UNITED STATES DEPARTMENT OF THE INTERIOR

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A LISTING AND STATISTICAL SUMMARY OF SPECTROGRAPHIC AND CHEMICAL ANALYSES OF STREAM-SEDIMENT SAMPLES FROM THE SURVEY PASS QUADRANGLE, ALASKA

by

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INTRODUCTION

A geochemical reconnaissance study was undertaken in the Survey Pass quadrangle, Alaska, during the summers of 1977 and 1978 to aid in the evaluation of the mineral-resource potential of the quadrangle. For this study, 638 stream-sediment samples were collected (Plate 1) to supplement those collected previously by the Alaska Division of Geological and Geophysical Survey. Heavy-mineral concentrates from stream-sediments were collected at most of these 638 stream-sediment sample sites. Statistical data derived from the analytical results for 638 stream-sediment samples are shown on tables 1 and 2; analytical results are shown on table 3. The data for the heavy-mineral concentrates will be reported separately.

METHODS

Sampling and sample-preparation methods

Geochemical stream-sediment sampling was carried out by the U.S. Geological Survey during the summers of 1977 and 1978 to supplement the stream-sediment samples collected by the Alaska Division of Geological and Geophysical Survey, from 1971 to 1973 (Garland, Eakins, and Trible, 1975 a-e; Garland and others, 1975 a-b). The sampling was done with the aid of a helicopter.

Stream-sediment samples were collected from the active portions of streams wherever possible; where this was not possible, samples were collected from the stream-sediments directly adjacent to the stream. Stream-sediment samples consisted of several scoops of coarse to fine-grained sediment which were wet-sieved through a 2-mm stainless steel screen at the sample site; the screened fraction was placed in metal-free cloth bags. Sample weights ranged from 150 to 250 g. The samples were then air-dried and screened by shaking through an 80-mesh stainless steel sieve. The minus-80-mesh fractions were placed in 0.12-L metal-free carboard containers and subsequently analyzed.

Analytical methods

A six-step, DC-arc, semiquantitative emission spectrographic method was used for the determination of Fe, Mg, Ca, Ti, Mn, Ag, As, Au, B, Ba, Be, Bi, Cd, Co, Cr, Cu, La, Mo, Nb, Ni, Pb, Sb, Sc, Sn, Sr, V, W, Y, Zn, and Zr (Grimes and Marranzino, 1968). Atomic absorption spectrophotometry was used to determine Zn (Ward and others, 1969).

The analyses were done by E. F. Cooley, J. T. Hurrell, and R. M. O'Leary.

Statistical methods

All data listed in table 3 were entered into the U.S. Geological Survey computer data storage system entitled RASS (Rock Analyses Storage System). The data was retrieved and analyzed statistically by T. M. Billings, S. K. McDanal, C. M. McDougal, and W. S. Speckman, using the U.S. Geological Survey STATPAC program library (VanTrump and Miesch, 1977). Graphical analyses of stream sediment is presented in summary form in table 1.

Simple linear correlation coefficients among logarithmic values of element concentrations are shown in table 2. Table 2 also shows the number of pairs of values used to compute these coefficients. For cases in which the number of pairs is less than the total number of samples analyzed, the bivariate frequency distribution was censored for either one or both of the elements owing to limitations of the methods of analysis. In the uncensored portion of the bivariate population, if the number of pairs was less than 3, the correlation was not computed.

Table 1.--Statistical summary of the analytical results for stream-sediment samples, Survey Pass quadrangle, Alaska

[Values for Fe, Mg, Ca, and Ti reported in percent; all other values reported in ppm (parts per million). Lower limits of detection for semiquantitative emission spectrographic analyses: Fe and Ca = 0.05; Mg = 0.02; Ti = 0.002; Mn, Au, B, Bi, Cr, Pb, Sn, V, Y, and Zr = 10; Ag = 0.5; As and Zn = 200; Ba, Cd, La, and Nb = 20; Be = 1; Co, Cu, Mo, Ni, and Sc = 5; Sb and Sr = 100; W = 50. Upper limits of detection for semiquantitative emission spectrographic analyses: Ti = 1; Mg = 10; Fe and Ca = 20; Cd and Au = 500; Be, Bi, La, Sn, and Zr = 1,000; B, Co, Mo, Nb, and Y = 2,000; Mn, Ag, Ba, Cr, Sr, and Ni = 5,000; As, Sb, W, V, and Zn = 10,000; and Cu and Pb = 20,000. Lower limits of detection for atomic absorption: Zn = 5. Unqualfied population is one in which the element concentrations fall within the sensitivity limits of the method used. Qualified population is one in which element concentrations are coded with an N, L, or G: N = not detected at limit of detection; L = detected, but below limit of detection; G = greater than upper limit of detection. n = the combined total of N, L, G, and the number of values. Leaders (--) = no data or insufficient data. Analysts: E. F. Cooley, J. T. Hurrell, and R. M. O'Leary]

Method of Analysis	Element	Data based on the qualified population			Data based on the unqualified population							Percentile distribution based on n samples analyzed			
		Number of samples			Number of values	Range of values		Geometric mean	Geometric deviation	Arithmetic mean	Standard deviation	25th	50th	75th	90th
		N	L	G											
Semiquantative emission spectrography[1]	Fe	0	0	0	638	0.5	- 15	5.7	1.9	6.7	3.7	3.7	5.4	9.7	11.2
	Mg	0	0	0	638	.2	- 10	1	1.7	1.2	0.8	0.8	1.1	1.4	2
	Ca	0	0	3	635	.1	- 20	0.8	4.9	2.6	4.5	.2	0.6	2.8	9.1
	Ti	0	0	4	634	.1	- 1	.6	1.5	0.7	.2	.5	.7	0.9	1.1
	Mn	0	0	0	638	30	- 5,000	601	2.1	767	563	334	635	1,025	1,421
	Ag	634	1	0	3	1	- 3	1.8	1.7	2	1	--	--	--	--
	As	638	0	0	0	--	--	--	--	--	--	--	--	--	--
	Au	638	0	0	0	--	--	--	--	--	--	--	--	--	--
	B	1	1	0	636	10	500	94	2.1	119	88	60	82	187	254
	Ba	1	0	0	637	50	3,000	526	1.7	602	321	400	515	719	993
	Be	5	32	0	601	1	15	1.5	1.5	1.7	1	--	1.5	2.1	2.4
	Bi	636	2	0	--	--	--	--	--	--	--	--	--	--	--
	Cd	615	0	0	0	--	--	--	--	--	--	--	--	--	--
	Co	0	18	0	620	5	300	44	1.6	49	25	32	44	56	73
	Cr	2	3	0	633	20	500	142	1.6	155	63	105	152	109	248
	Cu	0	7	0	631	5	500	41	2.1	52	40	27	41	64	101

[1] Grimes and Marranzino, 1968.

Table 1.--Statistical summary of the analytical results for stream-sediment samples, Survey Pass quadrangle, Alaska--Continued

Method of Analyses	Element	Data based on the qualified population: Number of samples N	L	G	Data based on the unqualified population: Number of values	Range of values		Geometric mean	Geometric deviation	Arithmetic mean	Standard deviation	Percentile distribution based on n samples analyzed: 25th	50th	75th	90th
Semiquantative emission spectrography[1]	La	0	7	0	631	20	700	63	1.4	69	49	--	--	71	107
	Mo	608	20	0	10	5	70	17	2.2	23	21	--	--	--	--
	Nb	28	610	0	0	--	--	--	--	--	--	--	--	--	--
	Ni	0	15	0	623	5	1,000	65	1.9	79	56	43	69	101	131
	Pb	2	4	0	632	10	300	31	1.6	36	27	22	30	41	54
	Sb	638	0	0	0	--	--	--	--	--	--	--	--	--	--
	Sc	2	8	0	628	5	50	22	1.5	24	9	19	24	31	36
	Sn	620	4	0	14	20	70	36	1.5	40	16	--	--	--	--
	Sr	1	45	0	592	100	2,000	188	1.7	227	197	--	195	244	365
	V	0	1	0	637	20	700	188	1.7	214	92	157	222	293	350
	W	638	0	0	0	--	--	--	--	--	--	--	--	--	--
	Y	1	2	0	635	10	1,000	46	1.7	55	54	33	46	64	78
	Zn	237	253	0	148	200	1,000	226	1.4	240	112	--	--	--	--
	Zr	1	0	1	636	20	1,000	194	1.7	222	126	152	216	284	365
	Th	209	0	0	0	--	--	--	--	--	--	--	--	--	--
Atomic absorption[2]	Zn	0	0	0	638	5	1,500	88	1.7	101	79	64	91	113	152

[1] Grimes and Marranzino, 1968.
[2] Ward and others, 1969.

