylor (1980), and Taggart, Lichte and Wahlberg (1982). Analyses of standards have been presented in these reports to show degree of accuracy for each element.

Menlo Park Laboratory Analytical Procedures:

X-ray fluorescence analyses were made utilizing a Diano 710 wavelength-dispersive sequential X-ray spectrometer. This is an automated system, equipped with a 10-sample changer, whose software uses multiple linear regression techniques to correct for matrix errors. The system was calibrated using approximately 18 well-characterized international rock standards, predominantly from the U.S. Geological Survey and the Centre De Recherches Petrographiques et Geochimiques (France). Two types of sample preparation techniques were used: one involving fused glass sample discs for major and minor elements, and the other involving pressed cellulose powder pellets for chlorine.

In the fusion method (Fabbi and Elsheimer, 1976), 1.0-g portions of 150-mesh powder samples were fused with a mixture of 6.0 g of lithium tetraborate, 1.5 g lithium nitrate oxidant, and 4 drops of 48-percent HBr solution (a nonwetting agent) in an automatic PUFF fusion device. Platinum-gold (95:5) crucibles were

used for the fusions, and after a pre-programmed cycle of low (550°C) and high (1100°C) temperature heating, mixing, and cooling, the resulting lithium tetraborate fusion discs were readily removed from the crucibles by simple inversion. These discs were then ground and polished, using a lapping device, to a 15-μm finish and then were presented to the X-ray spectrometer for analysis. An in-house USGS glass standard, GSE, which had been diluted 9:1 with certain minor element oxides, sulfur, chlorine, and phosphorus, was used as the instrumental reference standard, as well as being included among the calibrating standards. Consequently, these same fusion discs could be analyzed additionally for selected trace and minor elements with a relative error of about 6 percent (H. N. Elsheimer and B. P. Fabbi, unpub. data). The 10 major elements were analyzed using the fused discs; the relative error for the analytical method ranged from 0.36 percent for SiO_2 to 4.55 percent for P_2O_5, with a mean value for all 10 elements of 1.75 percent (Fabbi and Elsheimer, 1976).

For the cellulose powder pellet method (Fabbi and Moore, 1970; King and others, 1978), 0.85-g portions of 150-mesh rock powder were ground to 400 mesh in a plastic vial equipped with a tungsten carbide grinding ball and inserts, the whole assemblage inserted in a ball mill. The quantitatively retrieved rock powder was then mixed with 0.15-g chromatographic grade Whatman cellulose in a mortar and pestle and reground in a ball mill. The mixture was pressed into a pellet at 30,000 psi using a backing composed of a special wax (Buhrke) and methyl cellulose in a 28:72 ration, and utilizing a USGS-designed pelletizing die (Fabbi, 1970). The relative error for chlorine was 4% with lower and upper detection limits of 0.002% and 2.5%, respectively (King and others, 1978).

EXPLANATION OF DATA TABLES

All values are recorded as weight percent. A sum of the weight percents of the analyzed oxides for each sample is given in the last column. Percent loss on ignition (LOI%) was recorded for samples in table 1 only.

Two qualifying codes were used in reporting the analytical data. A reported value followed by the qualifying code L indicates that the element was not detected in that sample, and that the value cited is the lower detection limit. A value reported as 0.0B indicates that the element was not analyzed in that sample.

Five rock type codes were used to identify plutonic and Precambrian rocks (Toth, 1983):

1. Bear Creek pluton monzogranites and granodiorites. Also included are rocks that are not differentiable from the main phase Bear Creek pluton by reconnaissance mapping.
2. Tertiary epizonal granites, which include Whistling Pig, Running Creek, and Bad Luck plutons.
3. Paradise Creek pluton monzogranites and granodiorites.
4. Canyon Lake pluton monzogranites and granodiorites.
5. Precambrian rocks bordering the Idaho batholith and Precambrian xenoliths.

Rock types preceded by numerical codes were named from modal analysis data. Rock types without codes were named by geologists in the field.

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
78MT021A	46 01 14N	114 50 01W	1	MONZOGRANITE-GRANODIORITE	69.0	16.9	1.93	0.50	2.15
78MT058E	46 09 25N	114 33 06W		DIORITE DIKE	55.1	15.3	7.83	7.10	8.95
78MT064B	46 09 05N	114 34 43W		DIORITE DIKE	53.2	16.5	11.00	3.31	6.23
78MT069E	46 08 33N	114 35 50W		DIORITE DIKE	54.1	17.3	9.55	3.93	6.42
78MT097A	46 10 45N	114 37 47W		DIORITE DIKE	68.9	15.3	2.96	1.96	2.68
78MT099B	46 10 22N	114 38 33W		DIORITE DIKE	60.4	17.4	7.12	3.16	4.34
78MT100A	46 10 11N	114 38 32W		DIORITE DIKE	59.8	18.6	6.02	3.16	5.01
78MT122A	46 08 29N	114 41 43W		DIORITE DIKE	53.4	17.7	9.59	3.71	6.36
78MT126B	46 08 01N	114 43 17W		DIORITE DIKE	49.4	17.8	10.70	5.93	8.23
78MT126F	46 08 01N	114 43 17W		DIORITE DIKE	50.6	17.7	9.80	5.83	8.18
78MT140B	46 08 04N	114 36 53W		DIORITE DIKE	54.0	16.6	9.90	3.30	6.87
78MT140E	46 08 04N	114 36 53W		DIORITE DIKE	49.9	15.2	15.20	3.54	6.55
78MT147A	46 01 42N	114 44 24W	3	MONZOGRANITE-GRANODIORITE	72.5	15.1	1.30	0.40	1.85
78MT161A	46 03 22N	114 37 38W	1	MONZOGRANITE-GRANODIORITE	67.5	16.1	2.71	1.55	3.03
78MT163E	46 03 34N	114 37 12W	3	MONZOGRANITE-GRANODIORITE	69.8	15.8	2.01	1.10	2.57
78MT165E	46 03 48N	114 35 28W	1	MONZOGRANITE-GRANODIORITE	69.6	15.1	2.58	1.99	3.27
78MT171A	46 04 06N	114 31 30W	1	MONZOGRANITE-GRANODIORITE	67.9	16.6	2.58	1.48	3.28
78MT172A	46 04 14N	114 32 06W	3	MONZOGRANITE-GRANODIORITE	71.1	15.4	1.58	0.86	2.06
78MT176E	46 05 33N	114 49 21W	1	MONZOGRANITE-GRANODIORITE	71.3	15.5	1.16	0.40	1.30
78MT206B	45 59 22N	114 47 56W	1	MONZOGRANITE-GRANODIORITE	70.1	16.1	1.64	0.40	1.96
78SL008	45 58 51N	115 04 11W	2	GRANITE	77.3	12.4	1.37	0.10L	0.20
78WM010A	45 58 18N	114 50 22W	2	GRANITE	75.5	12.4	1.49	0.10	0.43
78WM018A	45 57 13N	114 51 21W	2	GRANITE	72.0	13.9	2.58	0.20	0.61
78WM020A	45 57 19N	114 50 38W	2	GRANITE	76.6	12.7	1.18	0.10	0.34
78WM021A	45 55 30N	114 52 35W	2	GRANITE	74.8	12.7	1.85	0.10	0.26
78WM026A	45 54 27N	114 51 22W	2	GRANITE	77.6	12.6	0.46	0.10L	0.24
78WM029A	45 55 06N	114 50 00W	2	GRANITE	73.7	13.4	1.88	0.10L	0.30
78WM030A	45 55 09N	114 49 59W	2	GRANITE	75.0	12.7	2.02	0.20	0.32
78WM033A	45 55 56N	114 51 42W		APLITE DIKE	75.6	12.5	0.33	0.10L	0.33
78WM040A	46 02 02N	114 54 39W		APLITE DIKE	77.8	13.3	0.40	0.10	0.78
78WM049A	46 02 14N	114 57 16W	2	GRANITE	74.7	13.7	1.30	0.30	1.13
78WM058A	45 58 04N	114 55 19W	2	GRANITE	76.5	12.4	1.37	0.10L	0.41
78WM060A	45 58 17N	114 54 23W	2	GRANITE	73.7	13.4	2.15	0.20	0.62
78WM061A	45 58 17N	114 53 55W		RHYOLITE DIKE	74.2	13.0	1.98	0.10	0.26
78WM062A	45 58 04N	114 52 50W	2	GRANITE	77.3	12.4	0.69	0.10L	0.31
78WM063A	45 58 39N	114 52 24W		RHYOLITE DIKE	73.2	13.3	2.38	0.20	0.47
78WM064A	45 58 58N	114 57 05W	2	GRANITE	76.5	12.6	1.48	0.10	0.53
78WM065A	45 58 40N	114 57 35W	2	GRANITE	75.9	12.6	1.56	0.20	0.36
78WM066A	45 58 30N	114 57 00W	2	GRANITE	75.7	12.9	1.29	0.10	0.37
78WM066B	45 58 30N	114 57 00W		APLITE DIKE	76.9	12.4	1.40	0.10	0.45
78WM068A	45 59 09N	114 58 39W		RHYOLITE DIKE	74.7	12.7	1.45	0.20	0.35
78WM069A	45 59 01N	114 59 15W	2	GRANITE	74.2	13.4	1.68	0.40	0.75
78WM079A	45 55 42N	114 51 33W	2	GRANITE	78.0	12.0	0.85	0.10L	0.25
78WM081A	45 55 42N	114 50 42W		APLITE DIKE	76.8	12.7	1.09	0.10L	0.22
78WM082A	45 55 31N	114 50 27W	2	GRANITE	79.6	11.3	0.84	0.10L	0.32

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	LOI%	TOTAL%
78MT021A	4.90	3.48	0.26	0.20	0.02L	0.60	99.9
78MT058E	2.51	1.10	1.08	0.29	0.14	1.20	100.6
78MT064B	3.51	2.06	2.79	0.52	0.15	0.58	99.9
78MT069E	3.63	2.04	2.03	0.42	0.11	0.84	100.4
78MT097A	3.89	2.95	0.49	0.15	0.04	0.46	99.8
78MT099B	3.35	2.45	0.87	0.30	0.11	0.45	99.9
78MT100A	3.24	2.36	1.07	0.26	0.08	0.84	100.4
78MT122A	3.63	2.11	1.96	0.56	0.10	0.72	99.8
78MT126B	3.52	1.33	2.30	0.40	0.12	0.64	100.4
78MT126F	3.50	1.73	2.06	0.32	0.12	0.65	100.5
78MT140B	3.63	1.83	2.64	0.56	0.11	0.41	99.9
78MT140E	3.34	1.63	3.65	0.68	0.18	0.42	100.3
78MT147A	4.20	3.32	0.16	0.10L	0.02L	0.56	99.5
78MT161A	4.32	3.13	0.46	0.15	0.03	0.49	99.5
78MT163E	4.10	3.57	0.34	0.10	0.02L	0.44	99.8
78MT165E	4.10	2.52	0.35	0.10L	0.03	0.39	100.0
78MT171A	4.46	2.83	0.43	0.15	0.02L	0.43	100.2
78MT172A	4.10	3.73	0.26	0.10	0.02L	0.60	99.8
78MT176E	3.60	5.30	0.18	0.20	0.02L	0.59	99.5
78MT206B	3.90	4.54	0.14	0.10L	0.02L	0.42	99.3
78SL008	2.70	5.03	0.08	0.10L	0.02L	0.84	100.1
78WM010A	3.40	4.86	0.12	0.10L	0.02L	0.66	99.0
78WM018A	3.30	5.91	0.25	0.10L	0.02	0.87	99.7
78WM020A	3.20	5.19	0.09	0.10L	0.02L	0.34	99.8
78WM021A	3.20	5.06	0.17	0.10L	0.02L	0.75	99.0
78WM026A	3.00	4.89	0.10	0.10L	0.02L	0.71	99.8
78WM029A	3.50	5.63	0.16	0.10L	0.02L	0.59	99.3
78WM030A	3.40	4.92	0.23	0.10L	0.02L	0.85	99.7
78WM033A	3.30	4.81	0.04	0.10L	0.02L	0.69	97.8
78WM040A	3.80	3.56	0.03	0.10L	0.02L	0.45	100.3
78WM049A	3.30	4.08	0.16	0.10L	0.02L	0.54	99.3
78WM058A	3.30	5.02	0.08	0.10L	0.02L	0.41	99.6
78WM060A	3.50	5.34	0.20	0.10L	0.02	0.42	99.6
78WM061A	3.10	5.77	0.17	0.10L	0.02	0.69	99.4
78WM062A	3.30	5.19	0.09	0.10L	0.02L	0.52	100.0
78WM063A	3.10	5.22	0.24	0.10L	0.02L	1.38	99.6
78WM064A	3.50	4.93	0.13	0.10L	0.02L	0.36	100.2
78WM065A	3.30	4.97	0.13	0.10L	0.02L	0.71	99.8
78WM066A	3.40	5.29	0.10	0.10L	0.02L	0.58	99.8
78WM066B	3.50	4.79	0.08	0.10L	0.02L	0.58	100.3
78WM068A	2.90	5.12	0.12	0.10L	0.03	0.82	98.5
78WM069A	3.30	4.91	0.20	0.10L	0.02L	0.42	99.3
78WM079A	3.30	4.76	0.04	0.10L	0.02L	0.61	100.0
78WM081A	3.40	4.66	0.04	0.10L	0.02L	0.52	99.6
78WM082A	3.20	4.41	0.04	0.10L	0.02L	0.48	100.3

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
78WM084A	45 55 22N	114 50 14W		APLITE DIKE	73.4	13.3	2.03	0.10	0.37
78WM088A	46 01 49N	114 53 17W		RHYOLITE DIKE	77.2	11.7	1.13	0.10	0.27
78WM090A	45 59 14N	114 59 49W	2	GRANITE	76.6	12.5	1.27	0.10	0.54
78WM091A	45 59 30N	114 59 51W	2	GRANITE	80.7	9.1	1.48	0.10	0.20
78WM093A	45 59 41N	114 59 51W		RHYOLITE DIKE	71.0	14.5	1.83	0.63	1.25
78WM094A	45 55 09N	114 55 25W	2	GRANITE	76.8	12.4	1.08	0.10	0.33
78WM095A	45 55 23N	114 54 25W		APLITE DIKE	79.0	11.6	1.01	0.10L	0.25
78WM097A	45 58 00N	115 00 37W	2	GRANITE	75.1	12.8	2.37	0.30	0.69
78WM097B	45 58 00N	115 00 37W		RHYOLITE DIKE	75.6	12.2	1.45	0.20	0.26
78WM099B	45 58 32N	115 00 00W	1	MONZOGRANITE-GRANODIORITE	74.6	13.9	1.46	0.40	1.07
78WM104B	45 54 22N	114 52 55W	2	GRANITE	72.5	14.4	2.33	0.20	0.28
78WM111A	46 00 00N	114 55 37W	1	MONZOGRANITE-GRANODIORITE	72.2	14.8	2.03	0.30	2.03
78WM138A	45 58 23N	115 06 35W	2	GRANITE	74.9	13.3	1.36	0.30	0.63
78WM178A	46 07 35N	115 02 58W		RHYOLITE DIKE	72.0	14.4	2.07	0.62	0.82
78WM189A	45 58 25N	114 58 57W	2	GRANITE	77.1	12.2	1.31	0.10	0.40
78WM189B	45 58 25N	114 58 57W		APLITE DIKE	74.9	11.9	1.27	0.10L	0.31
78WM192A	46 01 23N	114 56 29W		RHYOLITE DIKE	69.6	13.8	1.69	0.54	1.45
79BG191A	46 10 48N	115 18 03W		TONALITE	60.5	16.9	7.18	2.72	5.33
79EB053A	45 57 31N	114 46 19W	1	GRANITE	69.6	16.4	1.86	0.66	2.36
79EB055A	45 56 30N	114 47 11W	5	QUARTZITE	97.1	1.1	0.06	0.12	0.02L
79EB057A	45 56 18N	114 47 18W	5	QUARTZITE	70.6	11.1	1.27	3.67	8.69
79EB057E	45 56 18N	114 47 18W	5	QUARTZITE GNEISS	67.8	16.3	4.26	0.95	0.07
79EB144B	45 56 02N	114 47 16W	5	BIOTITE SCHIST	46.6	25.4	11.80	2.85	0.26
79EB152	45 55 14N	114 49 36W	1	MONZOGRANITE-GRANODIORITE	74.7	13.5	1.27	0.43	1.03
79EB156	45 55 01N	114 46 49W		MIGMATITE	65.7	16.7	3.80	1.64	3.49
79EB170	45 54 25N	114 47 45W		GRANITE GNEISS	63.6	16.4	5.36	2.52	4.81
79EB186	45 53 47N	114 46 18W		MIGMATITE	87.4	5.6	1.70	1.07	0.23
79EB234A	45 52 26N	114 46 45W	1	MONZOGRANITE-GRANODIORITE	73.5	14.2	1.05	0.46	0.80
79ME053	46 01 57N	114 36 43W	1	MONZOGRANITE-GRANODIORITE	74.1	14.8	0.60	0.20	0.88
79ME054	46 02 07N	114 36 40W	1	MONZOGRANITE-GRANODIORITE	75.9	13.7	0.86	0.20	0.73
79MT023A	46 12 35N	114 34 14W		APLITE DIKE	71.2	15.7	1.63	0.57	1.60
79MT027G	46 10 13N	114 46 18W		DIORITE DIKE	57.5	16.3	6.85	5.57	5.74
79MT039G	46 16 33N	114 35 27W		APLITE DIKE	68.4	17.3	2.73	1.00	3.47
79MT050G	46 13 12N	114 26 58W		APLITE DIKE	70.4	16.0	2.10	0.91	2.23
79MT080F	46 15 11N	114 37 46W		APLITE DIKE	70.3	16.3	1.85	0.83	2.78
79MT082G	46 05 00N	114 33 29W		APLITE DIKE	71.8	15.0	1.62	0.51	1.78
79MT082I	46 05 00N	114 33 29W		APLITE DIKE	68.2	15.3	3.93	2.00	2.71
79MT090A	46 04 58N	114 36 26W	3	MONZOGRANITE-GRANODIORITE	69.0	15.7	2.65	1.40	2.74
79MT094A	45 58 19N	114 41 21W	1	MONZOGRANITE-GRANODIORITE	68.4	15.7	2.60	1.45	2.61
79MT095A	46 10 21N	114 40 15W		APLITE DIKE	68.4	15.8	2.75	0.87	1.95
79MT095B	45 58 29N	114 41 36W	1	MONZOGRANITE-GRANODIORITE	72.7	15.0	1.28	0.37	1.69
79MT103B	46 13 11N	114 26 57W		APLITE DIKE	70.0	16.6	1.87	1.10	2.55
79MT105B	46 08 46N	114 47 04W		APLITE DIKE	69.3	16.5	2.00	0.93	2.18
79MT107A	46 08 40N	114 46 39W	1	MONZOGRANITE-GRANODIORITE	72.1	15.7	1.40	0.40	1.87
79MT107E	46 08 40N	114 46 39W		APLITE DIKE	71.3	15.5	1.81	0.58	1.70