Table 2.--Simple linear correlation coefficients between logarithmic values of the element concentrations in 638 stream-sediment samples, Survey Pass quadrangle, Alaska.

[Upper half of table contains correlation coefficients, multiplied by 100; lower half is the number of pairs of values used to compute coefficients. Where number of pairs is less than 638, the bivariate frequency distribution was censored owing to the limitations of the method of analysis. **** indicates correlation coefficient was not computed. Methods of analysis, indicated in the row and column headings: S = Emission spectroscopy, AA = Atomic absorption.]

	S-FE	S-MG	S-CA	S-TI	S-MN	S-B	S-BA	S-BE	S-CO	S-CR	S-CU	S-LA	S-MO	S-NI	S-PB	S-SC	S-SN	S-SR	S-V	S-Y	S-ZN	AA-ZN	
S-FE		26	-29	73	69	65	35	11	27	40	52	16	50	50	6	41	-53	-14	75	35	-10	15	S-FE
S-MG	639		30	22	15	30	5	-11	1	5	12	3	-8	0	3	-2	-24	34	16	4	-16	-11	S-MG
S-CA	635	635		-33	-23	-13	-30	-17	-31	-40	-21	-9	-8	-34	-1	-43	-20	77	-37	-15	8	-27	S-CA
S-TI	634	634	631		58	67	42	1	24	33	36	8	49	37	-1	31	-48	-19	68	24	-31	8	S-TI
S-MN	638	638	635	634		52	22	14	40	13	41	31	34	54	0	28	-33	-16	47	57	-13	10	S-MN
S-B	636	636	634	632	636		38	9	12	13	38	13	76	31	0	4	-41	-3	64	28	-13	5	S-B
S-BA	637	637	635	633	637	636		0	17	28	39	6	-17	30	17	16	6	-24	55	11	27	32	S-BA
S-BE	601	601	601	597	601	601	601		-1	-7	4	7	62	17	26	-12	53	-15	2	26	15	5	S-BE
S-CO	620	620	620	616	620	619	620	592		38	42	49	33	64	12	40	-38	-19	25	54	8	33	S-CO
S-CR	633	633	630	629	633	631	632	596	618		34	4	11	37	8	52	-10	-25	45	3	-25	15	S-CR
S-CU	631	631	629	627	631	630	631	597	619	627		25	73	47	37	28	11	-14	53	32	27	36	S-CU
S-LA	631	631	629	627	631	631	631	601	617	626	626		-8	62	7	7	15	-8	5	76	1	21	S-LA
S-MO	10	10	10	10	10	10	10	10	10	10	10	10		68	-11	7	****	12	82	72	-2	13	S-MO
S-NI	623	623	621	619	623	622	623	592	617	623	621	620	10		7	29	-39	-24	49	79	3	38	S-NI
S-PB	632	632	631	628	632	631	632	600	617	627	626	626	10	619		0	65	-3	4	9	35	24	S-PB
S-SC	628	628	626	624	628	627	628	600	617	623	624	625	10	619	625		-49	-30	35	9	-21	9	S-SC
S-SN	14	14	14	14	14	14	14	14	12	13	14	14	0	11	14	14		21	-45	55	****	43	S-SN
S-SR	592	592	589	588	592	590	591	557	578	590	586	585	10	581	588	584	12		-20	-9	-1	-22	S-SR
S-V	637	637	634	633	637	635	636	601	620	632	630	630	10	623	632	628	14	592		22	-4	23	S-V
S-Y	635	635	633	631	635	635	635	601	619	630	629	630	10	622	631	627	14	590	635		4	28	S-Y
S-ZN	148	148	148	147	148	148	148	148	147	148	148	148	9	148	148	148	1	146	148	148		83	S-ZN
AA-ZN	638	638	635	634	638	636	637	601	620	633	631	631	10	623	632	628	14	592	637	635	148		AA-ZN
	S-FE	S-MG	S-CA	S-TI	S-MN	S-B	S-BA	S-BE	S-CO	S-CR	S-CU	S-LA	S-MO	S-NI	S-PB	S-SC	S-SN	S-SR	S-V	S-Y	S-ZN	AA-ZN	

EXPLANATION FOR TABLE 3

The data listed in table 3 include analytical results of the stream-sediment samples collected by the U.S. Geological Survey. The data are arranged so that column 1 contains the sample number keyed to plate 1. These sample numbers are shown on plate 1 without the prefix 78 or 77 which stand for 1977 and 1978 (for example " 77001" on table 3 is "1" on plate 1 and "78465" becomes "465"). The latitude and longitude in degrees, minutes, and seconds are shown in column 2 and 3. The remaining column (4-35) lists the elements for which data are available.

The element column heading are coded as follows:

S-Fe% - Semiquantitative spectrographic analyses of iron in percent.

S-Mn - Semiquantitative spectrographic anlyses of manganese in ppm (parts per million).

AA-Zn - Atomic absorption analyses of zinc in ppm (parts per million).

Nonquantitative row codes are:

N = not detected

-- = no data available

The lower and upper limits of detection for semiquantitative emission spectrographic analyses are as follows:

Element	Lower detection limit	Upper detection limit
Iron (Fe)	0.05 %	20%
Magnesium (Mg)	.02	10
Calcium (Ca)	.05	20
Titanium (Ti)	.002	1
Manganese (Mn)	10 ppm	5,000 ppm
Silver (Ag)	.5 ppm	5,000
Arsenic (As)	200	10.000
Gold (Au)	10	500
Boron (B)	10	2,000
Barium (Ba)	20	5,000
Beryllium (Be)	1	1,000
Bismuth (Bi)	10	1,000
Cadmium (Cd)	20	500
Cobalt (Co)	5	2,000
Chromium (Cr)	10	5,000
Copper (Cu)	5	20,000
Lanthanum (La)	20	1,000
Molybdenum (Mo)	5	2,000
Niobium (Nb)	20	2,000
Nickel (Ni)	5	5,000
Lead (Pb)	10	20,000
Antimony)Sb)	100	10,000
Scandium (Sc)	5	100
Tin (Sn)	10	1,000
Strontium (Sr)	100	5,000
Vanadium (V)	10	10,000
Tungsten (W)	50	10,000
Yttrium (Y)	10	2,000
Zinc (Zn)-Spec	200	10,000
Zinc (Zn)-AA	5	--
Zirconium	10	1,000

Analytical results of stream sediment samples begin on p. 12.

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Table 3.--*Analytical results for 638 stream-sediment samples.*

[See page 8 for explanation. Table pages run from 12 to 56.]