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	LOI%	TOTAL%
78WM084A	3.50	5.29	0.18	0.10L	0.02L	1.02	99.3
78WM088A	3.00	4.99	0.09	0.10L	0.02L	0.59	99.2
78WM090A	3.10	4.95	0.09	0.10L	0.02	0.64	99.9
78WM091A	2.10	4.46	0.12	0.10L	0.02L	0.29	98.7
78WM093A	3.00	4.77	0.32	0.10L	0.02	2.02	99.4
78WM094A	3.50	4.47	0.06	0.10L	0.02L	0.54	99.4
78WM095A	3.00	4.73	0.05	0.10L	0.02L	0.40	100.2
78WM097A	3.20	5.22	0.24	0.10L	0.02	0.39	100.4
78WM097B	3.10	4.97	0.12	0.10L	0.02L	0.75	98.7
78WM099B	3.50	4.75	0.18	0.20	0.02L	0.22	100.3
78WM104B	3.80	5.63	0.20	0.10L	0.02	0.84	100.3
78WM111A	4.60	2.34	0.22	0.10L	0.02L	0.31	98.9
78WM138A	3.20	4.89	0.15	0.10L	0.02L	0.79	99.6
78WM178A	3.20	5.07	0.34	0.10L	0.02	1.00	99.6
78WM189A	3.40	4.78	0.10	0.10	0.02L	0.36	99.9
78WM189B	3.60	4.53	0.06	0.10L	0.02L	0.56	97.3
78WM192A	3.30	4.46	0.29	0.10	0.02L	1.88	97.1
79BG191A	3.56	2.25	0.79	0.26	0.11	0.59	100.2
79EB053A	4.77	2.83	0.25	0.13	0.02L	0.59	99.5
79EB055A	0.20	0.16	0.02L	0.05L	0.02L	0.45	99.3
79EB057A	2.33	1.44	0.10	0.10	0.02L	0.92	100.2
79EB057E	0.83	6.06	0.59	0.05L	0.02L	3.09	100.0
79EB144B	0.24	4.33	2.07	0.05L	0.14	5.71	99.4
79EB152	2.86	4.42	0.16	0.06	0.02L	0.94	99.4
79EB156	3.90	2.16	0.46	0.18	0.02L	1.02	99.1
79EB170	3.51	1.94	0.60	0.20	0.08	1.27	100.3
79EB186	0.67	2.34	0.34	0.05L	0.02L	0.59	99.9
79EB234A	3.39	5.35	0.18	0.08	0.02L	0.67	99.7
79ME053	3.80	5.26	0.04	0.10L	0.02L	0.28	100.0
79ME054	3.60	4.70	0.06	0.10L	0.02L	0.50	100.3
79MT023A	4.20	4.45	0.28	0.10	0.03	0.39	100.1
79MT027G	3.12	1.37	0.74	0.15	0.09	1.91	99.3
79MT039G	4.80	1.61	0.51	0.10	0.04	0.99	100.9
79MT050G	3.80	4.02	0.31	0.10L	0.02L	0.50	100.4
79MT080F	4.30	2.46	0.35	0.10	0.02	0.55	99.8
79MT082G	3.80	4.55	0.29	0.10L	0.02L	0.46	99.9
79MT082I	4.80	1.83	0.58	0.10	0.04	0.49	100.0
79MT090A	4.00	3.63	0.44	0.20	0.03	0.84	100.6
79MT094A	4.09	3.11	0.42	0.14	0.02L	0.96	99.5
79MT095A	3.40	4.84	0.58	0.20	0.02L	0.94	99.7
79MT095B	3.79	4.20	0.23	0.09	0.02L	0.55	99.9
79MT103B	4.10	3.63	0.34	0.10	0.02L	0.39	100.7
79MT105B	4.20	3.90	0.59	0.20	0.02L	0.49	100.3
79MT107A	4.20	3.77	0.18	0.20	0.02L	0.62	100.5
79MT107E	3.80	4.12	0.33	0.10	0.02L	0.88	100.1

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
79MT107F	46 08 40N	114 46 39W		APLITE DIKE	71.2	15.2	1.61	0.55	1.59
79MT117A	45 46 48N	114 27 01W	1	MONZOGRANITE-GRANODIORITE	73.3	15.2	1.15	0.40	1.81
79MT128A	45 57 47N	114 31 12W	1	MONZOGRANITE-GRANODIORITE	72.8	14.9	1.53	0.50	1.86
79MT133A	45 56 30N	114 32 22W	1	MONZOGRANITE-GRANODIORITE	69.5	16.4	1.77	0.50	2.19
79MT140A	45 10 49N	114 25 07W	1	MONZOGRANITE-GRANODIORITE	71.5	15.6	1.40	0.40	1.58
79MT159G	46 09 39N	114 38 28W		APLITE DIKE	72.6	14.3	1.86	0.40	1.25
79MT161A	46 15 29N	114 38 31W		APLITE DIKE	71.0	16.3	1.31	0.50	2.22
79MT172A	46 15 15N	114 37 09W		APLITE DIKE	74.9	15.1	0.59	0.20	1.43
79MT179G	46 11 01N	114 37 13W		APLITE DIKE	71.9	15.2	1.65	0.67	1.74
79MT182B	46 11 30N	114 37 16W		APLITE DIKE	68.2	15.3	3.91	0.94	2.38
79MT183B	46 11 43N	114 37 24W		APLITE DIKE	73.4	14.5	1.24	0.40	1.36
79MT185A	46 11 55N	114 37 31W	1	MONZOGRANITE-GRANODIORITE	74.5	14.6	0.80	0.30	1.23
79MT185E	46 11 55N	114 37 31W		APLITE DIKE	73.8	14.8	0.84	0.30	1.13
79MT187G	46 12 50N	114 37 51W		APLITE DIKE	72.7	15.1	1.12	0.50	1.58
79MT188A	46 09 04N	114 39 07W		DIORITE DIKE	55.0	15.6	9.16	4.46	7.35
79RR001P	46 14 16N	115 24 11W	1	MONZOGRANITE-GRANODIORITE	71.7	15.3	1.17	0.42	1.15
79RR003E	46 14 34N	115 24 08W		AMPHIBOLITE	53.3	14.5	13.30	5.45	5.99
79RR021A	46 14 22N	115 02 19W	1	MONZOGRANITE-GRANODIORITE	73.7	14.3	1.33	0.43	1.02
79RR045B	46 23 30N	115 02 05W	1	MONZOGRANITE-GRANODIORITE	71.6	15.8	1.24	0.38	1.59
79RR060A	46 22 40N	114 59 25W	1	MONZOGRANITE-GRANODIORITE	71.8	15.6	1.20	0.42	1.82
79RR081B	46 19 34N	114 50 14W	1	MONZOGRANITE-GRANODIORITE	72.1	15.2	1.19	0.43	1.81
79RR121B	46 18 00N	115 01 30W	1	MONZOGRANITE-GRANODIORITE	72.0	15.2	1.18	0.35	1.65
79RR150A	46 01 30N	115 08 00W	5	BIOTITE QUARTZITE	80.1	9.1	4.22	0.99	0.46
79RR159A	46 00 08N	115 07 53W	1	MONZOGRANITE-GRANODIORITE	76.3	12.6	1.17	0.13	0.33
79RR179A	46 20 39N	115 11 37W	1	MONZOGRANITE-GRANODIORITE	71.0	15.7	1.46	0.43	2.03
79RR185A	46 20 32N	115 13 50W	1	MONZOGRANITE-GRANODIORITE	73.1	14.8	1.02	0.47	1.89
79RR213A	46 15 50N	115 11 37W	1	MONZOGRANITE-GRANODIORITE	70.1	16.3	1.70	0.57	2.03
79RR217B	46 16 45N	115 11 46W		AMPHIBOLITE	64.1	17.1	5.56	2.19	3.48
79RR220A	46 17 17N	115 11 34W	1	MONZOGRANITE-GRANODIORITE	69.5	17.0	1.16	0.50	2.16
79RR261A	46 17 07N	115 08 44W	1	MONZOGRANITE-GRANODIORITE	69.1	16.7	1.88	0.61	2.14
79RR264A	46 17 51N	115 09 11W	1	MONZOGRANITE-GRANODIORITE	73.3	14.6	0.91	0.37	1.25
79RR270A	46 16 26N	115 15 11W		MIGMATITE	82.2	8.1	2.69	1.30	0.20
79RR280A	46 17 58N	115 17 35W	1	MONZOGRANITE-GRANODIORITE	71.9	15.9	1.20	0.42	1.74
79RR315A	46 18 11N	115 14 19W	1	MONZOGRANITE-GRANODIORITE	70.6	15.2	2.20	0.91	1.96
79RR325A	46 20 12N	115 08 25W	1	MONZOGRANITE-GRANODIORITE	70.5	15.4	1.64	0.83	1.42
79RR332A	46 20 10N	115 09 51W	1	MONZOGRANITE-GRANODIORITE	69.4	16.7	1.52	0.47	2.18
79WM001	45 57 48N	114 48 30W		APLITE DIKE	75.0	13.4	1.29	0.10	0.46
79WM007	45 57 24N	114 58 04W	2	GRANITE	73.7	13.7	2.25	0.20	0.79
79WM010	45 54 15N	114 58 42W	2	GRANITE	76.6	12.4	1.39	0.10	0.44
79WM011	45 54 03N	114 58 40W	2	GRANITE	77.0	12.2	1.47	0.10	0.41
79WM012	45 53 51N	114 58 31W	2	GRANITE	74.9	13.0	1.55	0.20	0.38
79WM014	45 53 30N	114 57 19W	2	GRANITE	77.0	12.3	1.23	0.10	0.43
79WM015	45 53 22N	114 55 58W	2	GRANITE	74.9	12.8	1.71	0.10	0.57
79WM016	45 51 56N	114 54 29W	2	GRANITE	74.5	13.1	2.08	0.10	0.26
79WM021	45 58 11N	114 49 46W		RHYOLITE DIKE	76.5	12.0	1.33	0.10L	0.21

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	LOI%	TOTAL%
79MT107F	3.70	4.57	0.27	0.10	0.02L	0.62	99.4
79MT117A	4.40	3.08	0.14	0.10L	0.02L	0.28	99.8
79MT128A	4.00	3.51	0.19	0.10	0.02L	0.24	99.6
79MT133A	4.50	3.85	0.26	0.20	0.02L	0.21	99.4
79MT140A	4.00	4.58	0.18	0.10L	0.02L	0.49	99.8
79MT159G	3.00	5.17	0.26	0.10L	0.02L	0.84	99.8
79MT161A	4.90	2.57	0.22	0.10	0.02	0.50	99.6
79MT172A	3.70	4.26	0.04	0.10L	0.02L	0.50	100.8
79MT179G	3.20	5.04	0.34	0.20	0.02L	0.40	100.4
79MT182B	3.30	4.39	0.82	0.30	0.04	0.32	99.9
79MT183B	3.10	5.34	0.26	0.10	0.02L	0.30	100.0
79MT185A	3.30	4.79	0.09	0.10L	0.02L	0.62	100.3
79MT185E	3.20	5.22	0.11	0.10	0.02L	0.54	100.1
79MT187G	3.80	4.23	0.19	0.10L	0.02L	0.40	99.7
79MT188A	3.36	1.53	2.85	0.34	0.12	0.50	100.3
79RR001P	3.92	5.04	0.12	0.05	0.02L	0.47	99.4
79RR003E	0.79	3.32	2.01	0.17	0.17	0.66	99.7
79RR021A	3.45	3.88	0.16	0.09	0.02L	1.41	99.8
79RR045B	4.18	3.87	0.15	0.06	0.02L	0.67	99.6
79RR060A	4.43	3.48	0.15	0.05	0.02L	0.54	99.5
79RR081B	4.38	3.04	0.13	0.11	0.02L	0.60	99.0
79RR121B	3.42	4.38	0.13	0.07	0.02L	0.79	99.2
79RR150A	1.69	1.82	0.62	0.05L	0.02L	0.95	100.0
79RR159A	3.81	4.61	0.06	0.05L	0.02L	0.55	99.6
79RR179A	3.65	4.11	0.13	0.09	0.02	0.68	99.3
79RR185A	3.64	4.16	0.12	0.11	0.02L	0.88	100.2
79RR213A	4.51	3.77	0.24	0.13	0.02L	0.53	99.9
79RR217B	4.17	2.31	0.61	0.39	0.06	0.88	100.9
79RR220A	4.59	3.32	0.15	0.07	0.02L	0.67	99.1
79RR261A	4.54	3.83	0.26	0.14	0.02L	0.63	99.8
79RR264A	3.69	4.17	0.12	0.10	0.02L	0.77	99.3
79RR270A	0.78	2.75	0.42	0.05L	0.02L	1.14	99.6
79RR280A	4.35	4.26	0.16	0.05L	0.02L	0.28	100.3
79RR315A	3.62	4.58	0.32	0.10	0.03	0.53	100.0
79RR325A	3.76	4.47	0.29	0.10	0.02L	0.90	99.3
79RR332A	4.09	3.94	0.19	0.11	0.02L	0.83	99.4
79WM001	3.20	5.58	0.10	0.10L	0.02L	0.61	99.8
79WM007	3.80	5.28	0.22	0.10L	0.02	0.42	100.5
79WM010	3.30	4.89	0.11	0.10L	0.02L	0.52	99.8
79WM011	3.30	4.78	0.11	0.10	0.02L	0.66	100.1
79WM012	3.40	5.28	0.12	0.10L	0.02L	0.58	99.5
79WM014	3.40	4.76	0.07	0.10L	0.02L	0.42	99.8
79WM015	3.40	5.32	0.15	0.10L	0.02L	0.15	99.2
79WM016	3.30	5.37	0.17	0.10L	0.02	0.54	99.5
79WM021	3.40	4.58	0.10	0.10L	0.02L	0.34	98.6

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
79WM023	45 54 33N	114 43 55W	2	GRANITE	70.9	14.2	3.03	0.20	0.49
79WM024	45 55 56N	114 43 56W	2	GRANITE	76.6	12.6	1.49	0.10	0.48
79WM028	45 58 19N	114 49 30W	2	GRANITE	76.5	12.6	1.33	0.10L	0.39
79WM034	45 59 56N	114 50 29W	1	MONZOGRANITE-GRANODIORITE	70.9	16.1	1.57	0.40	1.93
79WM055	45 59 43N	114 48 28W		APLITE DIKE	73.1	13.4	3.10	0.20	0.29
79WM060	45 55 39N	114 42 13W	2	GRANITE	76.3	12.2	1.24	0.10L	0.39
79WM065	45 54 29N	114 42 50W	2	GRANITE	75.5	12.0	1.26	0.10	0.35
79WM081	45 46 26N	114 40 45W	1	MONZOGRANITE-GRANODIORITE	72.8	14.2	1.60	0.40	1.23
79WM083	45 46 43N	114 41 29W		SYENITE	66.7	16.2	3.59	0.20	1.42
79WM086	45 46 43N	114 42 46W	1	MONZOGRANITE-GRANODIORITE	73.1	14.6	1.31	0.51	1.41
79WM148	45 59 46N	115 03 54W	2	GRANITE	75.9	13.3	1.15	0.20	0.81
79WM149	45 59 48N	115 03 59W	2	GRANITE	75.3	13.4	1.57	0.40	0.92
79WM150	45 59 50N	115 05 05W	2	GRANITE	74.8	13.5	1.33	0.30	0.79
79WM151	45 59 32N	115 06 16W	2	GRANITE	77.6	12.3	1.12	0.10L	0.24
80DH012A	45 57 33N	114 36 18W	1	MONZOGRANITE-GRANODIORITE	71.7	15.5	1.54	0.50	1.84
80DH018A	45 58 14N	114 34 44W	1	MONZOGRANITE-GRANODIORITE	73.0	15.5	0.89	0.20	1.67
80DH025A	45 54 18N	114 28 16W	4	MONZOGRANITE-GRANODIORITE	71.9	15.6	1.39	0.40	1.76
80DH026B	45 54 19N	114 28 15W	4	MONZOGRANITE-GRANODIORITE	71.8	15.5	1.57	0.57	1.70
80DH032B	45 53 43N	114 28 42W	4	MONZOGRANITE-GRANODIORITE	73.7	14.8	1.18	0.30	1.65
80DH041A	45 54 31N	114 28 18W	4	MONZOGRANITE-GRANODIORITE	73.1	15.2	1.27	0.30	1.60
80DH041A	45 54 31N	114 28 18W	4	MONZOGRANITE-GRANODIORITE	72.9	15.1	1.26	0.30	1.60
80DH046A	45 54 37N	114 27 35W	1	MONZOGRANITE-GRANODIORITE	71.1	15.3	1.65	0.67	1.75
80DH050A	45 54 41N	114 26 45W	4	MONZOGRANITE-GRANODIORITE	71.3	15.6	1.36	0.52	1.58
80DH053A	45 54 13N	114 26 02W	4	MONZOGRANITE-GRANODIORITE	71.7	15.0	1.72	0.52	1.54
80DH056A	45 53 34N	114 25 26W	4	MONZOGRANITE-GRANODIORITE	72.4	15.5	1.49	0.30	1.82
80DH058A	45 54 02N	114 25 48W		DIORITE DIKE	59.4	16.8	6.14	4.10	5.57
80DH059A	45 57 35N	114 24 27W	1	MONZOGRANITE-GRANODIORITE	72.8	15.7	1.16	0.40	1.79
80DH064A	45 57 11N	114 24 33W	1	MONZOGRANITE-GRANODIORITE	74.1	15.0	0.78	0.30	1.23
80DH066A	45 56 52N	114 25 02W	1	MONZOGRANITE-GRANODIORITE	69.0	15.6	2.73	0.91	1.94
80DH066E	45 56 52N	114 25 02W	1	MONZOGRANITE-GRANODIORITE	73.0	15.3	0.97	0.30	1.78
80DH068A	45 56 33N	114 25 47W	1	MONZOGRANITE-GRANODIORITE	73.0	15.5	1.48	0.40	2.05
80DH071A	45 56 24N	114 25 37W		DIORITE DIKE	54.7	15.5	12.70	3.00	5.11
80DH072B	45 56 12N	114 25 49W	1	MONZOGRANITE-GRANODIORITE	63.3	16.9	5.47	1.90	3.51
80DH075A	45 55 32N	114 40 52W	1	MONZOGRANITE-GRANODIORITE	71.2	15.7	1.87	0.54	2.08
80DH079A	45 54 04N	114 27 47W		DIORITE DIKE	51.3	15.5	12.20	4.30	7.41
80DH080A	45 54 03N	114 27 51W		DIORITE DIKE	50.0	16.2	11.80	6.34	8.17
80DH081A	45 56 30N	114 36 44W	1	MONZOGRANITE-GRANODIORITE	71.0	16.2	1.42	0.40	1.86
80DH083A	45 56 33N	114 36 44W		DIORITE DIKE	55.9	16.8	7.30	5.39	7.23
80DH086A	45 56 02N	114 36 05W	1	MONZOGRANITE-GRANODIORITE	70.1	16.5	1.71	0.50	2.45
80DH094A	45 54 46N	114 35 05W	1	MONZOGRANITE-GRANODIORITE	71.7	15.6	1.67	0.40	1.87
80DH096A	45 55 06N	114 37 28W	1	MONZOGRANITE-GRANODIORITE	71.0	15.9	1.62	0.50	2.01
80DH096B	45 55 06N	114 37 28W		APLITE DIKE	70.4	15.4	1.90	0.64	1.70
80DH098A	45 54 58N	114 38 16W	1	MONZOGRANITE-GRANODIORITE	70.6	16.1	1.40	0.40	1.89
80DH099A	45 54 38N	114 40 17W	4	MONZOGRANITE-GRANODIORITE	68.3	17.4	1.89	0.50	2.47
80DH102A	45 53 45N	114 40 47W		MIGMATITE	93.6	2.8	0.92	0.40	0.22

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	LOI%	TOTAL%
79WM023	3.80	5.57	0.30	0.10L	0.03	0.92	99.5
79WM024	3.40	5.03	0.13	0.10L	0.02	0.48	100.4
79WM028	3.40	4.90	0.07	0.10L	0.02L	0.58	99.9
79WM034	4.30	3.98	0.20	0.10	0.02L	0.29	99.8
79WM055	3.70	5.13	0.27	0.10L	0.03	0.71	100.0
79WM060	3.20	5.08	0.08	0.10L	0.02L	0.24	98.9
79WM065	2.90	5.43	0.10	0.10L	0.02L	0.36	98.1
79WM081	3.00	5.57	0.24	0.10L	0.02	0.35	99.5
79WM083	3.90	6.51	0.34	0.10	0.05	0.34	99.4
79WM086	3.30	4.82	0.27	0.10L	0.02L	0.30	99.7
79WM148	3.40	4.89	0.13	0.10L	0.02L	0.51	100.4
79WM149	3.30	4.94	0.18	0.10L	0.02L	0.39	100.5
79WM150	3.30	4.86	0.15	0.10L	0.02L	0.55	99.7
79WM151	3.70	4.55	0.06	0.10L	0.02L	0.40	100.1
80DH012A	4.30	3.59	0.20	0.10L	0.02L	0.42	99.7
80DH018A	4.20	3.91	0.10	0.10L	0.02L	0.36	99.9
80DH025A	4.10	4.07	0.20	0.10	0.02L	0.36	99.9
80DH026B	3.80	4.57	0.29	0.10L	0.02L	0.35	100.2
80DH032B	3.90	4.05	0.12	0.10L	0.02L	0.24	100.0
80DH041A	4.20	3.80	0.16	0.10L	0.02L	0.34	100.1
80DH041A	4.25	3.71	0.15	0.10L	0.02L	0.23	99.6
80DH046A	3.70	4.75	0.38	0.10	0.02L	0.52	99.9
80DH050A	3.60	5.46	0.30	0.10L	0.02L	0.31	100.1
80DH053A	3.60	4.81	0.30	0.10	0.02L	0.49	99.8
80DH056A	4.20	3.77	0.17	0.10L	0.02L	0.32	100.1
80DH058A	3.60	2.08	0.89	0.40	0.08	0.69	99.8
80DH059A	4.30	3.77	0.14	0.10L	0.02L	0.29	100.4
80DH064A	4.10	4.39	0.08	0.10	0.02L	0.39	100.5
80DH066A	3.30	4.92	0.60	0.20	0.02	0.62	99.8
80DH066E	4.30	3.59	0.13	0.10L	0.02L	0.38	99.8
80DH068A	4.50	2.98	0.16	0.10L	0.02L	0.42	100.6
80DH071A	1.80	2.38	2.79	0.70	0.16	0.84	99.7
80DH072B	3.80	2.60	1.22	0.50	0.06	0.90	100.2
80DH075A	4.20	3.69	0.25	0.10	0.02L	0.38	100.0
80DH079A	3.30	1.63	3.18	0.40	0.13	0.78	100.1
80DH080A	3.00	0.87	3.02	0.30	0.14	0.59	100.4
80DH081A	4.20	4.24	0.19	0.10L	0.02L	0.44	100.0
80DH083A	2.90	1.74	0.87	0.20	0.12	0.88	99.3
80DH086A	4.70	3.08	0.24	0.10L	0.02L	0.34	99.7
80DH094A	4.10	3.60	0.18	0.10L	0.02L	0.40	99.6
80DH096A	4.20	3.97	0.23	0.10L	0.02L	0.32	99.8
80DH096B	3.70	4.84	0.47	0.10	0.02L	0.38	99.5
80DH098A	4.30	4.14	0.19	0.10L	0.02L	0.31	99.4
80DH099A	4.80	3.70	0.25	0.10	0.02L	0.31	99.7
80DH102A	0.40	0.80	0.13	0.10L	0.02L	0.32	99.7

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
80DH106A	45 52 54N	114 42 01W	1	MONZOGRANITE-GRANODIORITE	67.1	17.8	3.13	1.00	4.69
80DH109A	45 52 59N	114 41 04W		MIGMATITE	66.8	17.8	2.99	1.00	4.12
80DH111A	45 52 59N	114 40 06W		MIGMATITE	68.1	17.6	2.59	0.79	4.48
80DH117A	45 52 53N	114 38 41W	1	MONZOGRANITE-GRANODIORITE	72.4	14.5	2.88	1.10	2.82
80DH122A	45 53 17N	114 37 02W		MIGMATITE	90.5	4.7	1.33	0.56	0.05
80DH125A	45 55 49N	114 25 24W	1	MONZOGRANITE-GRANODIORITE	71.2	15.9	1.44	0.40	1.80
80DH131A	45 54 59N	114 24 52W	1	MONZOGRANITE-GRANODIORITE	64.0	16.5	5.37	1.70	3.78
80DH142A	45 54 01N	114 24 41W	4	MONZOGRANITE-GRANODIORITE	69.8	16.6	1.78	0.49	2.07
80DH143A	45 53 51N	114 24 50W	4	MONZOGRANITE-GRANODIORITE	72.4	15.4	1.16	0.29	1.49
80DH145A	45 58 42N	114 25 28W	1	MONZOGRANITE-GRANODIORITE	75.0	14.5	0.69	0.20	1.39
80DH152A	45 58 54N	114 26 30W	1	MONZOGRANITE-GRANODIORITE	71.9	15.3	1.24	0.40	1.74
80DH158A	45 56 23N	114 28 23W	1	MONZOGRANITE-GRANODIORITE	71.8	15.3	1.39	0.40	1.78
80DH163A	45 56 23N	114 29 00W	1	MONZOGRANITE-GRANODIORITE	70.3	16.1	1.68	0.50	2.00
80DH167A	45 56 56N	114 30 10W	1	MONZOGRANITE-GRANODIORITE	70.4	16.4	1.74	0.53	2.25
80DH170A	45 59 51N	114 30 21W	1	MONZOGRANITE-GRANODIORITE	74.3	14.9	0.92	0.30	1.50
80DH174A	45 59 19N	114 29 19W	1	MONZOGRANITE-GRANODIORITE	70.9	14.3	0.98	0.30	1.28
80DH176A	45 54 00N	114 33 33W	1	MONZOGRANITE-GRANODIORITE	69.8	16.6	1.56	0.40	2.06
80DH179A	45 53 22N	114 34 39W		MIGMATITE	88.0	6.5	0.75	0.30	0.73
80DH180	46 10 15N	114 38 30W	1	MONZOGRANITE-GRANODIORITE	70.6	16.4	1.74	0.50	2.12
80DH181	46 04 32N	114 28 08W		DIORITE DIKE	48.5	17.8	11.50	5.61	8.36
80DH182	46 04 32N	114 28 08W		DIORITE DIKE	52.6	19.6	8.29	4.00	7.31
80DH183	46 05 15N	114 33 00W	1	MONZOGRANITE-GRANODIORITE	66.1	17.2	2.97	1.60	2.96
80DH185A	45 54 03N	114 27 40W	4	MONZOGRANITE-GRANODIORITE	72.3	16.1	1.13	0.40	1.81
80DH187	45 54 14N	114 28 15W		DIORITE DIKE	54.6	16.0	10.90	3.10	5.91
80DH188	46 07 26N	114 55 59W	2	GRANITE	72.7	14.5	1.96	0.20	0.75
80DH189	46 00 26N	114 23 45W	1	MONZOGRANITE-GRANODIORITE	71.9	15.4	1.37	0.40	1.67
80DH190	45 51 58N	114 25 03W	4	MONZOGRANITE-GRANODIORITE	69.5	16.9	1.94	0.51	2.34
80DH191A	45 51 37N	114 25 33W	4	MONZOGRANITE-GRANODIORITE	72.4	15.0	1.36	0.40	1.78
80DH192A	45 51 39N	114 25 29W	1	MONZOGRANITE-GRANODIORITE	66.7	16.7	4.59	1.67	3.23
80DH193A	45 51 34N	114 25 09W	4	MONZOGRANITE-GRANODIORITE	72.0	16.0	1.41	0.47	2.06
80DH196A	45 51 45N	114 25 17W	4	MONZOGRANITE-GRANODIORITE	71.7	16.1	1.35	0.50	1.97
80DH196B	45 51 45N	114 25 17W	4	MONZOGRANITE-GRANODIORITE	75.9	14.0	0.83	0.20	0.95
80DH197A	45 51 50N	114 25 22W	4	MONZOGRANITE-GRANODIORITE	71.6	15.4	1.80	0.64	1.73
80DH198A	45 51 58N	114 25 03W	4	MONZOGRANITE-GRANODIORITE	70.8	16.2	1.14	0.45	1.91
80DH198E	45 51 58N	114 25 03W		DIORITE DIKE	64.9	17.0	4.09	2.40	3.70
80DH206A	45 51 05N	114 40 57W		MIGMATITE	85.0	5.7	2.66	0.89	0.90
80DH208A	46 00 26N	114 23 45W	1	MONZOGRANITE-GRANODIORITE	71.4	15.9	1.65	0.50	1.93
80DH208B	46 00 26N	114 23 45W		DIORITE DIKE	68.9	16.2	3.02	1.70	2.85
80DH208E	46 00 26N	114 23 45W		DIORITE DIKE	68.7	16.1	3.09	1.60	3.08
80DH209	46 08 08N	114 36 50W	1	MONZOGRANITE-GRANODIORITE	73.6	15.3	1.19	0.30	1.72
80DH211A	45 59 28N	114 27 34W	1	MONZOGRANITE-GRANODIORITE	73.3	14.9	1.21	0.30	1.52
80EB009	46 23 39N	114 47 08W	1	MONZOGRANITE-GRANODIORITE	70.2	15.6	2.50	0.72	2.14
80EB015A	46 23 51N	114 43 45W	1	MONZOGRANITE-GRANODIORITE	70.5	15.9	1.64	0.57	2.18
80EB030E	46 20 33N	114 27 10W		PEGMATITE	71.3	16.4	0.24	0.27	1.53
80EB043A	46 25 45N	114 49 14W	1	MONZOGRANITE-GRANODIORITE	70.4	16.5	1.34	0.51	2.02

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	LOI%	TOTAL%
80DH106A	4.30	1.41	0.34	0.10	0.03	0.42	100.3
80DH109A	4.30	2.27	0.32	0.10	0.04	0.38	100.1
80DH111A	4.40	1.36	0.26	0.10	0.03	0.55	100.3
80DH117A	3.70	1.21	0.42	0.10L	0.02L	0.92	100.0
80DH122A	0.30	1.69	0.16	0.10L	0.02L	0.69	100.1
80DH125A	4.30	4.01	0.18	0.10L	0.02L	0.34	99.7
80DH131A	3.60	4.05	1.04	0.20	0.06	0.38	100.7
80DH142A	4.84	3.30	0.24	0.12	0.03	0.40	99.7
80DH143A	4.12	4.38	0.13	0.10L	0.02L	0.26	99.7
80DH145A	3.80	4.05	0.07	0.10L	0.02L	0.44	100.2
80DH152A	4.20	3.57	0.15	0.10L	0.02L	0.40	99.0
80DH158A	4.00	3.94	0.18	0.10	0.02L	0.34	99.2
80DH163A	4.50	3.69	0.23	0.10	0.02L	0.35	99.5
80DH167A	4.60	3.51	0.24	0.20	0.02L	0.34	100.2
80DH170A	4.10	3.72	0.10	0.10L	0.02L	0.30	100.2
80DH174A	3.90	3.88	0.09	0.10L	0.02L	3.92	99.6
80DH176A	4.30	4.44	0.18	0.20	0.02L	0.48	100.0
80DH179A	1.30	1.69	0.11	0.10L	0.02L	0.49	100.0
80DH180	4.50	3.54	0.22	0.10	0.02L	0.24	100.0
80DH181	3.60	1.12	2.56	0.53	0.14	0.52	100.2
80DH182	3.90	1.48	1.94	0.30	0.08	0.65	100.1
80DH183	4.40	4.00	0.53	0.20	0.03	0.49	100.5
80DH185A	4.30	4.41	0.21	0.10L	0.02L	0.39	101.1
80DH187	3.60	2.88	2.45	0.51	0.13	0.65	100.7
80DH188	3.60	5.87	0.18	0.10L	0.02L	0.74	100.6
80DH189	4.10	4.06	0.17	0.10L	0.02L	0.32	99.5
80DH190	4.80	3.29	0.26	0.10	0.02L	0.29	99.9
80DH191A	4.10	3.70	0.16	0.10L	0.02L	0.46	99.4
80DH192A	4.32	2.00	0.57	0.16	0.06	0.39	100.4
80DH193A	4.06	3.90	0.19	0.10L	0.02L	0.50	100.7
80DH196A	4.10	4.20	0.17	0.10	0.02L	0.42	100.6
80DH196B	3.50	4.99	0.08	0.10L	0.02L	0.49	101.0
80DH197A	3.51	4.86	0.41	0.11	0.02L	0.35	100.4
80DH198A	4.05	4.44	0.15	0.10L	0.02L	0.36	99.6
80DH198E	3.80	2.13	0.75	0.30	0.05	0.75	99.9
80DH206A	1.10	0.87	0.43	0.10L	0.02L	0.72	98.4
80DH208A	4.30	3.86	0.21	0.10	0.02L	0.45	100.3
80DH208B	4.30	2.10	0.43	0.10	0.04	0.48	100.1
80DH208E	4.40	1.69	0.46	0.20	0.05	0.70	100.1
80DH209	4.10	3.95	0.14	0.10L	0.02L	0.42	100.8
80DH211A	4.30	3.36	0.13	0.10L	0.02L	0.58	99.7
80EB009	4.31	3.00	0.26	0.11	0.02L	0.49	99.3
80EB015A	4.24	3.52	0.20	0.07	0.02L	0.34	99.2
80EB030E	3.63	6.63	0.02	0.07	0.02L	0.19	100.3
80EB043A	4.64	3.41	0.15	0.08	0.05	0.57	99.7