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
	67 48 2	155 0 52	--	--	--	--	--	--	--	--	--	--
77001	67 5 52	153 48 31	5.0	1.00	.70	.70	700	N	N	N	70	700
77002	67 6 10	153 46 27	5.0	1.00	.20	.70	700	N	N	N	70	700
77003	67 5 47	153 41 10	5.0	1.00	.30	.70	700	N	N	N	70	500
77004	67 5 53	153 40 26	5.0	1.00	.50	.50	1,000	N	N	N	70	700
77005	67 7 12	153 28 11	10.0	1.50	.70	.70	2,000	N	N	N	70	500
77006	67 9 13	153 32 5	5.0	1.50	.20	.70	2,000	N	N	N	70	500
77007	67 9 35	153 38 26	5.0	1.00	.70	1.00	3,000	N	N	N	50	500
77008	67 9 39	153 38 38	10.0	1.00	.50	.70	3,000	N	N	N	70	300
77009	67 11 0	153 35 37	3.0	1.00	1.50	.50	1,000	N	N	N	70	500
77010	67 12 2	153 31 55	5.0	1.00	.70	.70	700	N	N	N	50	300
77011	67 40 54	155 25 47	5.0	1.00	7.00	.50	500	N	N	N	70	700
77012	67 42 15	155 26 24	7.0	1.00	.20	.50	1,000	N	N	N	70	300
77013	67 43 43	155 21 46	7.0	1.50	.20	.50	1,000	N	N	N	100	700
77014	67 43 5	155 20 13	10.0	1.50	.15	.70	700	N	N	N	100	700
77015	67 44 25	155 19 18	10.0	1.50	.20	.70	700	N	N	N	100	700
77016	67 44 22	155 19 6	5.0	1.00	.20	.50	1,000	N	N	N	70	500
77017	67 43 18	155 13 24	10.0	1.00	.15	.50	1,000	N	N	N	70	500
77018	67 43 16	155 13 12	10.0	1.00	.20	.70	1,000	1.0	N	N	100	700
77019	67 42 17	155 12 42	10.0	1.50	.15	.70	1,000	N	N	N	70	500
77020	67 41 36	155 13 52	10.0	1.50	.20	.50	1,000	N	N	N	70	500
77021	67 41 56	155 7 2	10.0	1.50	.15	.50	1,000	N	N	N	100	500
77022	67 41 52	155 6 59	10.0	1.50	.15	.70	1,000	N	N	N	70	500
77023	67 40 8	155 7 56	7.0	1.50	3.00	.50	700	N	N	N	50	500
77024	67 40 5	155 7 60	10.0	1.50	7.00	.70	700	N	N	N	50	200
77025	67 39 27	155 11 48	10.0	1.50	5.00	1.00	500	N	N	N	50	500
77026	67 40 2	155 18 42	10.0	1.00	2.00	.70	700	N	N	N	50	500
77027	67 41 41	155 31 24	10.0	1.50	.20	.70	700	N	N	N	50	500
77028	67 43 30	155 37 46	10.0	1.00	.20	1.00	700	N	N	N	100	500
77029	67 44 38	155 35 12	10.0	1.00	.20	1.00	700	N	N	N	70	500
77030	67 46 2	155 36 44	10.0	.70	.15	.70	1,000	N	N	N	70	500
77031	67 46 38	155 34 19	10.0	1.00	.15	1.00	1,000	N	N	N	100	500
77032	67 48 8	155 36 7	10.0	.50	.15	.70	1,000	N	N	N	70	500
77033	67 48 10	155 35 50	10.0	.50	.15	.70	1,000	N	N	N	100	300
77034	67 51 48	155 37 37	10.0	1.00	.15	1.00	1,000	N	N	N	70	500
77035	67 52 34	155 34 21	10.0	1.00	.15	.70	1,000	N	N	N	100	500
77036	67 54 29	155 34 13	7.0	.70	.15	.70	1,000	N	N	N	70	500
77037	67 55 15	155 37 34	10.0	1.00	.10	.70	1,000	N	N	N	100	500
77038	67 56 58	155 41 57	10.0	.50	.15	.70	1,000	N	N	N	100	1,500
77039	67 56 47	155 42 28	5.0	.50	.15	.70	1,000	N	N	N	70	700
77040	67 58 52	155 37 23	10.0	.70	.15	.70	1,000	N	N	N	100	500
77041	67 59 45	155 42 29	10.0	.30	.15	.70	1,500	N	N	N	100	500
77042	67 57 60	155 51 49	10.0	.50	.15	.70	1,500	N	N	N	70	500
77043	67 43 1	155 47 25	5.0	1.00	2.00	.50	700	N	N	N	50	500
77044	67 43 14	155 53 33	7.0	1.00	1.00	.70	700	N	N	N	70	700

Stream Sediments

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
	--	--	--	--	--	--	--	--	--	--	--
77001	1.5	N	N	70	150	50	50	N	<20	100	50
77002	1.5	N	N	20	100	30	50	N	<20	50	30
77003	1.5	N	N	50	100	30	50	N	<20	100	30
77004	1.5	N	N	30	100	20	50	N	<20	70	20
77005	1.5	N	N	50	100	30	50	N	<20	100	20
77006	1.5	N	N	150	100	100	50	N	<20	70	20
77007	1.5	N	N	150	100	70	50	N	<20	50	20
77008	2.0	N	N	150	100	70	100	N	<20	100	15
77009	1.5	N	N	20	70	30	50	N	<20	30	20
77010	1.5	N	N	20	70	20	50	N	<20	50	15
77011	1.5	N	N	20	100	30	50	N	<20	50	20
77012	1.5	N	N	20	100	30	50	N	<20	100	20
77013	1.5	N	N	20	150	50	70	N	<20	100	30
77014	1.5	N	N	50	200	70	70	N	<20	150	30
77015	1.5	N	N	30	200	50	70	N	<20	100	20
77016	1.5	N	N	20	150	50	50	N	<20	70	20
77017	1.5	N	N	50	200	30	50	N	<20	70	20
77018	1.5	N	N	50	200	150	50	N	<20	100	300
77019	1.5	N	N	70	200	70	100	N	<20	150	50
77020	1.5	N	N	20	200	100	100	N	<20	100	30
77021	1.5	N	N	50	200	100	70	N	<20	150	200
77022	1.5	N	N	50	200	70	70	N	<20	100	30
77023	1.5	N	N	20	150	30	50	N	<20	70	30
77024	1.0	N	N	50	100	50	50	N	<20	70	50
77025	1.5	N	N	50	100	20	50	N	<20	50	50
77026	1.5	N	N	50	100	30	100	N	<20	100	20
77027	1.0	N	N	50	300	50	150	N	<20	100	20
77028	1.5	N	N	50	300	70	200	N	<20	100	30
77029	1.5	N	N	50	150	30	70	N	<20	100	20
77030	1.5	N	N	50	200	50	70	N	<20	100	30
77031	1.5	N	N	50	200	70	70	N	<20	100	30
77032	1.5	N	N	50	150	50	70	N	<20	100	20
77033	1.5	N	N	50	200	70	50	N	<20	100	20
77034	1.5	N	N	50	300	70	100	N	<20	100	30
77035	1.5	N	N	70	300	70	70	N	<20	100	50
77036	1.5	N	N	50	150	50	70	N	<20	100	20
77037	1.5	N	N	100	300	70	100	N	<20	150	50
77038	1.5	N	N	70	200	70	100	N	<20	100	50
77039	1.5	N	N	30	300	20	100	N	<20	100	50
77040	1.5	N	N	50	200	50	100	N	<20	100	100
77041	1.5	N	N	50	200	50	70	N	<20	100	30
77042	1.5	N	N	70	200	70	70	N	<20	100	50
77043	1.0	N	N	30	100	30	70	N	<20	70	30
77044	1.5	N	N	50	150	50	70	N	<20	100	50

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
	--	--	--	--	--	--	--	--	--	--
77001	N	50	N	<100	150	N	50	<200	200	85
77002	N	30	N	<100	150	N	50	<200	200	85
77003	N	30	N	<100	150	N	50	<200	200	120
77004	N	30	N	<100	100	N	50	<200	200	100
77005	N	50	N	<100	150	N	70	N	300	70
77006	N	30	N	<100	100	N	50	<200	150	80
77007	N	50	N	<100	100	N	100	<200	150	70
77008	N	50	N	<100	150	N	100	<200	200	100
77009	N	20	N	300	150	N	50	<200	100	85
77010	N	20	N	100	100	N	20	<200	200	65
77011	N	20	N	200	150	N	30	N	100	80
77012	N	20	N	<100	200	N	30	N	300	90
77013	N	20	N	<100	200	N	50	<200	200	130
77014	N	50	N	<100	300	N	50	<200	200	150
77015	N	50	N	<100	200	N	50	N	200	130
77016	N	30	N	<100	200	N	50	N	200	110
77017	N	30	N	<100	200	N	50	<200	200	130
77018	N	30	N	<100	200	N	50	<200	200	130
77019	N	30	N	100	300	N	50	<200	200	120
77020	N	30	N	100	200	N	50	<200	200	120
77021	N	30	N	100	200	N	50	N	150	120
77022	N	30	N	100	200	N	50	<200	200	120
77023	N	20	N	100	200	N	50	<200	200	85
77024	N	20	N	500	200	N	50	N	500	55
77025	N	20	N	500	200	N	50	N	300	60
77026	N	30	N	150	200	N	50	N	300	90
77027	N	30	N	100	200	N	50	N	200	130
77028	N	30	N	100	200	N	50	N	500	120
77029	N	30	N	100	200	N	50	N	300	90
77030	N	30	N	100	200	N	70	N	500	90
77031	N	30	N	100	300	N	50	N	300	95
77032	N	30	N	100	200	N	100	N	500	90
77033	N	30	N	100	200	N	50	N	300	85
77034	N	30	N	100	200	N	70	N	300	100
77035	N	50	N	100	200	N	70	N	500	100
77036	N	30	N	100	200	N	70	N	500	90
77037	N	50	N	100	300	N	70	N	500	85
77038	N	30	N	100	300	N	70	N	300	140
77039	N	30	N	100	200	N	100	N	1,000	160
77040	N	30	N	100	300	N	50	<200	300	200
77041	N	30	N	100	200	N	50	N	700	110
77042	N	30	N	100	300	N	70	<200	300	170
77043	N	20	N	100	200	N	50	N	150	80
77044	N	30	N	100	300	N	50	N	200	100

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
77045	67 46 58	155 44 30	10.0	1.00	.15	.70	1,500	N	N	N	70	500
77046	67 46 59	155 51 53	10.0	1.00	.15	.70	1,000	N	N	N	70	500
77047	67 45 54	155 45 34	5.0	.70	.20	.70	500	N	N	N	50	500
77048	67 47 17	155 54 5	5.0	.50	.15	.70	700	N	N	N	50	500
77049	67 48 43	155 58 50	5.0	.50	.15	.70	700	N	N	N	70	500
77050	67 50 6	155 49 34	5.0	.50	.10	.70	1,000	N	N	N	70	500
77051	67 53 11	155 41 41	3.0	.70	.10	.50	700	N	N	N	70	700
77052	67 50 23	155 48 32	5.0	.50	.10	.70	700	N	N	N	50	500
77053	67 51 58	155 52 53	5.0	.50	.10	.70	1,000	N	N	N	70	500
77054	67 51 43	155 49 42	5.0	.30	.10	.70	700	N	N	N	70	300
77055	67 57 60	155 55 8	5.0	.50	.15	.70	1,000	N	N	N	50	300
77056	67 57 5	155 45 32	5.0	.50	.10	.70	700	N	N	N	70	500
77057	67 47 21	155 21 23	5.0	.70	.15	.70	500	N	N	N	50	500
77058	67 51 19	155 28 52	5.0	.50	.10	.70	700	N	N	N	70	500
77059	67 51 6	155 26 27	5.0	.70	.10	.70	700	N	N	N	70	500
77060	67 47 34	155 21 39	5.0	.50	.10	.70	1,000	N	N	N	70	500
77061	67 48 28	155 16 20	5.0	.70	.15	.70	1,000	N	N	N	70	500
77062	67 50 9	155 16 9	5.0	.70	.10	.70	1,000	N	N	N	100	500
77063	67 51 15	155 19 2	5.0	.70	.15	.70	700	N	N	N	70	500
77064	67 50 47	155 16 12	5.0	.70	.10	.70	1,000	N	N	N	100	500
77065	67 52 51	155 4 24	5.0	.70	.15	.70	1,000	N	N	N	70	500
77066	67 51 31	155 8 12	5.0	.70	.10	.70	1,000	N	N	N	100	500
77067	67 54 24	155 13 55	5.0	.70	.15	.70	1,000	N	N	N	100	500
77068	67 53 16	155 15 0	5.0	1.00	.20	.70	1,000	N	N	N	100	500
77069	67 55 31	155 11 12	5.0	.70	.10	.50	1,000	N	N	N	70	500
77070	67 53 19	155 15 52	5.0	.50	.10	.70	700	N	N	N	70	700
77071	67 56 26	155 19 19	5.0	.30	.10	.70	700	N	N	N	70	500
77072	67 54 47	155 9 19	7.0	1.00	.10	1.00	1,000	N	N	N	70	500
77073	67 56 42	155 15 48	5.0	.70	.10	.70	700	N	N	N	70	500
77074	67 56 50	155 9 51	5.0	.70	.10	.70	1,000	N	N	N	70	500
77075	67 55 47	155 25 14	5.0	.50	.10	.70	700	N	N	N	50	500
77076	67 59 51	155 18 41	5.0	.30	.10	.50	700	N	N	N	50	300
77077	67 59 36	155 24 23	5.0	.20	.10	.70	1,000	N	N	N	100	500
77078	67 59 22	155 15 1	5.0	.30	.15	.50	700	N	N	N	50	300
77079	67 59 21	154 56 23	5.0	.50	.10	.50	1,000	N	N	N	50	300
77080	67 53 27	155 6 56	5.0	.70	.10	.50	1,000	N	N	N	70	300
77081	67 58 48	155 8 34	5.0	.50	.10	.70	700	N	N	N	70	500
77082	67 57 25	154 50 5	5.0	.30	.15	.70	700	N	N	N	70	300
77083	67 59 53	154 40 38	5.0	.70	.15	.70	1,000	N	N	N	70	500
77084	67 58 20	154 34 17	5.0	.50	.20	.70	1,000	N	N	N	70	300
77085	67 56 58	154 38 30	5.0	.50	.15	.70	1,000	N	N	N	70	700
77086	67 56 23	154 43 10	5.0	.50	.10	.70	1,000	N	N	N	100	500
77087	67 56 6	154 42 1	5.0	.50	.70	.70	700	N	N	N	100	3,000
77088	67 52 17	154 37 47	5.0	.70	.10	.70	1,000	N	N	N	70	500
77089	67 51 52	154 37 54	5.0	.70	.10	.70	1,000	N	N	N	70	500

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
77045	1.5	N	N	50	200	50	100	N	<20	100	20
77046	1.5	N	N	50	200	50	100	N	<20	100	20
77047	2.0	N	N	30	100	10	70	N	<20	70	20
77048	2.0	N	N	50	100	30	50	N	<20	70	20
77049	2.0	N	N	50	150	30	50	N	<20	70	20
77050	2.0	N	N	50	150	50	50	N	<20	70	20
77051	2.0	N	N	20	100	30	50	N	<20	50	30
77052	2.0	N	N	50	100	30	50	N	<20	70	20
77053	2.0	N	N	50	150	30	70	N	<20	70	20
77054	2.0	N	N	50	100	20	50	N	<20	50	20
77055	2.0	N	N	30	100	20	50	N	<20	70	30
77056	2.0	N	N	30	100	30	50	N	<20	70	20
77057	2.0	N	N	50	150	30	70	N	<20	70	20
77058	2.0	N	N	50	150	30	50	N	<20	100	20
77059	2.0	N	N	50	200	50	50	N	<20	70	70
77060	2.0	N	N	20	100	30	50	N	<20	50	20
77061	2.0	N	N	50	150	20	50	N	<20	50	20
77062	2.0	N	N	50	200	50	50	N	<20	100	30
77063	2.0	N	N	50	100	30	50	N	<20	70	50
77064	2.0	N	N	50	200	70	50	N	<20	100	30
77065	2.0	N	N	50	150	30	50	N	<20	70	20
77066	2.0	N	N	50	150	50	50	N	<20	70	30
77067	2.0	N	N	30	150	50	50	N	<20	70	30
77068	2.0	N	N	50	200	50	50	N	<20	100	30
77069	2.0	N	N	50	150	30	50	N	<20	70	50
77070	2.0	N	N	50	150	30	50	N	N	70	20
77071	2.0	N	N	50	150	30	50	N	N	70	30
77072	2.0	N	N	50	200	50	50	N	N	100	50
77073	2.0	N	N	30	100	20	50	N	N	70	20
77074	2.0	N	N	50	150	30	50	N	N	70	30
77075	2.0	N	N	30	100	20	50	N	N	70	20
77076	2.0	N	N	20	70	20	50	N	N	50	20
77077	2.0	N	N	50	200	50	50	N	N	70	20
77078	2.0	N	N	30	100	30	50	N	N	70	20
77079	2.0	N	N	50	100	30	50	N	N	70	15
77080	2.0	N	N	30	100	30	50	N	N	70	50
77081	2.0	N	N	50	150	50	50	N	N	70	30
77082	2.0	N	N	30	100	20	50	N	N	70	20
77083	2.0	N	N	50	150	50	50	N	N	100	30
77084	2.0	N	N	50	150	50	50	N	N	70	20
77085	2.0	N	N	50	150	30	50	N	N	100	20
77086	2.0	N	N	30	150	30	50	N	N	70	20
77087	2.0	N	N	20	200	30	70	N	N	70	30
77088	2.0	N	N	30	150	30	70	N	N	70	20
77089	2.0	N	N	50	150	50	50	N	N	70	20