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
80EB049A	46 24 38N	114 44 09W	1	MONZOGRANITE-GRANODIORITE	71.1	15.5	1.77	0.57	2.69
80EB055A	46 25 12N	114 43 57W	1	MONZOGRANITE-GRANODIORITE	71.3	15.5	1.74	1.04	1.88
80EB058A	46 24 20N	114 23 06W	1	MONZOGRANITE-GRANODIORITE	73.1	15.3	0.85	0.33	1.66
80EB061E	46 19 49N	114 21 23W	1	MONZOGRANITE-GRANODIORITE	73.5	14.8	1.01	0.45	1.83
80EB083A	46 21 02N	114 47 25W	1	MONZOGRANITE-GRANODIORITE	73.6	15.1	1.54	0.56	2.23
80EB097B	46 18 54N	114 24 59W	1	MONZOGRANITE-GRANODIORITE	73.6	15.4	1.00	0.45	1.58
80EB100A	46 19 15N	114 24 55W	1	MONZOGRANITE-GRANODIORITE	70.2	15.6	1.77	1.18	2.51
80EB102A	46 19 52N	114 24 53W	5	PLAGIOCLASE QUARTZITE	72.9	15.0	0.14	0.23	1.24
80EB102E	46 19 52N	114 24 53W	5	BIOTITE QUARTZITE	62.6	18.0	4.52	2.01	4.42
80EB110A	46 22 18N	114 27 46W	1	MONZOGRANITE-GRANODIORITE	72.4	15.6	1.24	0.55	1.99
80EB119A	46 21 08N	114 34 10W	1	MONZOGRANITE-GRANODIORITE	72.3	15.5	1.32	0.51	2.11
80EB127A	46 20 52N	114 49 12W	1	MONZOGRANITE-GRANODIORITE	72.6	15.6	1.37	0.50	1.71
80EB167A	46 22 49N	114 23 37W	1	MONZOGRANITE-GRANODIORITE	71.8	15.8	1.24	0.67	2.29
80EB171A	46 23 05N	114 43 47W	1	MONZOGRANITE-GRANODIORITE	71.2	16.2	1.53	0.48	2.08
80EB186A	46 19 17N	114 46 33W	1	MONZOGRANITE-GRANODIORITE	73.5	15.2	0.86	0.39	1.57
80EB186B	46 19 17N	114 46 33W	1	MONZOGRANITE-GRANODIORITE	71.7	15.4	1.40	0.48	1.75
80EB188A	46 22 38N	114 24 59W	1	MONZOGRANITE-GRANODIORITE	73.0	15.2	0.86	0.40	1.68
80EB191A	46 23 30N	114 21 23W	1	MONZOGRANITE-GRANODIORITE	72.5	15.6	1.29	0.51	1.64
80MB010A	46 35 36N	114 16 33W		GRANITE GNEISS	71.6	15.7	1.01	0.67	1.62
80MB013A	46 33 03N	114 18 48W		TONALITE GNEISS	70.0	14.9	3.93	1.80	1.69
80MB024A	46 34 21N	114 18 05W		GRANODIORITE GNEISS	73.1	13.4	2.90	1.07	1.91
80MB046A	46 24 47N	114 20 03W	1	MONZOGRANITE-GRANODIORITE	72.9	15.4	1.23	0.47	1.54
80MB075A	46 29 34N	114 19 51W	1	MONZOGRANITE-GRANODIORITE	68.8	16.3	2.28	0.80	1.98
80MB087A	46 28 26N	114 14 57W		GRANITE GNEISS	67.9	14.3	4.16	1.73	1.65
80MB108A	46 39 20N	114 11 17W	1	MONZOGRANITE-GRANODIORITE	72.6	14.1	1.78	0.58	1.80
80MB112A	46 39 14N	114 10 41W	1	MONZOGRANITE-GRANODIORITE	72.3	14.6	2.53	0.85	1.79
80MB121A	46 29 41N	114 21 09W	1	MONZOGRANITE-GRANODIORITE	70.8	16.0	1.95	0.63	2.49
80MB131A	46 28 15N	114 24 28W		TONALITE GNEISS	70.3	15.8	2.40	0.91	2.45
80MB141A	46 29 22N	114 29 48W		DIORITE	48.6	20.4	8.93	3.70	9.68
80MB153A	46 37 40N	114 16 16W		GRANODIORITE GNEISS	70.7	14.6	3.60	1.75	1.52
80MB166A	46 37 09N	114 12 38W	1	MONZOGRANITE-GRANODIORITE	70.7	16.5	3.79	1.42	1.37
80MB169A	46 37 31N	114 11 59W	1	MONZOGRANITE-GRANODIORITE	63.4	17.7	3.03	1.00	1.77
80MB197A	46 30 41N	114 23 00W		GRANODIORITE GNEISS	76.4	10.7	3.43	1.78	1.66
80MB198A	46 31 07N	114 19 25W	1	MONZOGRANITE-GRANODIORITE	68.2	16.7	3.00	1.00	2.36
80MB201A	46 27 51N	114 19 55W	1	MONZOGRANITE-GRANODIORITE	72.6	15.9	1.15	0.46	2.33
80MB211A	46 38 56N	114 18 45W	1	MONZOGRANITE-GRANODIORITE	70.6	15.9	2.53	0.85	1.92
80MB225A	46 41 06N	114 12 55W	1	MONZOGRANITE-GRANODIORITE	72.2	14.9	1.86	0.51	1.73
80MT009A	46 04 57N	114 32 59W	3	MONZOGRANITE-GRANODIORITE	68.4	16.0	2.12	1.10	2.45
80MT012A	46 04 59N	114 32 34W	3	MONZOGRANITE-GRANODIORITE	69.9	15.4	2.23	1.10	2.36
80MT012B	46 04 59N	114 32 34W		APLITE DIKE	70.8	15.6	1.97	0.55	2.08
80MT013A	46 04 59N	114 32 37W		DIORITE DIKE	61.2	16.7	5.04	3.10	4.18
80MT017A	46 05 10N	114 31 46W	3	MONZOGRANITE-GRANODIORITE	72.5	15.1	1.38	0.62	1.77
80MT019A	46 04 57N	114 30 51W	1	MONZOGRANITE-GRANODIORITE	66.4	16.9	2.75	1.53	3.03
80MT022A	46 03 51N	114 28 13W	3	MONZOGRANITE-GRANODIORITE	67.9	16.3	2.46	1.30	2.73
80MT024B	46 04 36N	114 28 10W		DIORITE DIKE	52.7	19.4	8.15	3.50	7.03

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	LOI%	TOTAL%
80EB049A	3.56	3.50	0.18	0.07	0.02L	0.38	99.3
80EB055A	3.91	4.27	0.32	0.10	0.02L	0.49	100.6
80EB058A	3.81	4.48	0.09	0.05L	0.02L	0.28	99.9
80EB061E	3.94	3.89	0.14	0.05L	0.02L	0.25	99.9
80EB083A	4.75	1.32	0.16	0.05L	0.02	0.53	99.8
80EB097B	3.81	3.96	0.13	0.06	0.02L	0.39	100.4
80EB100A	4.08	3.58	0.27	0.09	0.02	0.30	99.6
80EB102A	3.07	6.09	0.02L	0.06	0.02L	0.50	99.3
80EB102E	3.88	2.00	0.89	0.25	0.05	0.68	99.3
80EB110A	4.25	3.44	0.18	0.05	0.02L	0.24	100.0
80EB119A	4.40	3.28	0.17	0.05L	0.02L	0.29	99.9
80EB127A	4.20	3.43	0.16	0.06	0.02L	0.45	100.1
80EB167A	4.90	2.54	0.16	0.09	0.02L	0.20	99.7
80EB171A	4.44	3.63	0.17	0.06	0.02L	0.46	100.3
80EB186A	3.97	3.51	0.09	0.07	0.02L	0.50	99.7
80EB186B	4.25	3.67	0.17	0.05	0.02L	0.35	99.2
80EB188A	4.04	3.77	0.11	0.07	0.02L	0.30	99.4
80EB191A	4.23	3.28	0.15	0.06	0.02L	0.35	99.6
80MB010A	3.90	4.79	0.10	0.05L	0.02L	0.26	99.7
80MB013A	3.24	2.64	0.47	0.12	0.04	1.12	99.9
80MB024A	3.77	2.48	0.40	0.05L	0.02	0.97	100.1
80MB046A	4.21	3.61	0.13	0.06	0.02L	0.52	100.1
80MB075A	3.45	5.74	0.28	0.27	0.02L	0.46	100.4
80MB087A	3.29	5.10	0.46	0.25	0.05	0.38	99.3
80MB108A	3.61	3.66	0.21	0.11	0.02L	0.58	99.0
80MB112A	3.65	3.57	0.28	0.05L	0.02L	0.77	100.4
80MB121A	3.04	4.99	0.21	0.13	0.03	0.45	100.7
80MB131A	3.83	3.69	0.29	0.16	0.03	0.69	100.5
80MB141A	3.82	0.82	3.07	0.92	0.09	0.71	100.7
80MB153A	2.95	4.31	0.46	0.07	0.04	0.76	100.8
80MB166A	3.05	3.48	0.46	0.09	0.04	0.80	101.7
80MB169A	2.75	8.17	0.42	0.81	0.03	0.59	99.7
80MB197A	2.36	2.46	0.50	0.14	0.05	0.40	99.9
80MB198A	3.63	5.21	0.42	0.18	0.04	0.33	101.1
80MB201A	3.72	4.14	0.12	0.06	0.02L	0.49	101.0
80MB211A	3.78	4.38	0.35	0.20	0.03	0.54	101.1
80MB225A	3.70	4.20	0.23	0.09	0.02L	0.37	99.8
80MT009A	4.30	3.90	0.37	0.10	0.02L	0.65	99.4
80MT012A	4.10	3.53	0.37	0.10	0.02L	0.46	99.6
80MT012B	4.30	3.74	0.37	0.10	0.02L	0.34	99.9
80MT013A	4.50	3.40	0.80	0.30	0.06	0.36	99.6
80MT017A	3.90	4.35	0.22	0.10L	0.02L	0.32	100.2
80MT019A	4.34	3.75	0.50	0.16	0.02	0.45	99.8
80MT022A	4.40	3.55	0.42	0.10	0.02L	0.28	99.5
80MT024B	4.10	1.41	2.47	0.40	0.08	0.50	99.7

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
80MT024E	46 04 36N	114 28 10W		DIORITE DIKE	47.5	17.5	12.20	5.41	8.14
80MT025A	46 04 37N	114 28 13W		DIORITE DIKE	56.0	16.4	9.07	3.60	5.79
80MT026A	46 04 35N	114 28 12W	1	MONZOGRANITE-GRANODIORITE	72.5	15.8	1.07	0.40	2.02
80MT030A	46 04 37N	114 28 06W	1	MONZOGRANITE-GRANODIORITE	74.6	14.4	0.91	0.30	1.59
80MT032A	46 02 17N	114 33 43W	3	MONZOGRANITE-GRANODIORITE	67.3	16.2	2.81	1.80	2.61
80MT033B	46 02 14N	114 33 41W		DIORITE DIKE	63.7	16.7	4.74	3.14	3.81
80MT037A	46 02 20N	114 34 05W		DIORITE DIKE	63.1	16.1	5.31	3.93	4.49
80MT039A	46 02 20N	114 34 15W	1	MONZOGRANITE-GRANODIORITE	73.8	14.8	1.29	0.40	1.55
80MT043A	46 02 35N	114 35 44W	3	MONZOGRANITE-GRANODIORITE	69.1	15.9	1.94	1.10	2.58
80MT044A	46 02 50N	114 36 04W		TONALITE	66.5	15.9	3.37	2.40	3.63
80MT046A	46 02 45N	114 37 20W	3	MONZOGRANITE-GRANODIORITE	70.5	14.2	2.96	2.10	2.44
80MT048A	46 01 58N	114 39 19W	1	MONZOGRANITE-GRANODIORITE	73.8	14.5	0.78	0.20	1.48
80MT051A	46 01 36N	114 39 35W	1	MONZOGRANITE-GRANODIORITE	73.5	15.2	1.20	0.30	1.69
80MT054A	46 05 31N	114 43 54W		MIGMATITE	73.8	12.6	3.84	2.70	0.88
80MT058A	46 04 21N	114 25 05W	1	MONZOGRANITE-GRANODIORITE	71.8	15.3	1.25	0.40	1.89
80MT058E	46 04 21N	114 25 05W		APLITE DIKE	67.9	16.2	2.99	0.71	2.10
80MT060A	46 04 20N	114 25 06W		DIORITE DIKE	55.9	17.8	8.93	2.30	5.86
80MT060B	46 04 20N	114 25 06W		DIORITE DIKE	53.3	16.0	11.60	3.40	5.89
80MT060E	46 04 20N	114 25 06W		APLITE DIKE	70.1	15.3	2.46	0.88	1.82
80MT062A	46 02 58N	114 30 39W	3	MONZOGRANITE-GRANODIORITE	67.2	15.5	3.12	1.70	2.81
80MT066A	46 03 14N	114 30 07W	3	MONZOGRANITE-GRANODIORITE	68.6	15.5	2.60	1.30	2.38
80MT071A	46 03 04N	114 28 09W	1	MONZOGRANITE-GRANODIORITE	71.5	15.3	1.65	0.52	1.78
80MT073A	46 02 49N	114 25 20W	1	MONZOGRANITE-GRANODIORITE	72.1	15.8	1.25	0.40	1.86
80MT077A	46 02 51N	114 24 43W	1	MONZOGRANITE-GRANODIORITE	71.9	15.7	1.35	0.40	1.97
80MT080A	46 02 56N	114 18 21W	1	MONZOGRANITE-GRANODIORITE	71.4	14.7	1.75	0.74	1.65
80MT082A	46 02 13N	114 44 49W	1	MONZOGRANITE-GRANODIORITE	71.7	15.9	1.36	0.40	2.11
80MT087A	46 01 59N	114 47 14W	1	MONZOGRANITE-GRANODIORITE	71.8	15.8	1.22	0.40	1.95
80MT090A	45 57 46N	114 39 14W		DIORITE DIKE	55.0	15.9	11.50	2.60	5.09
80MT090B	45 57 46N	114 39 14W	1	MONZOGRANITE-GRANODIORITE	73.1	14.9	0.72	0.30	1.20
80MT093A	45 58 18N	114 41 24W	1	MONZOGRANITE-GRANODIORITE	69.9	16.5	1.68	0.40	2.25
80MT097A	45 58 39N	114 41 30W	1	MONZOGRANITE-GRANODIORITE	71.5	15.8	1.38	0.40	1.81
80MT106A	45 59 09N	114 36 48W	1	MONZOGRANITE-GRANODIORITE	71.4	15.3	1.39	0.40	1.55
80MT108A	45 59 10N	114 36 41W		DIORITE DIKE	59.2	16.9	6.00	4.00	5.49
80MT108A	45 59 10N	114 36 41W		DIORITE DIKE	59.2	16.9	6.26	4.10	5.14
80MT113A	45 59 28N	114 36 05W		APLITE DIKE	71.9	15.0	1.52	0.59	1.61
80MT118A	45 59 42N	114 35 40W	1	MONZOGRANITE-GRANODIORITE	73.6	14.5	0.70	0.30	1.62
80MT118B	45 59 42N	114 35 40W		APLITE DIKE	70.7	15.2	1.67	0.64	1.72
80MT127A	45 59 19N	114 33 44W	1	MONZOGRANITE-GRANODIORITE	72.7	15.4	1.25	0.40	1.84
80MT130A	46 04 31N	114 21 53W	1	MONZOGRANITE-GRANODIORITE	71.7	15.5	1.71	0.50	2.23
80MT130B	46 04 31N	114 21 53W		APLITE DIKE	72.8	15.1	1.23	0.40	1.60
80MT130I	46 04 31N	114 21 53W		DIORITE DIKE	53.0	16.7	10.50	3.60	6.19
80MT135A	46 00 52N	114 23 07W		TONALITE	56.4	17.0	9.12	2.90	5.88
80MT139A	46 00 48N	114 23 16W		TONALITE	61.1	17.1	5.86	2.10	4.75
80MT140A	46 29 35N	114 08 09W	1	MONZOGRANITE-GRANODIORITE	76.3	14.4	0.80	0.30	2.02
80MT142A	46 15 48N	114 32 04W	1	MONZOGRANITE-GRANODIORITE	70.5	15.5	2.11	0.76	1.80