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
77045	N	30	N	100	300	N	50	N	200	95
77046	N	30	N	100	300	N	70	N	700	90
77047	N	20	N	100	150	N	70	N	200	95
77048	N	20	N	100	150	N	50	N	200	80
77049	N	30	N	100	200	N	100	N	200	80
77050	N	30	N	100	200	N	100	N	300	90
77051	N	20	N	100	150	N	50	N	200	90
77052	N	20	N	100	150	N	50	N	200	95
77053	N	30	N	100	200	N	50	N	200	90
77054	N	20	N	100	150	N	50	N	200	90
77055	N	20	N	100	150	N	30	200	150	200
77056	N	20	N	100	150	N	50	N	200	90
77057	N	30	N	100	200	N	70	N	200	100
77058	N	30	N	100	200	N	50	N	300	100
77059	N	30	N	100	200	N	50	N	200	110
77060	N	20	N	100	150	N	50	<200	200	100
77061	N	20	N	100	150	N	50	<200	200	100
77062	N	30	N	100	200	N	50	N	300	110
77063	N	30	N	100	200	N	50	N	300	150
77064	N	30	N	100	200	N	50	N	300	120
77065	N	20	N	100	200	N	50	N	300	110
77066	N	30	N	100	200	N	50	N	200	120
77067	N	30	N	100	200	N	50	<200	200	90
77068	N	30	N	100	200	N	50	<200	300	100
77069	N	20	N	100	200	N	50	200	200	130
77070	N	30	N	100	150	N	50	N	300	90
77071	N	30	N	100	150	N	50	N	200	90
77072	N	30	N	100	200	N	50	200	200	170
77073	N	30	N	100	150	N	50	N	200	80
77074	N	30	N	100	200	N	50	N	200	110
77075	N	20	N	100	150	N	50	N	200	70
77076	N	20	N	100	150	N	30	N	150	95
77077	N	30	N	100	200	N	50	N	300	110
77078	N	20	N	100	150	N	50	N	300	100
77079	N	20	N	100	150	N	50	N	300	110
77080	N	20	N	100	200	N	50	200	200	180
77081	N	20	N	100	200	N	50	N	200	120
77082	N	20	N	100	200	N	50	N	300	100
77083	N	30	N	100	200	N	50	N	200	120
77084	N	30	N	100	200	N	50	N	700	95
77085	N	20	N	100	200	N	50	N	200	100
77086	N	20	N	100	200	N	50	N	500	110
77087	N	20	N	100	300	N	100	N	200	140
77088	N	20	N	100	200	N	50	N	200	110
77089	N	20	N	100	200	N	50	N	200	120

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
77090	67 51 54	154 40 24	5.0	1.00	.10	.70	1,000	N	N	N	100	500
77091	67 48 23	154 39 21	5.0	.70	.15	.50	1,000	N	N	N	70	500
77092	67 46 12	154 36 32	5.0	.70	.10	.50	1,000	N	N	N	70	500
77093	67 46 8	154 36 50	5.0	1.00	.10	.70	1,000	N	N	N	70	700
77094	67 47 56	154 40 21	7.0	1.00	.10	.70	1,000	N	N	N	70	700
77095	67 48 56	154 43 29	10.0	1.00	.15	.70	1,000	N	N	N	70	700
77096	67 51 6	154 46 12	7.0	1.00	.10	.70	700	N	N	N	70	500
77097	67 53 16	154 45 27	10.0	1.00	.15	.70	1,000	N	N	N	100	500
77098	67 53 2	154 50 12	7.0	1.00	.15	.70	1,000	N	N	N	70	500
77099	67 55 14	154 51 14	10.0	1.00	.15	.70	1,000	N	N	N	100	500
77100	67 54 11	154 54 47	7.0	1.00	.15	.70	1,000	N	N	N	70	500
77101	67 49 56	155 11 22	10.0	1.00	.15	.70	1,000	N	N	N	70	500
77102	67 48 18	155 4 13	10.0	1.00	.15	.70	1,000	N	N	N	70	500
77103	67 47 35	155 6 36	10.0	1.00	.20	.70	1,000	N	N	N	70	500
77104	67 46 16	155 2 60	10.0	1.00	.20	.70	700	N	N	N	100	500
77105	67 45 38	155 4 24	10.0	1.00	.15	.70	700	N	N	N	100	500
77106	67 53 22	154 8 3	10.0	1.00	.15	.70	1,000	N	N	N	100	500
77107	67 52 58	154 12 51	10.0	1.00	.20	.70	1,000	N	N	N	100	500
77108	67 52 5	154 11 42	10.0	1.00	.20	.70	700	N	N	N	70	500
77109	67 50 53	154 15 11	10.0	1.00	.15	.70	1,000	N	N	N	100	500
77110	67 49 36	154 13 55	10.0	1.00	.15	.70	1,000	N	N	N	70	500
77112	67 47 37	154 13 34	10.0	1.00	.20	.70	1,000	N	N	N	100	500
77113	67 46 24	154 16 52	10.0	1.00	.15	.70	1,000	N	N	N	50	500
77114	67 46 3	154 18 29	10.0	1.00	.10	.70	1,000	N	N	N	70	500
77115	67 47 12	154 25 1	15.0	1.50	.15	.70	1,000	N	N	N	100	500
77116	67 47 9	154 25 50	10.0	1.00	.15	.70	1,000	N	N	N	70	500
77117	67 48 0	154 26 23	10.0	1.00	.15	1.00	1,000	N	N	N	100	700
77118	67 49 1	154 24 48	10.0	1.00	.15	.70	1,000	N	N	N	100	700
77119	67 49 51	154 29 26	10.0	1.00	.10	.70	1,000	N	N	N	100	500
77120	67 49 36	154 29 26	10.0	1.00	.15	.70	1,000	N	N	N	100	700
77121	67 50 54	154 21 39	10.0	1.00	.15	.70	1,000	N	N	N	100	500
77122	67 51 36	154 22 36	10.0	1.00	.15	.70	1,000	N	N	N	100	700
77123	67 53 27	154 21 7	10.0	.50	.15	.70	1,000	N	N	N	70	700
77124	67 54 2	154 18 3	10.0	.30	.10	.70	700	N	N	N	100	700
77125	67 55 25	154 28 14	10.0	.70	.10	.70	1,000	N	N	N	100	700
77126	67 55 27	154 29 8	10.0	.70	.20	.70	1,000	N	N	N	100	1,500
77127	67 58 54	154 23 3	7.0	.50	.15	.70	1,000	N	N	N	70	500
77128	67 57 29	154 16 5	7.0	.50	.10	.50	700	N	N	N	70	500
77129	67 55 52	154 5 45	7.0	.50	.15	.50	1,000	N	N	N	100	500
77130	67 56 20	154 2 49	7.0	1.00	.10	.70	700	N	N	N	100	500
77131	67 57 27	153 59 35	10.0	1.00	.20	.50	700	N	N	N	70	500
77132	67 58 1	153 59 33	5.0	.70	.20	.50	700	N	N	N	70	500
77133	67 58 35	153 56 10	10.0	1.00	.20	.70	700	N	N	N	70	500
77134	67 59 37	153 51 58	7.0	1.00	.20	.70	700	N	N	N	70	700
77135	67 58 35	153 42 48	15.0	1.50	.20	.70	700	N	N	N	70	700