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	LOI%	TOTAL%
80MT024E	3.20	1.53	2.82	0.58	0.14	0.65	99.7
80MT025A	3.80	1.66	2.00	0.50	0.11	0.70	99.6
80MT026A	4.40	3.26	0.12	0.10	0.02L	0.37	100.1
80MT030A	3.70	4.01	0.12	0.10L	0.02L	0.31	100.0
80MT032A	3.80	3.50	0.46	0.10	0.06	0.92	99.6
80MT033B	3.36	2.49	0.78	0.25	0.07	0.51	99.6
80MT037A	2.96	2.08	0.75	0.18	0.07	0.83	99.8
80MT039A	4.00	3.22	0.13	0.10L	0.02L	0.75	100.0
80MT043A	4.20	3.37	0.33	0.10	0.02L	0.76	99.4
80MT044A	3.80	2.00	0.49	0.20	0.04	1.11	99.4
80MT046A	3.00	3.38	0.43	0.10	0.04	0.69	99.8
80MT048A	3.70	4.10	0.08	0.10L	0.02L	0.86	99.6
80MT051A	4.20	3.51	0.12	0.10L	0.02L	0.38	100.2
80MT054A	1.50	3.25	0.54	0.10L	0.07	0.92	100.2
80MT058A	4.20	3.32	0.15	0.10L	0.02L	0.69	99.1
80MT058E	3.90	4.38	0.51	0.20	0.03	0.61	99.5
80MT060A	4.30	2.19	1.54	0.79	0.11	0.42	100.1
80MT060B	3.50	2.57	2.48	0.60	0.14	0.78	100.3
80MT060E	3.80	4.42	0.39	0.10	0.03	0.60	99.9
80MT062A	3.80	3.23	0.52	0.20	0.05	1.09	99.2
80MT066A	3.80	3.77	0.48	0.20	0.02L	0.80	99.4
80MT071A	3.90	4.01	0.27	0.10L	0.02L	0.69	99.7
80MT073A	4.70	2.88	0.15	0.10L	0.02L	0.65	99.9
80MT077A	4.30	3.58	0.14	0.10L	0.02L	0.45	99.9
80MT080A	3.70	4.41	0.28	0.10	0.02L	0.59	99.3
80MT082A	4.60	2.96	0.16	0.10L	0.02L	0.38	99.7
80MT087A	4.00	3.90	0.16	0.10L	0.02L	0.45	99.8
80MT090A	3.10	2.57	2.29	0.67	0.14	0.94	99.8
80MT090B	3.60	5.39	0.10	0.20	0.02L	0.44	100.0
80MT093A	4.30	3.82	0.21	0.10L	0.02L	0.40	99.5
80MT097A	3.70	4.96	0.16	0.10L	0.02L	0.11	99.9
80MT106A	3.90	4.39	0.16	0.10L	0.02L	0.51	99.1
80MT108A	3.80	2.29	0.90	0.30	0.10	0.61	99.6
80MT108A	3.80	2.45	0.94	0.30	0.10	0.70	99.9
80MT113A	3.10	5.35	0.34	0.10	0.02L	0.49	100.0
80MT118A	3.50	4.52	0.10	0.10	0.02L	0.28	99.2
80MT118B	3.20	5.30	0.41	0.20	0.02L	0.62	99.7
80MT127A	4.20	3.51	0.14	0.10L	0.02L	0.15	99.7
80MT130A	3.70	3.70	0.18	0.10L	0.02L	0.44	99.7
80MT130B	4.20	3.85	0.14	0.10L	0.02L	0.34	99.7
80MT130I	3.30	2.15	2.32	0.53	0.11	0.85	99.3
80MT135A	4.10	1.90	1.80	0.50	0.11	0.57	100.3
80MT139A	4.70	2.48	1.21	0.30	0.08	0.79	100.5
80MT140A	4.60	1.78	0.10	0.10L	0.02L	0.35	100.7
80MT142A	3.80	4.13	0.29	0.20	0.03	0.41	99.5

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
80MT142B	46 15 48N	114 32 04W		APLITE DIKE	68.7	17.0	2.32	1.00	2.79
80MT143B	46 15 49N	114 32 01W		DIORITE DIKE	65.0	16.8	4.10	2.30	3.74
80MT148A	45 57 36N	114 36 38W		DIORITE DIKE	57.0	16.9	8.78	3.10	5.11
80MT149A	45 57 41N	114 36 47W	1	MONZOGRANITE-GRANODIORITE	73.9	14.4	1.06	0.30	1.42
80MT152A	45 57 54N	114 38 46W	1	MONZOGRANITE-GRANODIORITE	71.5	15.4	1.22	0.40	1.72
80MT165A	45 59 54N	114 43 34W	1	MONZOGRANITE-GRANODIORITE	72.8	15.4	1.17	0.40	1.90
80MT169A	46 00 20N	114 43 02W	1	MONZOGRANITE-GRANODIORITE	74.5	14.3	1.09	0.40	1.58
80MT177A	46 01 24N	114 24 57W	1	MONZOGRANITE-GRANODIORITE	71.7	15.5	1.95	0.95	2.07
80MT177A	46 01 24N	114 24 57W	1	MONZOGRANITE-GRANODIORITE	70.9	15.4	1.83	0.90	2.05
80MT179A	45 56 40N	114 20 43W	1	MONZOGRANITE-GRANODIORITE	71.6	15.8	1.42	0.30	1.67
80MT181A	45 55 48N	114 17 54W	1	MONZOGRANITE-GRANODIORITE	70.5	16.4	1.78	0.50	2.41
80MT183A	45 58 24N	114 16 54W	1	MONZOGRANITE-GRANODIORITE	73.3	15.2	1.48	0.40	1.66
80MT185A	46 08 44N	114 38 44W	1	MONZOGRANITE-GRANODIORITE	72.5	15.4	1.33	0.30	1.66
80MT188A	46 08 18N	114 38 58W	1	MONZOGRANITE-GRANODIORITE	74.1	14.4	1.33	0.40	1.64
80MT192B	46 07 40N	114 39 02W		DIORITE DIKE	65.5	17.1	4.30	2.10	3.20
80MT197A	46 04 14N	114 44 36W	1	MONZOGRANITE-GRANODIORITE	70.8	15.8	1.64	0.50	1.95
80MT199A	46 03 20N	114 45 22W	1	MONZOGRANITE-GRANODIORITE	70.0	16.1	1.60	0.40	1.96
80MT200A	46 07 59N	114 33 50W	1	MONZOGRANITE-GRANODIORITE	73.5	14.6	1.26	0.40	1.71
80MT200B	46 07 59N	114 33 50W		DIORITE DIKE	48.3	17.8	11.50	5.57	8.14
80MT201B	46 07 41N	114 33 46W		DIORITE DIKE	49.6	18.0	11.40	4.60	7.57
80MT201E	46 07 41N	114 33 46W		DIORITE DIKE	47.6	17.6	11.90	5.76	8.46
80MT209A	46 07 11N	114 32 15W		DIORITE DIKE	47.1	17.5	12.50	6.15	8.58
80MT209B	46 07 11N	114 32 15W		DIORITE DIKE	50.9	18.1	8.96	6.11	7.76
80MT210A	46 07 12N	114 32 09W	1	MONZOGRANITE-GRANODIORITE	74.3	14.2	0.70	0.20	1.29
80MT211A	46 11 10N	114 33 08W	1	MONZOGRANITE-GRANODIORITE	72.0	15.3	1.25	0.40	1.67
80MT211B	46 11 10N	114 33 08W		APLITE DIKE	72.8	14.7	1.15	0.40	1.27
80MT220A	46 07 34N	114 34 27W	1	MONZOGRANITE-GRANODIORITE	72.8	15.7	1.22	0.40	2.46
80MT220B	46 07 34N	114 34 27W		DIORITE DIKE	55.5	17.4	8.37	5.08	6.07
80MT233A	46 07 55N	114 41 00W	1	MONZOGRANITE-GRANODIORITE	72.1	15.8	1.43	0.40	1.89
80MT233B	46 07 55N	114 41 00W		DIORITE DIKE	66.5	17.0	3.80	2.04	3.06
80MT235A	46 06 38N	114 42 50W		DIORITE DIKE	53.2	16.4	11.00	3.86	6.13
80MT235B	46 06 38N	114 42 50W		DIORITE DIKE	50.4	17.0	12.60	3.71	6.54
80MT235E	46 06 38N	114 42 50W		DIORITE DIKE	51.9	16.6	11.80	3.42	6.48
80MT237A	46 06 06N	114 43 05W	1	MONZOGRANITE-GRANODIORITE	71.9	15.4	1.60	0.50	1.82
80MT238A	46 01 49N	114 29 05W	3	MONZOGRANITE-GRANODIORITE	64.6	17.3	3.59	2.00	3.53
80MT240A	46 01 40N	114 29 19W	3	MONZOGRANITE-GRANODIORITE	68.6	15.7	2.84	1.50	2.80
80MT240B	46 01 40N	114 29 19W		DIORITE DIKE	54.6	14.9	12.40	2.60	5.64
80MT240E	46 01 40N	114 29 19W		DIORITE DIKE	49.3	16.4	12.50	4.60	7.02
80MT241A	46 01 48N	114 29 29W		DIORITE DIKE	51.0	16.3	11.70	4.70	6.96
80MT242A	46 01 47N	114 29 24W		DIORITE DIKE	54.1	14.8	12.70	2.80	5.68
80MT245A	46 01 43N	114 29 07W	3	MONZOGRANITE-GRANODIORITE	72.2	14.6	1.86	0.94	1.94
80MT245B	46 01 43N	114 29 07W		APLITE DIKE	71.1	15.0	1.25	0.67	1.75
80MT248A	46 01 38N	114 28 45W	3	MONZOGRANITE-GRANODIORITE	69.6	15.8	2.29	1.42	2.59
80MT252A	46 03 34N	114 23 20W	3	MONZOGRANITE-GRANODIORITE	68.0	16.8	2.42	1.30	2.27
80MT254A	46 02 05N	114 30 13W	3	MONZOGRANITE-GRANODIORITE	63.0	16.6	4.55	2.90	4.12

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	LOI%	TOTAL%
80MT142B	4.40	2.67	0.43	0.10	0.02L	0.45	99.9
80MT143B	3.50	2.06	0.65	0.20	0.09	1.16	99.6
80MT148A	3.70	2.29	1.89	0.40	0.11	0.60	99.9
80MT149A	3.80	4.03	0.12	0.10L	0.02L	0.24	99.4
80MT152A	3.90	4.39	0.18	0.10L	0.02L	0.65	99.4
80MT165A	4.20	3.66	0.16	0.10L	0.02L	0.42	100.2
80MT169A	3.70	3.76	0.19	0.10L	0.02L	0.40	100.0
80MT177A	4.10	3.45	0.28	0.20	0.02	0.65	100.9
80MT177A	4.09	3.37	0.26	0.13	0.02L	0.65	99.6
80MT179A	4.20	3.66	0.20	0.10	0.02L	0.76	99.7
80MT181A	4.20	3.80	0.23	0.10L	0.02L	0.59	100.5
80MT183A	4.20	3.63	0.18	0.10L	0.02L	0.38	100.5
80MT185A	4.00	4.00	0.15	0.10L	0.02L	0.52	99.9
80MT188A	3.70	3.59	0.16	0.10L	0.02L	0.68	100.1
80MT192B	4.10	2.11	0.67	0.20	0.05	1.04	100.4
80MT197A	4.30	3.43	0.23	0.10L	0.02L	0.90	99.6
80MT199A	4.20	3.47	0.22	0.10L	0.02L	0.78	98.8
80MT200A	4.10	3.15	0.16	0.10L	0.02L	0.46	99.4
80MT200B	3.30	1.45	2.47	0.40	0.13	1.10	100.2
80MT201B	3.70	1.37	2.42	0.51	0.13	0.72	100.0
80MT201E	3.40	1.35	2.66	0.50	0.14	0.81	100.2
80MT209A	3.10	0.99	2.72	0.50	0.15	0.79	100.1
80MT209B	3.20	1.69	1.83	0.20	0.11	1.16	100.0
80MT210A	3.50	4.43	0.10	0.10L	0.02L	0.61	99.4
80MT211A	4.10	3.83	0.16	0.10L	0.02L	0.42	99.2
80MT211B	3.10	5.35	0.22	0.10L	0.02L	0.52	99.6
80MT220A	4.80	2.16	0.14	0.10L	0.02L	0.34	100.1
80MT220B	2.70	2.75	1.40	0.30	0.11	0.60	100.3
80MT233A	4.00	3.87	0.15	0.10	0.02L	0.38	100.1
80MT233B	4.26	2.04	0.52	0.19	0.05	0.83	100.3
80MT235A	3.34	2.36	2.79	0.72	0.13	0.74	100.7
80MT235B	3.67	2.59	2.50	0.80	0.15	0.45	100.4
80MT235E	3.65	2.18	2.70	0.62	0.16	0.95	100.5
80MT237A	3.90	3.42	0.20	0.10L	0.02L	0.76	99.6
80MT238A	4.60	2.88	0.61	0.20	0.04	0.39	99.7
80MT240A	4.20	3.16	0.46	0.10	0.03	0.46	99.8
80MT240B	3.50	2.39	2.54	0.83	0.15	0.31	99.9
80MT240E	3.60	2.20	3.17	0.40	0.14	0.41	99.7
80MT241A	3.60	1.89	2.80	0.40	0.13	0.55	100.0
80MT242A	3.50	2.31	2.68	0.79	0.15	0.40	99.9
80MT245A	3.70	4.16	0.32	0.10L	0.02L	0.20	100.0
80MT245B	3.30	5.77	0.36	0.10	0.02L	0.54	99.9
80MT248A	4.17	3.77	0.33	0.10	0.03	0.37	100.5
80MT252A	4.20	3.97	0.39	0.20	0.07	0.61	100.2
80MT254A	4.30	2.87	0.68	0.20	0.07	0.55	99.8