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
77090	2.0	N	N	50	200	50	50	N	N	70	30
77091	2.0	N	N	50	150	30	50	N	N	70	20
77092	2.0	N	N	50	150	30	50	N	N	70	20
77093	2.0	N	N	50	200	50	70	N	<20	100	20
77094	2.0	N	N	50	300	70	70	N	<20	100	30
77095	2.0	N	N	50	200	70	50	N	<20	100	30
77096	2.0	N	N	50	200	50	50	N	<20	100	30
77097	2.0	N	N	50	200	70	50	N	<20	100	50
77098	2.0	N	N	50	200	30	50	N	<20	100	30
77099	2.0	N	N	70	300	70	70	N	<20	100	50
77100	2.0	N	N	50	200	50	50	N	<20	100	20
77101	2.0	N	N	50	200	70	70	N	<20	100	50
77102	2.0	N	N	50	200	50	70	N	<20	100	30
77103	2.0	N	N	50	300	50	70	N	<20	100	30
77104	2.0	N	N	50	200	70	50	N	<20	100	20
77105	2.0	N	N	70	300	100	50	N	<20	100	30
77106	2.0	N	N	50	200	70	70	N	<20	100	30
77107	2.0	N	N	50	200	70	70	N	<20	100	30
77108	2.0	N	N	50	150	70	70	N	<20	100	30
77109	2.0	N	N	50	200	100	70	N	<20	100	30
77110	2.0	N	N	50	200	70	50	N	<20	100	30
77112	2.0	N	N	70	200	100	50	N	<20	100	30
77113	2.0	N	N	50	150	50	50	N	<20	100	30
77114	2.0	N	N	70	200	100	50	N	<20	100	30
77115	1.0	N	N	100	300	100	70	N	<20	150	50
77116	2.0	N	N	70	200	100	50	N	<20	100	50
77117	2.0	N	N	70	200	70	50	N	<20	150	50
77118	2.0	N	N	70	200	50	50	N	<20	150	100
77119	2.0	N	N	50	200	50	50	N	<20	100	50
77120	2.0	N	N	50	200	50	70	N	<20	150	50
77121	2.0	N	N	50	200	70	50	N	<20	150	50
77122	2.0	N	N	50	200	70	70	N	<20	150	30
77123	2.0	N	N	50	200	70	50	N	<20	100	30
77124	2.0	N	N	50	200	50	50	N	<20	100	50
77125	2.0	N	N	50	200	50	50	N	<20	100	50
77126	2.0	N	N	50	200	70	50	N	<20	100	20
77127	2.0	N	N	30	150	30	50	N	<20	100	20
77128	1.5	N	N	30	200	30	50	N	<20	70	10
77129	1.5	N	N	50	200	50	50	N	<20	100	20
77130	1.5	N	N	50	200	50	50	N	<20	100	20
77131	1.5	N	N	50	200	30	50	N	<20	100	30
77132	1.5	N	N	50	150	30	50	N	<20	70	20
77133	1.5	N	N	50	200	30	50	N	<20	100	20
77134	1.5	N	N	50	200	30	50	N	<20	100	20
77135	1.0	N	N	50	300	70	50	N	<20	150	20

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
77090	N	30	N	100	300	N	50	N	300	130
77091	N	20	N	100	200	N	50	N	200	120
77092	N	20	N	100	200	N	50	N	200	100
77093	N	50	N	<100	200	N	70	N	300	100
77094	N	50	N	<100	200	N	50	N	500	100
77095	N	30	N	<100	200	N	70	N	300	100
77096	N	30	N	<100	200	N	50	N	300	100
77097	N	30	N	<100	200	N	50	<200	300	110
77098	N	30	N	<100	200	N	50	N	200	100
77099	N	30	N	<100	200	N	50	<200	500	140
77100	N	30	N	<100	200	N	50	<200	200	110
77101	N	50	N	<100	200	N	70	N	300	110
77102	N	50	N	<100	200	N	70	N	500	95
77103	N	50	N	<100	200	N	50	N	300	95
77104	N	50	N	<100	300	N	70	N	300	120
77105	N	30	N	<100	300	N	50	<200	200	140
77106	N	30	N	<100	300	N	50	<200	500	120
77107	N	30	N	<100	300	N	70	N	300	100
77108	N	30	N	<100	300	N	50	N	500	110
77109	N	30	N	<100	300	N	50	N	500	120
77110	N	30	N	<100	300	N	50	N	300	130
77112	N	50	N	<100	300	N	70	N	500	110
77113	N	30	N	<100	300	N	50	N	300	95
77114	N	30	N	<100	300	N	70	N	300	110
77115	N	50	N	<100	300	N	70	N	500	110
77116	N	30	N	<100	300	N	50	<200	300	100
77117	N	50	N	100	300	N	70	N	300	110
77118	N	50	N	100	300	N	70	200	300	220
77119	N	30	N	100	300	N	50	<200	200	110
77120	N	30	N	100	300	N	70	N	200	110
77121	N	30	N	100	300	N	50	<200	200	120
77122	N	50	N	100	300	N	70	N	500	110
77123	N	50	N	100	300	N	50	N	700	110
77124	N	30	N	100	300	N	50	N	300	110
77125	N	30	N	100	300	N	50	N	300	100
77126	N	30	N	100	300	N	70	N	200	100
77127	N	20	N	100	300	N	50	N	300	100
77128	N	20	N	100	200	N	50	N	300	80
77129	N	20	N	100	300	N	50	N	300	90
77130	N	20	N	100	300	N	50	N	300	85
77131	N	20	N	100	300	N	50	N	300	85
77132	N	20	N	100	300	N	50	N	200	80
77133	N	20	N	100	300	N	50	N	300	90
77134	N	20	N	100	300	N	50	N	300	100
77135	N	50	N	100	300	N	50	N	300	100

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
77136	67 55 59	153 40 22	10.0	1.00	.20	.70	1,000	N	N	N	70	500
77137	67 55 56	153 38 59	10.0	1.00	.15	.70	1,000	N	N	N	70	500
77138	67 55 45	153 46 48	7.0	1.00	.20	.70	1,000	N	N	N	70	500
77139	67 55 15	153 52 9	10.0	1.00	.20	.70	1,000	N	N	N	70	700
77140	67 54 57	153 50 50	10.0	1.00	.15	.70	1,000	N	N	N	70	700
77141	67 54 34	153 55 40	10.0	.70	.15	.70	700	N	N	N	70	500
77142	67 53 45	154 2 59	10.0	1.00	.20	.70	700	N	N	N	70	500
77143	67 50 8	154 6 18	5.0	.70	.20	.70	500	N	N	N	70	500
77144	67 48 54	154 3 35	5.0	.70	.10	.70	300	N	N	N	70	500
77145	67 47 54	154 5 53	7.0	.70	.20	.70	300	N	N	N	70	500
77146	67 46 29	154 4 42	5.0	.50	.15	.70	300	N	N	N	70	500
77147	67 44 45	154 0 20	5.0	.50	.10	.70	200	N	N	N	70	500
77148	67 43 5	153 58 11	5.0	.70	.10	.70	300	N	N	N	70	500
77149	67 42 19	153 54 1	5.0	1.00	.30	.50	300	N	N	N	70	500
77150	67 40 52	153 55 49	5.0	1.00	3.00	.70	300	N	N	N	70	500
77151	67 39 16	153 55 37	5.0	1.00	3.00	.50	300	N	N	N	100	700
77152	67 39 4	153 59 43	5.0	1.00	5.00	.50	300	N	N	N	70	500
77153	67 38 35	154 6 2	5.0	1.00	5.00	.50	300	N	N	N	70	500
77154	67 41 34	154 4 50	5.0	1.00	.15	.50	300	N	N	N	70	500
77155	67 41 31	154 5 27	5.0	1.00	.15	.50	300	N	N	N	70	500
77156	67 41 29	154 12 57	5.0	1.00	.20	.70	300	N	N	N	70	500
77157	67 43 57	154 11 46	5.0	1.00	.20	.70	500	N	N	N	70	500
77158	67 44 0	154 12 29	5.0	1.00	.30	.70	500	N	N	N	70	500
77159	67 37 19	154 1 1	5.0	.70	.50	.50	500	N	N	N	70	500
77160	67 37 35	153 47 2	5.0	1.00	1.50	.50	300	N	N	N	70	500
77161	67 38 1	153 48 8	5.0	.70	1.00	.70	300	N	N	N	70	500
77162	67 39 38	153 47 2	5.0	1.00	3.00	.50	300	N	N	N	70	700
77163	67 40 21	153 44 57	5.0	1.00	1.00	.70	300	N	N	N	100	500
77164	67 41 31	153 45 3	5.0	1.50	3.00	.50	300	N	N	N	70	500
77165	67 42 28	153 47 14	5.0	1.00	3.00	.50	200	N	N	N	70	500
77166	67 44 0	153 45 60	3.0	1.00	3.00	.70	300	N	N	N	70	700
77167	67 45 49	153 57 56	3.0	1.00	1.00	.70	300	N	N	N	70	700
77168	67 48 37	153 57 28	5.0	.70	.20	1.00	500	N	N	N	70	700
77169	67 48 29	153 55 44	5.0	1.00	.20	1.00	300	N	N	N	70	700
77170	67 51 35	153 53 13	5.0	1.00	.20	.50	300	N	N	N	70	700
77171	67 51 18	153 55 7	5.0	1.00	.20	.70	500	N	N	N	70	500
77172	67 50 31	153 48 15	5.0	1.00	.30	.70	300	N	N	N	100	700
77173	67 50 57	153 45 54	5.0	1.00	.20	.70	300	N	N	N	70	500
77174	67 51 41	153 35 46	5.0	1.00	.20	.50	300	N	N	N	70	500
77175	67 50 44	153 34 6	5.0	.50	.50	.70	300	N	N	N	70	500
77176	67 46 29	153 47 46	3.0	1.00	.50	.50	500	N	N	N	100	700
77177	67 47 30	153 46 9	5.0	1.00	1.00	.70	300	N	N	N	100	700
77178	67 47 22	153 39 11	3.0	1.00	1.00	.50	300	N	N	N	70	700
77179	67 46 5	153 38 2	3.0	1.00	3.00	.50	200	N	N	N	70	500
77180	67 52 49	153 8 54	3.0	1.00	.20	.70	300	N	N	N	70	500