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
80MT254B	46 02 05N	114 30 13W		APLITE DIKE	68.4	15.9	2.26	0.96	2.28
80MT255B	46 02 05N	114 30 04W		DIORITE DIKE	54.3	14.8	12.70	2.50	5.67
80MT255E	46 02 05N	114 30 04W		DIORITE DIKE	53.5	16.8	10.10	3.60	6.15
80MT257A	46 02 06N	114 29 41W		DIORITE DIKE	71.5	15.1	1.63	0.88	2.09
80MT257B	46 02 06N	114 29 41W		APLITE DIKE	70.0	15.4	2.24	0.78	2.08
80MT258E	46 02 16N	114 29 30W	1	MONZOGRANITE-GRANODIORITE	68.3	16.0	2.28	1.45	2.42
80MT259A	46 02 39N	114 29 43W	3	MONZOGRANITE-GRANODIORITE	74.2	14.5	1.12	0.30	1.56
80MT262A	46 04 46N	114 28 12W	1	MONZOGRANITE-GRANODIORITE	73.6	15.0	1.01	0.40	1.70
80MT262B	46 04 46N	114 28 12W		DIORITE DIKE	57.3	19.7	6.62	3.40	5.12
80MT264A	46 05 07N	114 28 32W		DIORITE DIKE	73.3	15.2	0.92	0.28	1.69
80MT265A	46 04 32N	114 21 36W	1	MONZOGRANITE-GRANODIORITE	74.0	15.2	1.20	0.30	1.78
80MT265B	46 04 32N	114 21 36W		DIORITE DIKE	49.5	17.7	12.70	3.70	6.50
80MT265E	46 04 32N	114 21 36W		APLITE DIKE	67.6	18.2	1.65	0.72	2.78
80MT266A	46 04 33N	114 28 07W	1	MONZOGRANITE-GRANODIORITE	74.5	15.0	0.87	0.30	1.66
80MT267A	46 04 35N	114 28 06W	3	MONZOGRANITE-GRANODIORITE	67.5	16.5	3.05	1.60	2.80
80MT269A	46 04 28N	114 27 31W		DIORITE DIKE	66.8	16.6	2.82	1.46	2.89
80MT269A	46 04 28N	114 27 31W	1	MONZOGRANITE-GRANODIORITE	66.6	16.2	2.99	1.60	2.83
81DH032B	45 54 42N	114 29 34W	4	MONZOGRANITE-GRANODIORITE	69.0	16.4	1.81	0.94	1.86
81DH042A	45 53 47N	114 37 21W	4	MONZOGRANITE-GRANODIORITE	68.5	17.0	1.86	0.45	2.28
81DH050A	45 50 36N	114 30 37W	4	MONZOGRANITE-GRANODIORITE	67.3	17.3	2.08	0.65	2.78
81DH072A	45 56 12N	114 25 48W	4	MONZOGRANITE-GRANODIORITE	68.7	16.8	1.87	0.50	2.20
81DH075A	45 52 17N	114 25 56W	4	MONZOGRANITE-GRANODIORITE	70.3	15.3	1.85	0.74	1.82
81DH083A	45 54 09N	114 24 02W	4	MONZOGRANITE-GRANODIORITE	68.6	16.0	2.41	1.28	2.59
81DH089Z	46 19 36N	114 30 26W	1	MONZOGRANITE-GRANODIORITE	73.6	14.7	1.16	0.38	1.82
81DH099Z	46 26 29N	114 21 34W	1	MONZOGRANITE-GRANODIORITE	65.0	16.7	3.84	1.21	2.51
81DH100Z	46 23 27N	114 43 32W	1	MONZOGRANITE-GRANODIORITE	70.0	16.3	1.50	0.42	2.01
81DH101Z	46 17 37N	114 59 28W	1	MONZOGRANITE-GRANODIORITE	72.5	15.0	1.23	0.42	1.97
81DH102Z	46 17 57N	114 47 27W	1	MONZOGRANITE-GRANODIORITE	68.8	16.8	1.87	0.47	2.20
81DH107Z	45 54 33N	114 29 49W	4	MONZOGRANITE-GRANODIORITE	72.4	15.2	1.11	0.32	1.34
81DH111A	45 55 09N	114 22 48W	4	MONZOGRANITE-GRANODIORITE	67.2	17.6	2.01	0.55	2.43
81DH117A	45 53 17N	114 23 08W		DIORITE	55.8	17.7	7.23	3.78	7.29
81DH118A	45 53 32N	114 23 31W	4	MONZOGRANITE-GRANODIORITE	69.5	16.5	1.72	0.47	2.00
81DH129A	45 55 33N	114 22 48W	1	MONZOGRANITE-GRANODIORITE	69.7	16.6	1.89	0.52	2.65
81DH129B	45 55 33N	114 22 48W		DIORITE	58.8	19.3	5.14	3.38	6.19
81ME027A	45 43 54N	114 44 13W		SYENITE	67.0	15.8	3.95	0.23	1.96
81ME094A	46 00 04N	114 22 20W	3	MONZOGRANITE-GRANODIORITE	69.7	15.8	2.05	1.06	2.46
81ME109A	46 00 23N	114 26 59W	3	MONZOGRANITE-GRANODIORITE	66.5	16.0	3.03	2.17	3.23
81MT054A	46 02 21N	114 30 46W	3	MONZOGRANITE-GRANODIORITE	67.3	16.2	2.81	2.04	3.16
81MT055A	46 02 20N	114 31 56W	3	MONZOGRANITE-GRANODIORITE	65.8	16.3	2.95	2.04	3.13
81MT057A	46 03 08N	114 32 27W	3	MONZOGRANITE-GRANODIORITE	67.5	16.2	2.69	1.55	2.48
81MT059A	46 03 49N	114 35 17W	3	MONZOGRANITE-GRANODIORITE	59.8	16.2	5.63	4.15	5.49
81MT060A	46 04 10N	114 32 47W	3	MONZOGRANITE-GRANODIORITE	69.8	15.4	1.90	1.18	2.47
81MT069A	46 05 02N	114 30 48W	3	MONZOGRANITE-GRANODIORITE	72.5	15.2	1.28	0.43	2.06
81MT071A	46 04 36N	114 32 15W	3	MONZOGRANITE-GRANODIORITE	66.3	16.6	2.72	1.40	2.80
81MT077A	46 02 26N	114 27 28W	1	MONZOGRANITE-GRANODIORITE	72.2	15.4	1.32	0.39	1.80

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	LOI%	TOTAL%
80MT254B	3.30	5.30	0.56	0.10	0.02L	0.42	99.5
80MT255B	3.50	2.32	2.60	0.97	0.15	0.44	99.9
80MT255E	4.00	2.37	2.09	0.54	0.12	0.58	99.8
80MT257A	3.54	4.31	0.28	0.10L	0.02L	0.33	99.7
80MT257B	3.60	4.69	0.45	0.10	0.02L	0.21	99.6
80MT258E	4.25	3.27	0.41	0.15	0.06	0.48	99.1
80MT259A	3.90	3.60	0.13	0.10L	0.02L	0.30	99.7
80MT262A	3.80	4.23	0.13	0.10L	0.02L	0.24	100.2
80MT262B	4.00	2.76	1.06	0.30	0.12	0.60	101.0
80MT264A	4.07	3.97	0.10	0.10L	0.02L	0.22	99.8
80MT265A	4.10	3.72	0.15	0.10L	0.02L	0.25	100.8
80MT265B	3.90	2.35	3.00	0.75	0.14	0.22	100.5
80MT265E	4.40	4.34	0.23	0.10	0.02L	0.20	100.2
80MT266A	3.90	4.08	0.11	0.10L	0.02L	0.26	100.8
80MT267A	4.30	3.50	0.51	0.20	0.03	0.39	100.4
80MT269A	4.62	3.33	0.51	0.17	0.03	0.30	99.5
80MT269A	4.55	3.13	0.54	0.19	0.03	0.40	99.1
81DH032B	3.74	4.59	0.46	0.14	0.02	0.31	99.3
81DH042A	4.46	3.79	0.23	0.13	0.02L	0.49	99.2
81DH050A	4.53	3.36	0.30	0.19	0.02L	0.40	98.9
81DH072A	4.46	3.87	0.23	0.13	0.02L	0.38	99.2
81DH075A	3.57	4.82	0.34	0.11	0.02L	0.26	99.1
81DH083A	3.79	3.38	0.38	0.12	0.03	0.45	99.0
81DH089Z	4.07	2.90	0.13	0.05L	0.02L	0.30	99.1
81DH099Z	3.58	4.84	0.53	0.22	0.06	0.24	98.7
81DH100Z	4.23	4.09	0.19	0.05L	0.02L	0.15	98.9
81DH101Z	3.67	3.73	0.14	0.05L	0.02L	0.25	99.0
81DH102Z	4.62	3.75	0.23	0.09	0.02L	0.39	99.2
81DH107Z	3.46	4.69	0.10	0.10	0.02L	0.43	99.2
81DH111A	4.65	3.74	0.28	0.11	0.02L	0.25	98.8
81DH117A	3.59	2.12	1.22	0.24	0.09	0.45	99.5
81DH118A	4.55	3.82	0.23	0.15	0.02L	0.50	99.5
81DH129A	4.87	2.34	0.22	0.08	0.02L	0.30	99.2
81DH129B	3.99	1.72	0.58	0.10	0.04	0.36	99.6
81ME027A	4.05	5.35	0.37	0.07	0.06	0.46	99.3
81ME094A	4.17	3.53	0.32	0.10	0.02L	0.17	99.4
81ME109A	4.08	3.03	0.46	0.13	0.04	0.33	99.0
81MT054A	4.25	3.17	0.44	0.14	0.04	0.37	99.9
81MT055A	4.24	2.90	0.49	0.16	0.04	0.72	98.8
81MT057A	4.10	3.79	0.40	0.16	0.04	0.45	99.4
81MT059A	4.21	1.89	0.71	0.24	0.09	0.77	99.2
81MT060A	4.07	3.32	0.31	0.11	0.02L	0.69	99.3
81MT069A	4.28	3.04	0.15	0.05L	0.02L	0.25	99.2
81MT071A	4.38	3.62	0.47	0.16	0.03	0.55	99.0
81MT077A	4.29	3.47	0.14	0.05L	0.02L	0.29	99.3

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
81MT082A	46 02 13N	114 27 34W	3	MONZOGRANITE-GRANODIORITE	66.4	16.3	3.31	2.04	2.46
81MT087A	46 01 53N	114 27 42W	3	MONZOGRANITE-GRANODIORITE	67.5	16.1	2.75	1.41	2.37
81MT093A	46 03 55N	114 25 19W	3	MONZOGRANITE-GRANODIORITE	66.0	16.7	3.12	1.74	2.98
81MT101A	46 04 19N	114 25 25W	3	MONZOGRANITE-GRANODIORITE	69.7	13.6	3.78	2.84	2.77
81MT104A	46 04 29N	114 25 36W	3	MONZOGRANITE-GRANODIORITE	67.7	15.9	2.70	1.40	2.67
81MT105A	46 03 27N	114 31 01W	3	MONZOGRANITE-GRANODIORITE	66.6	16.8	2.81	1.41	3.09
81MT108A	46 03 36N	114 32 04W	3	MONZOGRANITE-GRANODIORITE	68.7	15.6	2.62	1.27	2.44
81MT114A	46 03 35N	114 28 24W	3	MONZOGRANITE-GRANODIORITE	65.8	16.4	3.29	1.88	2.97
81MT118A	46 03 43N	114 27 19W	3	MONZOGRANITE-GRANODIORITE	68.3	15.4	2.87	1.91	2.40
81MT119A	46 03 59N	114 27 18W	3	MONZOGRANITE-GRANODIORITE	68.4	16.0	2.26	1.18	2.55
81MT120A	46 04 18N	114 27 34W	3	MONZOGRANITE-GRANODIORITE	70.1	15.3	2.03	1.01	2.08
81MT122A	46 01 57N	114 28 19W	3	MONZOGRANITE-GRANODIORITE	66.3	16.4	2.91	1.62	2.89
81MT134A	46 05 45N	114 33 22W	3	MONZOGRANITE-GRANODIORITE	66.4	16.0	2.95	1.71	3.06
81MT138A	46 04 31N	114 28 00W	3	MONZOGRANITE-GRANODIORITE	62.6	16.5	5.03	3.25	4.50
81MT144A	46 05 08N	114 26 54W	3	MONZOGRANITE-GRANODIORITE	66.5	16.1	3.05	1.70	2.79
81MT146A	46 03 55N	114 24 38W	3	MONZOGRANITE-GRANODIORITE	69.3	13.7	3.67	2.93	2.83
81MT147A	46 03 52N	114 24 46W	1	MONZOGRANITE-GRANODIORITE	71.5	15.8	0.33	0.32	2.21
81MT151A	46 04 08N	114 24 11W	3	MONZOGRANITE-GRANODIORITE	67.8	16.1	2.59	1.41	2.83
81MT154A	46 04 30N	114 24 26W	3	MONZOGRANITE-GRANODIORITE	66.6	16.5	2.76	1.52	2.98
81MT154B	46 04 30N	114 24 26W	3	MONZOGRANITE-GRANODIORITE	68.5	15.4	2.95	1.62	2.63
81MT158A	46 05 18N	114 25 04W	3	MONZOGRANITE-GRANODIORITE	62.3	18.4	3.43	1.80	3.71
81MT160A	46 05 55N	114 25 11W	3	MONZOGRANITE-GRANODIORITE	64.4	16.9	3.50	1.86	3.13
81MT163A	46 02 14N	114 29 49W	3	MONZOGRANITE-GRANODIORITE	68.3	16.1	2.35	1.31	2.77
81MT164A	46 02 36N	114 30 02W	3	MONZOGRANITE-GRANODIORITE	67.7	15.8	3.04	2.10	2.76
81MT166A	46 05 50N	114 27 19W	3	MONZOGRANITE-GRANODIORITE	67.7	16.3	2.60	1.42	2.76
81MT183A	46 04 13N	114 29 03W	3	MONZOGRANITE-GRANODIORITE	67.3	16.1	2.68	1.38	2.69
81MT192A	46 00 07N	114 29 13W	3	MONZOGRANITE-GRANODIORITE	69.8	15.6	1.76	0.93	2.19
81MT194A	46 03 50N	114 22 05W	3	MONZOGRANITE-GRANODIORITE	68.6	16.2	2.19	1.20	2.43
81MT197A	46 04 10N	114 22 04W	3	MONZOGRANITE-GRANODIORITE	66.0	14.8	4.22	3.46	3.80
81MT202A	46 00 58N	114 28 27W	3	MONZOGRANITE-GRANODIORITE	66.2	16.0	3.19	2.12	3.25
81MT204A	46 01 01N	114 28 38W	1	MONZOGRANITE-GRANODIORITE	73.6	14.9	0.29	0.26	1.68
81MT205A	46 00 56N	114 28 40W	1	MONZOGRANITE-GRANODIORITE	74.4	14.3	0.91	0.24	1.20
81MT213A	46 02 21N	114 32 48W	3	MONZOGRANITE-GRANODIORITE	66.9	16.0	2.88	2.09	3.19
81MT218A	46 02 49N	114 35 01W	3	MONZOGRANITE-GRANODIORITE	70.3	15.6	2.06	1.04	2.30
81MT220A	46 04 37N	114 36 35W	3	MONZOGRANITE-GRANODIORITE	66.7	16.3	2.91	1.58	2.80
81MT221A	46 04 24N	114 36 36W	3	MONZOGRANITE-GRANODIORITE	70.3	15.1	2.00	1.04	2.11
81MT223A	46 03 56N	114 36 49W	3	MONZOGRANITE-GRANODIORITE	65.7	17.0	2.99	1.67	3.24
81MT225A	46 03 41N	114 36 50W	3	MONZOGRANITE-GRANODIORITE	69.6	15.6	2.07	1.07	2.39
81MT229A	46 03 58N	114 26 23W	3	MONZOGRANITE-GRANODIORITE	65.2	17.0	3.18	1.76	3.09
81MT231A	46 03 38N	114 26 19W	3	MONZOGRANITE-GRANODIORITE	69.2	16.2	2.00	1.00	2.50
81MT232A	46 03 28N	114 46 30W	3	MONZOGRANITE-GRANODIORITE	68.6	16.0	2.44	1.42	2.61
81MT233A	46 03 23N	114 26 35W	3	MONZOGRANITE-GRANODIORITE	68.8	15.7	2.28	1.27	2.52
81MT234F	46 01 55N	114 32 25W	3	MONZOGRANITE-GRANODIORITE	68.4	16.3	2.14	1.36	2.76
81MT242A	46 04 58N	114 23 53W	3	MONZOGRANITE-GRANODIORITE	69.6	15.4	2.23	1.12	2.22
81MT245A	46 05 24N	114 23 54W	3	MONZOGRANITE-GRANODIORITE	71.2	14.6	2.04	0.97	1.95

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	LOI%	TOTAL%
81MT082A	4.10	2.65	0.50	0.16	0.04	1.15	99.1
81MT087A	3.89	3.98	0.45	0.16	0.04	0.57	99.2
81MT093A	4.42	3.33	0.52	0.16	0.03	0.49	99.5
81MT101A	3.06	2.36	0.55	0.13	0.05	0.44	99.3
81MT104A	4.23	3.87	0.44	0.13	0.03	0.30	99.2
81MT105A	4.63	3.12	0.46	0.15	0.03	0.25	99.4
81MT108A	3.96	3.75	0.46	0.15	0.02	0.31	99.3
81MT114A	4.31	3.29	0.59	0.17	0.03	0.49	99.2
81MT118A	3.92	3.10	0.38	0.16	0.06	0.54	99.0
81MT119A	4.17	3.54	0.39	0.13	0.02	0.40	99.0
81MT120A	4.23	3.74	0.33	0.11	0.02	0.24	99.2
81MT122A	4.37	3.61	0.46	0.14	0.03	0.26	99.0
81MT134A	4.10	3.40	0.49	0.14	0.03	0.25	98.5
81MT138A	3.91	1.93	0.71	0.16	0.09	0.59	99.3
81MT144A	4.12	3.66	0.54	0.17	0.03	0.49	99.1
81MT146A	2.85	2.73	0.52	0.14	0.05	0.44	99.2
81MT147A	3.38	5.08	0.03	0.05L	0.02L	0.25	98.9
81MT151A	4.01	3.27	0.40	0.14	0.03	0.34	98.9
81MT154A	4.40	3.43	0.49	0.14	0.03	0.26	99.1
81MT154B	4.15	2.74	0.39	0.11	0.04	0.29	98.8
81MT158A	5.17	3.25	0.62	0.21	0.04	0.34	99.3
81MT160A	4.34	3.78	0.58	0.17	0.04	0.35	99.1
81MT163A	4.32	3.32	0.40	0.12	0.02L	0.26	99.3
81MT164A	3.77	2.60	0.41	0.11	0.06	0.76	99.1
81MT166A	4.36	3.34	0.41	0.13	0.03	0.16	99.2
81MT183A	4.38	3.52	0.47	0.15	0.03	0.26	99.0
81MT192A	4.02	3.89	0.31	0.09	0.02L	0.29	98.9
81MT194A	4.03	3.43	0.36	0.12	0.04	0.51	99.1
81MT197A	3.25	2.62	0.54	0.14	0.06	0.46	99.4
81MT202A	4.08	3.26	0.46	0.13	0.04	0.44	99.2
81MT204A	3.85	4.34	0.03	0.05L	0.02L	0.21	99.2
81MT205A	4.04	4.05	0.07	0.05	0.02L	0.24	99.5
81MT213A	4.22	3.07	0.39	0.12	0.05	0.43	99.3
81MT218A	4.01	3.19	0.33	0.07	0.03	0.21	99.1
81MT220A	4.09	3.60	0.50	0.14	0.03	0.46	99.1
81MT221A	3.82	4.03	0.31	0.10	0.02L	0.33	99.2
81MT223A	4.29	3.38	0.52	0.16	0.02	0.29	99.3
81MT225A	4.07	3.64	0.31	0.11	0.02L	0.26	99.1
81MT229A	4.46	3.42	0.55	0.17	0.03	0.29	99.2
81MT231A	4.36	3.42	0.33	0.10	0.02	0.20	99.3
81MT232A	4.15	3.05	0.35	0.11	0.03	0.50	99.3
81MT233A	3.94	3.75	0.37	0.12	0.03	0.30	99.1
81MT234F	4.17	3.22	0.39	0.12	0.03	0.35	99.2
81MT242A	4.09	3.89	0.37	0.12	0.02	0.29	99.4
81MT245A	3.91	3.83	0.32	0.10	0.02	0.23	99.2