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
77136	1.5	N	N	70	200	50	70	N	<20	100	30
77137	1.5	N	N	50	200	150	50	N	<20	150	20
77138	1.5	N	N	50	200	30	50	N	<20	100	20
77139	1.5	N	N	100	300	100	50	N	<20	150	50
77140	2.0	N	N	70	200	50	50	N	<20	100	50
77141	2.0	N	N	50	100	30	50	N	<20	100	20
77142	2.0	N	N	50	100	50	50	N	<20	100	20
77143	2.0	N	N	50	300	30	50	N	<20	70	50
77144	2.0	N	N	50	200	30	50	N	<20	70	30
77145	2.0	N	N	50	200	50	50	N	<20	70	50
77146	1.0	N	N	50	150	30	50	N	<20	50	15
77147	1.0	N	N	50	150	30	50	N	<20	50	20
77148	1.0	N	N	50	200	30	50	N	<20	50	30
77149	1.0	N	N	50	200	30	50	N	<20	70	20
77150	1.0	N	N	30	100	30	50	N	<20	50	50
77151	1.0	N	N	50	100	20	50	N	<20	50	20
77152	1.0	N	N	30	100	30	50	N	<20	50	20
77153	1.0	N	N	30	100	30	50	N	<20	50	20
77154	1.0	N	N	50	200	50	50	N	<20	70	50
77155	1.0	N	N	50	200	30	50	N	<20	70	50
77156	1.0	N	N	50	200	50	50	N	<20	50	20
77157	1.0	N	N	50	200	30	50	N	<20	50	20
77158	1.0	N	N	50	200	50	50	N	<20	70	20
77159	1.0	N	N	50	100	30	50	N	<20	50	30
77160	1.0	N	N	50	150	30	50	N	<20	50	30
77161	1.0	N	N	50	150	30	50	N	<20	50	30
77162	1.0	N	N	30	150	30	50	N	<20	50	30
77163	1.0	N	N	50	200	50	50	N	<20	50	50
77164	1.0	N	N	50	200	50	70	N	<20	50	30
77165	1.0	N	N	50	150	30	70	N	<20	50	30
77166	2.0	N	N	50	200	20	50	N	<20	70	30
77167	2.0	N	N	50	200	30	50	N	<20	70	30
77168	2.0	N	N	70	200	30	50	N	<20	70	30
77169	1.5	N	N	70	300	50	50	N	<20	70	50
77170	1.0	N	N	70	200	30	50	N	<20	70	50
77171	1.0	N	N	70	200	30	50	N	<20	70	30
77172	1.0	N	N	70	200	50	50	N	<20	70	50
77173	1.0	N	N	70	200	50	50	N	<20	70	50
77174	1.0	N	N	50	200	30	50	N	<20	70	30
77175	1.0	N	N	50	150	20	50	N	<20	70	30
77176	1.0	N	N	50	150	50	70	N	<20	50	15
77177	1.0	N	N	50	150	50	50	N	<20	70	30
77178	1.0	N	N	50	150	30	50	N	<20	70	30
77179	1.0	N	N	30	100	30	50	N	<20	50	20
77180	1.0	N	N	50	200	50	50	N	<20	70	50

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
77136	N	20	N	100	300	N	50	N	300	110
77137	N	50	N	100	300	N	70	N	300	55
77138	N	20	N	100	200	N	50	N	300	85
77139	N	30	N	100	300	N	50	N	300	110
77140	N	50	N	100	300	N	70	N	500	110
77141	N	30	N	100	300	N	50	N	300	85
77142	N	30	N	100	300	N	50	N	300	100
77143	N	30	N	200	200	N	30	<200	200	120
77144	N	30	N	200	200	N	30	<200	150	120
77145	N	50	N	200	200	N	50	<200	200	120
77146	N	20	N	200	200	N	30	<200	150	130
77147	N	20	N	200	200	N	30	<200	100	130
77148	N	30	N	200	200	N	50	<200	150	130
77149	N	30	N	200	200	N	50	<200	200	100
77150	N	20	N	200	200	N	30	<200	100	80
77151	N	20	N	200	200	N	30	<200	200	80
77152	N	20	N	200	200	N	30	<200	100	70
77153	N	20	N	200	200	N	30	<200	100	70
77154	N	30	N	200	200	N	30	<200	150	140
77155	N	30	N	200	200	N	30	<200	100	140
77156	N	30	N	200	200	N	50	<200	150	140
77157	N	30	N	200	200	N	50	<200	200	110
77158	N	30	N	200	200	N	50	<200	200	100
77159	N	20	N	200	200	N	30	<200	200	80
77160	N	20	N	200	200	N	30	<200	200	90
77161	N	20	N	200	200	N	50	<200	150	90
77162	N	20	N	200	200	N	30	<200	150	120
77163	N	20	N	200	200	N	30	<200	200	80
77164	N	20	N	200	200	N	50	<200	200	60
77165	N	20	N	200	200	N	30	<200	200	70
77166	N	20	N	200	150	N	30	<200	150	80
77167	N	20	N	200	200	N	30	<200	150	130
77168	N	30	N	200	200	N	30	<200	200	110
77169	N	30	N	200	200	N	30	<200	200	110
77170	N	20	N	200	150	N	30	<200	150	110
77171	N	30	N	200	200	N	50	<200	200	110
77172	N	30	N	200	200	N	30	<200	150	120
77173	N	30	N	200	200	N	30	<200	150	120
77174	N	30	N	200	200	N	30	<200	150	120
77175	N	20	N	200	200	N	30	<200	300	80
77176	N	20	N	200	200	N	30	200	150	130
77177	N	30	N	200	200	N	30	<200	300	80
77178	N	20	N	200	200	N	30	<200	200	70
77179	N	20	N	200	150	N	30	<200	200	60
77180	N	20	N	200	200	N	30	<200	200	110