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
81MT248A	46 05 48N	114 23 49W	3	MONZOGRANITE-GRANODIORITE	67.3	15.8	3.01	1.62	2.79
81MT257A	46 06 12N	114 32 10W	3	MONZOGRANITE-GRANODIORITE	64.4	17.1	3.40	1.88	3.35
81MT258A	45 59 32N	114 27 13W		CALC-SILICATE	70.9	15.4	1.12	0.88	3.66
81MT260A	46 06 21N	114 32 04W	3	MONZOGRANITE-GRANODIORITE	68.7	15.2	3.12	2.20	2.83
81MT266A	46 05 56N	114 27 28W	3	MONZOGRANITE-GRANODIORITE	64.7	15.7	4.27	3.63	3.70
81MT272A	46 05 48N	114 21 41W	3	MONZOGRANITE-GRANODIORITE	65.7	17.1	2.93	1.58	3.16
81MT273A	46 05 55N	114 21 10W	3	MONZOGRANITE-GRANODIORITE	73.4	12.7	3.26	2.42	2.44

Table 1: Major element XRF spectroscopy data - Analyses performed in Denver, Colorado-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	LOI%	TOTAL%
81MT248A	4.10	3.54	0.49	0.14	0.03	0.21	99.0
81MT257A	4.42	3.37	0.55	0.17	0.04	0.31	99.0
81MT258A	4.17	2.61	0.21	0.09	0.02	0.18	99.2
81MT260A	3.50	2.85	0.45	0.17	0.04	0.29	99.3
81MT266A	3.51	2.44	0.59	0.19	0.07	0.34	99.1
81MT272A	4.49	3.34	0.49	0.16	0.03	0.45	99.4
81MT273A	2.86	2.50	0.43	0.11	0.06	0.40	100.6

Table 2: Major element XRF spectroscopy data - Analyses performed in Menlo Park, California

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
78KL005A	46 08 35N	115 00 55W	2	GRANITE	73.3	13.3	1.97	0.03	0.90
78KL017A	46 10 22N	114 57 05W	2	GRANITE	79.0	10.7	1.66	0.01L	0.15
78KL020B	46 10 21N	114 57 13W	2	GRANITE	71.3	13.8	2.34	0.13	0.71
78KL025B	46 11 28N	114 59 29W	2	GRANITE	70.2	15.0	1.68	0.47	1.20
78KL026A	46 07 19N	114 55 35W		MIGMATITE	74.1	13.6	0.56	0.04	1.52
78KL027A	46 06 58N	114 54 37W	2	GRANITE	73.9	13.6	1.54	0.01L	0.43
78KL030A	46 12 14N	115 00 11W	2	GRANITE	68.5	14.5	3.35	0.47	1.34
78KL036A	46 12 45N	114 59 05W		MIGMATITE	82.4	7.9	1.67	0.53	0.15
78KL043A	46 14 03N	115 00 05W	1	MONZOGRANITE-GRANODIORITE	65.0	16.2	4.09	1.44	2.94
78KL044A	46 11 07N	114 54 23W	1	MONZOGRANITE-GRANODIORITE	68.8	16.2	1.82	0.45	1.88
78KL062A	46 09 01N	114 47 03W	1	MONZOGRANITE-GRANODIORITE	69.7	15.5	1.51	0.48	1.95
78KL063A	46 08 59N	114 47 03W	1	MONZOGRANITE-GRANODIORITE	67.0	16.2	2.56	1.41	2.45
78KL071B	46 09 39N	114 50 06W		BIOTITE GNEISS	67.2	15.8	3.72	1.48	2.92
78KL072B	46 09 27N	114 51 08W	1	MONZOGRANITE-GRANODIORITE	80.5	12.4	0.83	0.03	0.11
78KL073B	46 09 27N	114 51 07W		GOSSAN	74.1	7.0	12.86	0.01L	0.10
78KL075A	46 04 01N	114 51 17W	1	MONZOGRANITE-GRANODIORITE	82.2	7.5	2.10	0.36	0.34
78KL077A	46 04 06N	115 01 22W		RHYOLITE DIKE	73.9	13.2	1.72	0.05	0.35
78KL078A	46 09 27N	114 57 17W	2	GRANITE	71.2	13.8	2.83	0.30	0.35
78KL084A	46 08 06N	114 57 17W	2	GRANITE	73.1	13.5	2.80	0.06	0.23
78KL138A	46 13 15N	115 10 59W	1	MONZOGRANITE-GRANODIORITE	75.5	10.3	3.50	1.81	1.21
78MT003B	46 30 52N	114 43 36W	1	MONZOGRANITE-GRANODIORITE	70.5	12.5	1.71	1.73	3.44
78MT004A	46 30 49N	114 43 36W	1	MONZOGRANITE-GRANODIORITE	72.0	14.6	1.03	0.51	1.39
78MT004B	46 30 49N	114 43 36W		DIORITE DIKE	47.7	14.9	8.28	8.45	7.19
78MT005A	46 02 07N	114 45 07W	1	MONZOGRANITE-GRANODIORITE	70.2	15.8	1.38	0.23	1.97
78MT009A	46 01 57N	114 46 33W	1	MONZOGRANITE-GRANODIORITE	70.2	15.3	1.48	0.17	1.97
78MT011A	46 01 59N	114 46 38W	1	MONZOGRANITE-GRANODIORITE	69.9	15.2	1.30	0.24	1.91
78MT038A	46 06 59N	114 29 42W	1	MONZOGRANITE-GRANODIORITE	71.1	15.4	1.31	0.12	1.74
78MT043A	46 06 28N	114 32 00W	1	MONZOGRANITE-GRANODIORITE	69.0	16.0	1.48	0.19	2.06
78MT055F	46 31 03N	114 44 22W	1	MONZOGRANITE-GRANODIORITE	66.9	17.6	1.21	0.27	2.51
78MT057F	46 30 40N	114 47 22W	1	MONZOGRANITE-GRANODIORITE	68.7	16.7	1.52	0.44	2.54
78MT057G	46 30 40N	114 47 22W		DIORITE DIKE	50.6	13.1	9.56	9.55	6.27
78MT059A	46 09 24N	114 33 14W	1	MONZOGRANITE-GRANODIORITE	71.8	15.2	1.28	0.24	1.71
78MT062A	46 09 26N	114 33 58W		APLITE DIKE	67.2	15.8	3.00	1.21	2.31
78MT062B	46 09 26N	114 33 58W	1	MONZOGRANITE-GRANODIORITE	70.8	15.3	1.32	0.25	1.68
78MT066A	46 09 00N	114 35 01W	1	MONZOGRANITE-GRANODIORITE	68.0	17.1	1.33	0.48	1.60
78MT067F	46 08 50N	114 35 13W		DIORITE DIKE	55.5	15.4	10.56	2.29	4.70
78MT069B	46 08 33N	114 35 50W	1	MONZOGRANITE-GRANODIORITE	72.4	14.0	0.86	0.01	1.40
78RR003A	46 09 59N	115 35 13W	1	MONZOGRANITE-GRANODIORITE	64.1	16.4	5.41	2.11	2.08
78RR012A	46 04 47N	115 09 34W	1	MONZOGRANITE-GRANODIORITE	75.9	10.7	3.08	1.42	0.46
78RR027E	46 11 15N	115 33 35W	5	QUARTZITE	60.1	14.5	7.73	5.70	4.13
78RR030A	46 12 02N	115 32 49W	1	MONZOGRANITE-GRANODIORITE	70.6	12.7	4.80	2.75	3.19
78RR064A	46 11 52N	115 21 45W		PEGMATITE	74.0	15.2	0.92	0.02L	0.86
78RR064E	46 11 52N	115 21 45W	1	MONZOGRANITE-GRANODIORITE	66.7	15.1	6.06	2.31	0.64
78RR064I	46 11 52N	115 21 45W		PEGMATITE	71.9	14.6	2.25	0.74	1.31
78RR067A	46 10 07N	115 34 52W	5	QUARTZITE	67.5	14.8	4.42	1.77	2.65

Table 2: Major element XRF spectroscopy data - Analyses performed in Menlo Park, California-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	ZrO2%	Cl%	Cr2O3%	NiO%
78KL005A	3.19	4.84	0.21	0.03	0.03	0.023	0.009	0.002L	0.001
78KL017A	0.24	3.66	0.22	0.01	0.02	0.018	0.001L	0.002L	0.001
78KL020B	2.98	4.72	0.35	0.06	0.02	0.030	0.001L	0.002L	0.001L
78KL025B	3.13	4.69	0.29	0.08	0.43	0.014	0.001L	0.002L	0.001L
78KL026A	2.93	4.14	0.08	0.02	0.02	0.007	0.001L	0.002L	0.001L
78KL027A	3.40	5.36	0.14	0.01	0.02	0.023	0.001L	0.002L	0.001L
78KL030A	3.72	5.81	0.36	0.08	0.05	0.078	0.010	0.002L	0.001L
78KL036A	0.75	3.74	0.27	0.05	0.02	0.030	0.001L	0.002L	0.001L
78KL043A	3.90	2.89	0.51	0.26	0.07	0.027	0.006	0.002L	0.001L
78KL044A	4.57	3.75	0.24	0.12	0.04	0.018	0.001L	0.002L	0.001L
78KL062A	4.33	3.69	0.21	0.08	0.03	0.016	0.001L	0.002L	0.001L
78KL063A	4.36	2.88	0.50	0.14	0.05	0.022	0.001L	0.002L	0.001L
78KL071B	3.20	3.30	0.52	0.16	0.05	0.032	0.006	0.002L	0.001L
78KL072B	0.01	0.78	0.26	0.02	0.01	0.011	0.001L	0.002L	0.001L
78KL073B	0.05	0.29	0.17	0.30	0.01	0.014	0.001L	0.003	0.002
78KL075A	1.35	2.81	0.38	0.02	0.02	0.046	0.001L	0.002L	0.002
78KL077A	3.96	4.79	0.15	0.01L	0.02	0.035	0.001L	0.002L	0.001L
78KL078A	3.84	4.75	0.39	0.09	0.04	0.042	0.001L	0.002L	0.001L
78KL084A	3.12	5.09	0.28	0.02	0.04	0.060	0.001L	0.002L	0.001L
78KL138A	2.23	2.72	0.48	0.08	0.05	0.038	0.006	0.002L	0.001L
78MT003B	3.67	3.21	0.25	0.06	0.04	0.013	0.001L	0.002L	0.001
78MT004A	4.06	3.87	0.13	0.04	0.02	0.002	0.001L	0.002L	0.001L
78MT004B	2.36	2.68	0.94	0.32	0.15	0.017	0.005	0.064	0.022
78MT005A	4.57	3.14	0.17	0.02	0.03	0.013	0.001L	0.002L	0.001L
78MT009A	3.93	3.17	0.19	0.03	0.03	0.015	0.001L	0.002L	0.001L
78MT011A	4.14	3.12	0.18	0.03	0.03	0.010	0.001L	0.002L	0.001L
78MT038A	4.34	3.72	0.17	0.02	0.03	0.013	0.001L	0.002L	0.001L
78MT043A	4.43	3.20	0.19	0.02	0.02	0.015	0.001L	0.002L	0.001L
78MT055F	5.49	2.96	0.17	0.05	0.03	0.016	0.001L	0.002L	0.001L
78MT057F	4.96	2.46	0.22	0.04	0.03	0.017	0.001L	0.002L	0.001L
78MT057G	2.54	2.13	1.47	0.29	0.15	0.021	0.019	0.091	0.028
78MT059A	4.15	3.56	0.16	0.01	0.02	0.013	0.001L	0.002L	0.001L
78MT062A	3.43	3.97	0.61	0.13	0.04	0.031	0.003	0.002L	0.002
78MT062B	4.02	3.79	0.16	0.02	0.03	0.013	0.001L	0.002L	0.001L
78MT066A	4.27	3.51	0.16	0.01	0.06	0.014	0.001L	0.002L	0.001L
78MT067F	3.28	2.98	2.11	0.59	0.12	0.053	0.033	0.002L	0.002
78MT069B	3.53	4.05	0.11	0.01L	0.02	0.006	0.001L	0.002L	0.001L
78RR003A	2.83	2.73	0.71	0.25	0.07	0.026	0.001L	0.008	0.004
78RR012A	1.59	3.39	0.43	0.08	0.04	0.031	0.005	0.002L	0.001
78RR027E	2.43	1.64	0.95	0.14	0.13	0.021	0.002	0.042	0.023
78RR030A	2.52	1.75	0.63	0.17	0.07	0.035	0.021	0.006	0.003
78RR064A	4.41	2.24	0.05	0.05	0.21	0.008	0.001L	0.002L	0.001L
78RR064E	1.53	4.31	0.83	0.08	0.08	0.044	0.006	0.007	0.004
78RR064I	3.14	2.33	0.28	0.05	0.04	0.021	0.001L	0.002L	0.002
78RR067A	2.69	2.31	0.57	0.18	0.06	0.024	0.001L	0.004	0.003

Table 2: Major element XRF spectroscopy data - Analyses performed in Menlo Park, California-continued

SAMPLE	BaO%	SrO%	TOTAL%
78KL005A	0.050	0.010	97.9
78KL017A	0.077	0.006	95.8
78KL020B	0.117	0.023	96.7
78KL025B	0.096	0.020	97.4
78KL026A	0.181	0.044	97.3
78KL027A	0.025	0.005	98.4
78KL030A	0.062	0.013	98.3
78KL036A	0.085	0.010	97.7
78KL043A	0.096	0.055	97.6
78KL044A	0.158	0.107	98.2
78KL062A	0.182	0.093	97.8
78KL063A	0.131	0.067	97.8
78KL071B	0.121	0.044	98.5
78KL072D	0.016	0.002L	95.0
78KL073B	0.016	0.007	94.9
78KL075A	0.112	0.014	97.3
78KL077A	0.020	0.005	98.2
78KL078A	0.070	0.018	97.7
78KL084A	0.025	0.003	98.3
78KL138A	0.076	0.018	98.1
78MT003B	0.071	0.021	97.3
78MT004A	0.062	0.033	97.8
78MT004B	0.110	0.074	93.3
78MT005A	0.147	0.087	97.7
78MT009A	0.165	0.087	96.8
78MT011A	0.125	0.079	96.4
78MT038A	0.202	0.098	98.3
78MT043A	0.154	0.085	96.9
78MT055F	0.101	0.105	97.5
78MT057F	0.146	0.103	97.9
78MT057G	0.088	0.057	96.2
78MT059A	0.180	0.084	98.4
78MT062A	0.113	0.032	98.0
78MT062B	0.186	0.088	97.7
78MT066A	0.178	0.096	96.9
78MT067F	0.120	0.056	98.0
78MT069B	0.154	0.071	96.7
78RR003A	0.095	0.040	96.9
78RR012A	0.110	0.013	97.3
78RR027E	0.064	0.041	97.7
78RR030A	0.111	0.051	99.4
78RR064A	0.004	0.005	98.0
78RR064E	0.110	0.019	97.9
78RR064I	0.079	0.053	96.9
78RR067A	0.089	0.044	97.1

Table 2: Major element XRF spectroscopy data - Analyses performed in Menlo Park, California-continued

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
78RR073A	46 13 11N	115 31 50W	1	MONZOGRANITE-GRANODIORITE	68.1	14.7	3.71	1.17	2.76
78RR075A	46 13 26N	115 31 24W	5	DIOPSIDE GNEISS	64.3	10.7	3.70	5.14	9.28
78RR078A	46 09 43N	115 21 19W		MIGMATITE	73.9	8.0	7.52	3.21	1.14
78RR078E	46 09 43N	115 21 19W		DIORITE	64.1	16.5	5.15	2.19	3.92
78RR086E	46 11 03N	115 18 28W		DIORITE	47.5	18.9	11.78	4.43	7.99
78RR090A	46 11 16N	115 16 15W		APLITE	72.9	13.7	1.85	0.26	1.60
78RR095A	46 10 48N	115 14 07W	1	MONZOGRANITE-GRANODIORITE	60.2	17.0	7.78	2.98	4.42
78RR096A	46 10 34N	115 13 47W	1	MONZOGRANITE-GRANODIORITE	74.8	13.5	0.71	0.02L	0.58
78RR105A	46 10 10N	115 12 58W	5	QUARTZITE	78.0	9.3	3.25	2.52	1.00
78RR107A	46 10 23N	115 12 20W	1	MONZOGRANITE-GRANODIORITE	64.9	16.5	5.44	1.69	3.64
78RR110A	46 13 38N	115 30 06W	5	DIOPSIDE GNEISS	65.2	11.2	3.01	4.78	7.79
78RR114A	46 13 36N	115 27 34W		DIORITE	58.0	19.3	4.15	2.44	6.75
78RR117A	46 13 38N	115 25 53W	1	MONZOGRANITE-GRANODIORITE	73.8	12.7	2.85	0.66	1.77
78RR125A	46 09 17N	115 13 05W	1	MONZOGRANITE-GRANODIORITE	69.1	15.6	3.35	0.99	2.90
78RR130A	46 09 19N	115 11 33W	5	QUARTZITE	82.0	6.6	3.28	2.32	0.63
78RR130B	46 09 19N	115 11 33W	5	AMPHIBOLITE	50.4	14.2	13.90	6.06	9.05
78RR132A	46 08 37N	115 11 16W	1	MONZOGRANITE-GRANODIORITE	65.5	16.0	4.68	1.58	3.49
78RR137A	46 12 33N	115 10 45W	1	MONZOGRANITE-GRANODIORITE	78.6	10.0	3.05	0.78	0.42
78RR138A	46 13 15N	115 10 59W	1	MONZOGRANITE-GRANODIORITE	69.3	15.9	2.29	0.67	1.96
78RR140A	46 14 16N	115 11 34W	1	MONZOGRANITE-GRANODIORITE	70.8	15.9	1.81	0.30	2.05
78RR141A	46 14 19N	115 11 36W	1	MONZOGRANITE-GRANODIORITE	69.3	16.1	1.69	0.19	2.00
78RR143B	46 14 52N	115 12 35W		MIGMATITE	69.7	13.1	4.70	2.66	2.33
78RR151A	46 17 18N	115 07 52W	1	MONZOGRANITE-GRANODIORITE	67.8	16.4	2.04	0.26	2.26
78RR155G	46 19 13N	115 05 35W	1	MONZOGRANITE-GRANODIORITE	78.2	11.7	0.51	0.02L	0.63
78RR158E	46 12 37N	115 16 48W	1	MONZOGRANITE-GRANODIORITE	70.6	16.2	1.62	0.23	2.14
78RR164A	46 13 59N	115 16 35W		MIGMATITE	81.8	8.1	1.87	0.60	0.25
79MT010K	46 11 57N	114 31 08W	1	MONZOGRANITE-GRANODIORITE	74.1	14.9	0.71	0.50	1.36
79MT010M	46 11 57N	114 31 08W		PEGMATITE	72.2	15.8	0.46	0.53	1.08
79MT011B	46 11 57N	114 31 03W	5	CALC-SILICATE	55.6	13.8	4.06	7.59	15.46
79MT011G	46 11 57N	114 31 03W		AUGEN GNEISS	62.4	16.5	5.92	2.50	3.51
79MT014E	46 12 23N	114 31 17W	1	MONZOGRANITE-GRANODIORITE	69.5	16.3	1.59	0.76	1.94
79MT024E	46 13 05N	114 34 13W	1	MONZOGRANITE-GRANODIORITE	70.5	15.8	1.50	0.67	1.82
79MT024I	46 13 05N	114 34 13W		APLITE DIKE	71.7	15.1	1.63	0.83	1.51
79MT047B	46 13 05N	114 26 52W	1	MONZOGRANITE-GRANODIORITE	72.2	14.8	1.51	0.96	1.86
79MT050B	46 13 12N	114 26 58W	1	MONZOGRANITE-GRANODIORITE	70.3	16.0	1.72	0.78	2.31
79MT056E	46 14 28N	114 30 40W	1	MONZOGRANITE-GRANODIORITE	70.4	15.5	1.61	0.45	2.47
79MT076B	46 14 58N	114 37 33W	1	MONZOGRANITE-GRANODIORITE	73.9	14.7	0.70	0.13	0.88
79MT076G	46 14 58N	114 37 33W		DIORITE DIKE	50.5	16.0	12.86	4.21	6.99
79MT078B	46 14 55N	114 37 39W		APLITE DIKE	71.8	15.6	1.29	0.58	1.47
79MT082B	46 05 00N	114 33 29W	3	MONZOGRANITE-GRANODIORITE	68.8	15.6	2.76	1.18	2.41
79MT084B	46 05 04N	114 33 50W	3	MONZOGRANITE-GRANODIORITE	71.2	14.9	1.48	0.96	1.63
79MT087B	46 04 56N	114 35 20W	3	MONZOGRANITE-GRANODIORITE	68.2	16.1	2.30	1.42	2.45
79MT093B	46 04 15N	114 38 37W	3	MONZOGRANITE-GRANODIORITE	63.7	17.3	3.49	2.14	3.39
79MT097E	46 09 45N	114 40 41W	1	MONZOGRANITE-GRANODIORITE	72.2	15.5	1.37	0.38	1.46
79MT100B	46 08 49N	114 42 17W	1	MONZOGRANITE-GRANODIORITE	73.2	15.0	1.33	0.31	1.47

Table 2: Major element XRF spectroscopy data - Analyses performed in Menlo Park, California-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	ZrO2%	Cl%	Cr2O3%	NiO%
78RR073A	4.03	3.32	0.41	0.16	0.09	0.024	0.001L	0.002L	0.001
78RR075A	2.27	1.86	0.46	0.10	0.14	0.020	0.002	0.002L	0.001
78RR078A	1.00	2.81	0.98	0.21	0.06	0.100	0.005	0.011	0.005
78RR078E	3.74	2.07	0.66	0.27	0.05	0.027	0.003	0.002L	0.003
78RR086E	3.36	2.24	1.49	0.52	0.19	0.043	0.079	0.002	0.001
78RR090A	3.06	4.18	0.26	0.07	0.03	0.026	0.001L	0.002L	0.001
78RR095A	3.48	2.47	0.92	0.29	0.11	0.036	0.050	0.004	0.002
78RR096A	3.00	5.94	0.04	0.02	0.01	0.009	0.001L	0.002L	0.001L
78RR105A	1.91	2.04	0.47	0.03	0.04	0.037	0.013	0.002L	0.002
78RR107A	3.88	1.73	0.63	0.27	0.05	0.052	0.012	0.003	0.003
78RR110A	3.14	2.15	0.39	0.12	0.08	0.025	0.001L	0.002L	0.001L
78RR114A	5.66	1.41	0.65	0.34	0.06	0.049	0.005	0.002	0.002
78RR117A	3.34	2.54	0.35	0.04	0.03	0.026	0.001L	0.002L	0.001L
78RR125A	4.47	1.84	0.43	0.17	0.04	0.026	0.050	0.002L	0.001
78RR130A	1.22	1.55	0.51	0.04	0.03	0.044	0.002	0.005	0.003
78RR130B	2.63	1.13	1.83	0.21	0.17	0.013	0.162	0.012	0.008
78RR132A	2.77	1.78	0.59	0.13	0.06	0.052	0.008	0.002L	0.001
78RR137A	1.17	3.93	0.47	0.05	0.03	0.033	0.010	0.002L	0.003
78RR138A	3.41	4.04	0.30	0.07	0.04	0.019	0.005	0.002L	0.001L
78RR140A	4.13	3.12	0.20	0.07	0.05	0.020	0.001L	0.002L	0.001L
78RR141A	4.32	3.60	0.27	0.09	0.03	0.019	0.001L	0.002L	0.001L
78RR143B	2.44	2.29	0.61	0.12	0.07	0.029	0.006	0.002L	0.003
78RR151A	4.58	3.40	0.30	0.14	0.35	0.025	0.001L	0.002L	0.001L
78RR155G	2.23	4.49	0.05	0.06	0.03	0.003	0.001L	0.002L	0.001L
78RR158E	4.04	3.55	0.18	0.09	0.04	0.018	0.001L	0.002L	0.001L
78RR164A	0.99	3.33	0.29	0.04	0.02	0.031	0.001	0.002L	0.001L
79MT010K	3.99	4.25	0.09	0.05	0.02	0.011	0.000B	0.002L	0.001L
79MT010M	3.78	5.64	0.07	0.05	0.01	0.005	0.000B	0.002L	0.001L
79MT011B	1.69	0.64	0.47	0.16	0.16	0.022	0.000B	0.002L	0.001L
79MT011G	3.96	2.51	0.72	0.33	0.08	0.029	0.000B	0.002L	0.001L
79MT014E	4.36	3.78	0.23	0.10	0.04	0.026	0.000B	0.002L	0.001L
79MT024E	4.21	3.82	0.18	0.06	0.02	0.022	0.000B	0.002L	0.001L
79MT024I	4.11	4.61	0.29	0.11	0.03	0.023	0.000B	0.002L	0.001L
79MT047B	3.46	4.64	0.21	0.06	0.01	0.024	0.000B	0.002L	0.001L
79MT050B	3.91	3.78	0.18	0.06	0.04	0.025	0.000B	0.002L	0.001L
79MT056E	3.49	3.90	0.12	0.06	0.02	0.020	0.000B	0.002L	0.001L
79MT076B	3.60	5.27	0.05	0.05	0.01	0.010	0.000B	0.002L	0.001L
79MT076G	3.58	1.83	3.09	0.56	0.13	0.042	0.000B	0.002L	0.002
79MT078B	4.27	3.99	0.20	0.07	0.02	0.016	0.000B	0.002L	0.001L
79MT082B	4.20	3.70	0.36	0.13	0.04	0.029	0.000B	0.002L	0.002
79MT084B	4.03	4.57	0.26	0.08	0.02	0.015	0.000B	0.002L	0.001L
79MT087B	4.48	3.88	0.42	0.13	0.03	0.026	0.000B	0.002L	0.001L
79MT093B	4.76	2.84	0.57	0.18	0.08	0.034	0.000B	0.003	0.003
79MT097E	3.88	3.84	0.12	0.07	0.04	0.018	0.000B	0.002L	0.001L
79MT100B	3.88	3.72	0.11	0.05	0.02	0.015	0.000B	0.002L	0.001L

Table 2: Major element XRF spectroscopy data - Analyses performed in Menlo Park, California-continued

SAMPLE	BaO%	SrO%	TOTAL%
78RR073A	0.097	0.084	98.7
78RR075A	0.090	0.031	98.2
78RR078A	0.145	0.018	99.2
78RR078E	0.089	0.057	98.9
78RR086E	0.066	0.069	98.7
78RR090A	0.354	0.031	98.3
78RR095A	0.095	0.057	99.9
78RR096A	0.031	0.016	98.7
78RR105A	0.061	0.015	98.7
78RR107A	0.125	0.076	99.1
78RR110A	0.133	0.044	98.1
78RR114A	0.064	0.143	99.0
78RR117A	0.080	0.041	98.2
78RR125A	0.074	0.038	99.1
78RR130A	0.052	0.014	98.4
78RR130B	0.017	0.019	99.9
78RR132A	0.116	0.079	96.8
78RR137A	0.113	0.018	98.7
78RR138A	0.116	0.046	98.2
78RR140A	0.164	0.106	98.7
78RR141A	0.194	0.102	97.9
78RR143B	0.053	0.029	98.3
78RR151A	0.195	0.136	97.9
78RR155G	0.031	0.029	98.0
78RR158E	0.166	0.102	99.0
78RR164A	0.078	0.015	97.4
79MT010K	0.154	0.064	100.3
79MT010M	0.173	0.039	99.8
79MT011B	0.002L	0.028	99.7
79MT011G	0.051	0.065	98.6
79MT014E	0.227	0.125	99.1
79MT024E	0.259	0.114	99.0
79MT024I	0.136	0.035	100.2
79MT047B	0.242	0.073	100.2
79MT050B	0.202	0.117	99.4
79MT056E	0.213	0.106	98.5
79MT076B	0.152	0.061	99.6
79MT076G	0.038	0.074	100.0
79MT078B	0.118	0.034	99.5
79MT082B	0.163	0.058	99.6
79MT084B	0.178	0.052	99.5
79MT087B	0.164	0.060	99.7
79MT093B	0.122	0.078	98.8
79MT097E	0.209	0.097	99.3
79MT100B	0.221	0.098	99.6

Table 2: Major element XRF spectroscopy data - Analyses performed in Menlo Park, California-continued

SAMPLE	LATITUDE	LONGITUDE		ROCK TYPE	SiO2%	Al2O3%	T-Fe2O3%	MgO%	CaO%
79MT111E	46 08 35N	114 42 51W	1	MONZOGRANITE-GRANODIORITE	72.8	14.9	1.62	0.31	1.76
79MT159E	46 09 39N	114 38 29W	1	MONZOGRANITE-GRANODIORITE	65.5	17.9	2.93	1.92	3.87
79MT163E	46 15 19N	114 38 25W		APLITE DIKE	66.0	17.5	3.79	1.77	3.80
79MT163J	46 15 19N	114 38 25W		MUSCOVITE SCHIST	74.3	14.3	1.05	0.24	1.04
79MT166E	46 15 07N	114 38 16W		APLITE DIKE	69.7	16.3	2.34	0.97	2.36
79MT166J	46 15 07N	114 38 16W		DIORITE DIKE	68.7	13.8	5.01	1.80	0.01L
79MT166N	46 15 07N	114 38 16W		MUSCOVITE SCHIST	78.5	12.3	0.81	0.11	0.46
79MT167E	46 15 02N	114 37 55W	1	MONZOGRANITE-GRANODIORITE	71.8	15.6	1.74	0.53	1.93
79MT168E	46 15 08N	114 37 46W	1	MONZOGRANITE-GRANODIORITE	79.1	11.5	1.18	0.38	0.52
79MT168I	46 15 08N	114 37 46W		MIGMATITE	71.0	13.3	4.91	2.38	0.42
79MT171E	46 15 13N	114 37 14W		MIGMATITE	73.7	14.6	0.90	0.19	0.53
79MT178E	46 15 09N	114 36 31W		DIORITE DIKE	89.9	4.7	1.20	0.42	0.01L
79MT178J	46 15 09N	114 36 31W		MIGMATITE	75.1	14.8	0.53	0.14	0.74
79MT178N	46 15 09N	114 36 31W		PEGMATITE	75.9	14.1	0.43	0.08L	0.48
79MT179E	46 11 01N	114 37 13W	1	MONZOGRANITE-GRANODIORITE	71.4	16.1	1.89	0.32	1.62
79MT187E	46 12 50N	114 37 51W	1	MONZOGRANITE-GRANODIORITE	73.2	15.1	1.25	0.20	1.43

Table 2: Major element XRF spectroscopy data - Analyses performed in Menlo Park, California-continued

SAMPLE	Na2O%	K2O%	TiO2%	P2O5%	MnO%	ZrO2%	Cl%	Cr2O3%	NiO%
79MT111E	3.81	3.09	0.15	0.06	0.02	0.021	0.000B	0.002L	0.001L
79MT159E	4.05	2.57	0.49	0.17	0.03	0.027	0.000B	0.002L	0.002
79MT163E	4.03	1.86	0.60	0.17	0.07	0.018	0.000B	0.002L	0.001L
79MT163J	3.52	4.33	0.06	0.09	0.03	0.008	0.000B	0.002L	0.001L
79MT166E	4.09	2.38	0.34	0.10	0.04	0.014	0.000B	0.002L	0.001L
79MT166J	1.38	5.92	0.56	0.09	0.04	0.037	0.000B	0.002L	0.002
79MT166N	2.41	3.84	0.05	0.04	0.01	0.004	0.000B	0.002L	0.001L
79MT167E	4.06	3.10	0.19	0.09	0.02	0.018	0.000B	0.002L	0.001L
79MT168E	2.44	3.74	0.11	0.04	0.02	0.017	0.000B	0.002L	0.001L
79MT168I	1.94	3.80	0.59	0.08	0.06	0.030	0.000B	0.002L	0.002
79MT171E	2.98	5.88	0.04	0.05	0.02	0.009	0.000B	0.002L	0.001L
79MT178E	0.96	2.32	0.09	0.01	0.02	0.013	0.000B	0.002L	0.001L
79MT178J	3.72	4.35	0.01	0.05	0.01	0.004	0.000B	0.002L	0.001L
79MT178N	3.24	4.81	0.01L	0.04	0.01	0.002L	0.000B	0.002L	0.001L
79MT179E	4.74	2.85	0.16	0.05	0.03	0.019	0.000B	0.002L	0.001L
79MT187E	4.14	3.57	0.09	0.05	0.02	0.014	0.000B	0.002L	0.001L

Table 2: Major element XRF spectroscopy data - Analyses performed in Menlo Park, California-continued

SAMPLE	BaO%	SrO%	TOTAL%
79MT111E	0.170	0.095	98.9
79MT159E	0.157	0.082	99.8
79MT163E	0.095	0.068	99.9
79MT163J	0.098	0.032	99.2
79MT166E	0.097	0.055	98.9
79MT166J	0.132	0.010	97.5
79MT166N	0.122	0.025	98.8
79MT167E	0.184	0.090	99.4
79MT168E	0.120	0.030	99.3
79MT168I	0.059	0.017	98.6
79MT171E	0.122	0.030	99.2
79MT178E	0.065	0.002L	99.8
79MT178J	0.073	0.021	99.7
79MT178N	0.051	0.013	99.3
79MT179E	0.067	0.071	99.5
79MT187E	0.124	0.064	99.4

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