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
77181	67 52 10	153 10 14	3.0	1.00	.20	.70	300	N	N	N	70	500
77182	67 52 40	153 7 14	5.0	1.00	.20	.50	300	N	N	N	100	500
77183	67 56 6	153 6 24	3.0	1.00	.20	.50	70	N	N	N	100	500
77184	67 58 29	153 3 54	5.0	.70	.30	.70	500	N	N	N	70	500
77185	67 57 33	153 14 1	3.0	.50	.50	.70	300	N	N	N	100	700
77186	67 56 34	153 19 52	3.0	.70	.30	.70	500	N	N	N	100	700
77187	67 58 2	153 24 44	5.0	.30	.30	.70	300	N	N	N	70	500
77188	67 58 55	153 28 12	3.0	.30	.30	.70	300	N	N	N	70	500
77189	67 54 32	153 32 46	3.0	1.00	.20	.70	300	N	N	N	70	500
77190	67 52 6	153 29 50	3.0	1.00	.20	.70	300	N	N	N	100	500
77191	67 50 31	153 23 42	3.0	.50	.30	.70	300	N	N	N	70	500
77192	67 51 37	153 22 33	3.0	.70	.15	.70	200	N	N	N	70	1,000
77193	67 53 30	153 21 50	5.0	1.00	.15	.70	500	N	N	N	70	1,000
77194	67 54 46	153 18 39	5.0	.70	.15	.70	200	N	N	N	70	700
77195	67 50 6	153 15 4	5.0	1.00	.15	.70	200	N	N	N	70	1,000
77196	67 49 22	153 13 1	5.0	1.00	.15	.70	300	N	N	N	50	700
77197	67 49 47	153 5 21	3.0	1.00	.15	.50	300	N	N	N	50	700
77198	67 50 2	153 4 59	3.0	.70	.15	.50	300	N	N	N	70	700
77199	67 48 51	153 1 32	5.0	.70	.15	.50	500	N	N	N	70	500
77200	67 46 19	153 10 19	5.0	1.00	.20	.70	300	N	N	N	70	1,000
77201	67 44 19	153 14 14	5.0	1.00	.30	.50	300	N	N	N	100	1,000
77202	67 43 14	153 16 48	3.0	.70	.30	.70	300	N	N	N	100	1,000
77203	67 43 10	153 16 12	2.0	.70	.70	.70	300	N	N	N	70	700
77205	67 43 36	153 12 45	2.0	1.00	.70	.50	300	N	N	N	100	700
77206	67 45 3	153 5 50	2.0	1.00	.70	.50	300	N	N	N	100	1,000
77207	67 45 7	153 3 33	5.0	1.00	.50	.50	500	N	N	N	100	500
77208	67 43 29	153 1 39	3.0	1.00	5.00	.70	300	N	N	N	100	1,500
77209	67 41 28	153 2 53	3.0	1.00	1.50	.50	300	N	N	N	100	700
77210	67 39 54	153 8 24	3.0	1.00	3.00	.50	300	N	N	N	100	700
77211	67 38 42	153 7 0	5.0	1.00	1.00	.50	500	N	N	N	100	700
77212	67 37 22	153 9 17	2.0	1.00	1.50	.50	300	N	N	N	70	500
77213	67 36 45	153 12 8	3.0	1.50	3.00	.50	300	N	N	N	100	700
77214	67 45 56	153 26 20	3.0	1.00	2.00	.50	500	N	N	N	100	700
77215	67 45 43	153 26 14	3.0	.70	.50	.70	500	N	N	N	70	700
77216	67 46 7	153 29 0	3.0	.70	.50	.70	300	N	N	N	70	1,500
77217	67 45 45	153 33 24	3.0	1.00	2.00	.70	500	N	N	N	100	700
77217A	67 45 45	153 33 24	10.0	.50	.50	.50	300	N	N	N	70	500
77218	67 45 16	153 35 6	3.0	1.50	5.00	.70	300	N	N	N	100	500
77219	67 45 8	153 36 8	5.0	1.50	3.00	.70	300	N	N	N	70	700
77220	67 41 34	153 31 3	2.0	1.50	3.00	.50	200	N	N	N	100	700
77221	67 42 8	153 26 1	5.0	1.50	2.00	.70	300	N	N	N	100	500
77222	67 42 2	153 25 45	5.0	1.00	.50	.70	300	N	N	N	100	500
77223	67 40 36	153 30 32	3.0	1.50	3.00	.50	200	N	N	N	100	700
77224	67 39 12	153 33 33	2.0	1.50	3.00	.50	300	N	N	N	70	700
77225	67 37 38	153 30 55	3.0	1.50	5.00	.50	300	N	N	N	70	700

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
77181	1.0	N	N	70	200	50	50	N	<20	70	20
77182	1.0	N	N	70	200	50	50	N	<20	70	30
77183	1.0	N	N	50	200	30	50	N	<20	70	15
77184	1.0	N	N	50	200	50	50	N	<20	70	30
77185	1.0	N	N	50	150	30	50	N	<20	50	20
77186	1.0	N	N	50	200	50	50	N	<20	70	30
77187	1.0	N	N	30	150	20	50	N	<20	50	10
77188	1.0	N	N	50	150	20	50	N	<20	50	10
77189	1.0	N	N	50	200	20	50	N	<20	70	30
77190	1.0	N	N	50	200	50	50	N	<20	70	50
77191	1.0	N	N	50	100	20	70	N	<20	50	30
77192	1.0	N	N	50	200	30	50	N	<20	70	50
77193	1.0	N	N	70	300	50	50	N	<20	70	50
77194	1.0	N	N	50	200	20	70	N	<20	70	30
77195	1.0	N	N	70	200	50	50	N	<20	70	30
77196	1.0	N	N	100	200	50	50	N	<20	70	50
77197	1.0	N	N	70	200	30	50	N	<20	70	20
77198	1.0	N	N	70	200	30	50	N	<20	70	20
77199	1.0	N	N	100	200	70	50	N	<20	70	50
77200	1.0	N	N	100	200	50	50	N	<20	70	50
77201	1.0	N	N	100	300	70	50	N	<20	70	50
77202	1.0	N	N	70	150	30	70	N	<20	70	20
77203	1.0	N	N	30	100	20	70	N	<20	50	20
77205	1.0	N	N	30	100	20	70	N	<20	50	20
77206	1.0	N	N	30	100	50	70	15	<20	70	20
77207	1.0	N	N	70	300	100	50	N	<20	70	50
77208	1.0	N	N	50	200	50	50	N	<20	70	30
77209	1.0	N	N	50	100	20	100	N	<20	50	20
77210	1.0	N	N	50	150	70	100	N	<20	50	20
77211	1.0	N	N	70	200	70	100	N	<20	70	30
77212	1.0	N	N	50	100	20	70	N	<20	50	20
77213	1.0	N	N	50	200	30	70	N	<20	70	30
77214	1.0	N	N	50	150	30	70	N	<20	70	30
77215	2.0	N	N	50	200	30	50	N	<20	70	20
77216	1.5	N	N	50	200	50	50	N	<20	70	20
77217	1.5	N	N	100	200	50	50	<5	<20	150	50
77217A	2.0	<10	N	70	70	50	50	N	<20	150	20
77218	1.0	N	N	70	200	30	70	N	<20	70	50
77219	1.0	N	N	50	200	30	100	N	<20	70	20
77220	1.5	N	N	30	150	50	50	<5	<20	70	30
77221	1.5	N	N	70	200	30	100	N	<20	70	30
77222	1.0	N	N	50	200	20	100	N	<20	70	20
77223	1.0	N	N	30	150	30	100	<5	<20	70	20
77224	1.0	N	N	30	150	50	50	<5	<20	70	30
77225	1.0	N	N	50	150	30	70	<5	<20	70	30

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
77181	N	30	N	200	200	N	30	<200	200	120
77182	N	30	N	200	200	N	30	<200	200	120
77183	N	20	N	200	200	N	30	200	150	130
77184	N	20	N	200	200	N	30	<200	300	70
77185	N	20	N	200	200	N	30	<200	200	100
77186	N	20	N	200	200	N	30	<200	200	80
77187	N	20	N	200	200	N	30	<200	200	75
77188	N	20	N	200	200	N	30	<200	200	85
77189	N	20	N	200	200	N	30	<200	200	110
77190	N	20	N	200	200	N	30	<200	200	120
77191	N	20	N	200	100	N	50	<200	200	40
77192	N	20	N	200	200	N	30	<200	200	150
77193	N	30	N	200	200	N	30	<200	150	140
77194	N	30	N	200	200	N	30	<200	150	140
77195	N	30	N	200	200	N	50	<200	150	140
77196	N	30	N	200	200	N	30	<200	100	120
77197	N	30	N	200	200	N	30	<200	150	120
77198	N	30	N	200	200	N	30	<200	150	130
77199	N	30	N	200	200	N	30	200	200	140
77200	N	30	N	200	200	N	30	<200	150	130
77201	N	30	N	200	300	N	50	<200	200	120
77202	N	30	N	200	200	N	50	<200	200	120
77203	N	20	N	200	150	N	30	<200	200	70
77205	N	20	N	200	150	N	50	<200	300	70
77206	N	20	N	200	300	N	30	500	200	220
77207	N	50	N	200	200	N	50	<200	200	110
77208	N	20	N	500	300	N	30	300	100	180
77209	N	20	N	200	200	N	30	<200	200	90
77210	N	20	N	200	200	N	30	<200	300	80
77211	N	30	N	200	200	N	50	<200	300	80
77212	N	20	N	200	200	N	30	<200	200	60
77213	N	20	N	200	200	N	30	<200	150	100
77214	N	20	N	200	200	N	30	<200	200	110
77215	N	30	N	200	200	N	30	200	200	120
77216	N	30	N	200	200	N	50	200	300	160
77217	N	30	N	200	200	N	50	500	300	400
77217A	N	15	N	150	150	N	150	1,000	200	1,500
77218	N	30	N	200	150	N	30	<200	150	70
77219	N	20	N	200	200	N	30	<200	200	80
77220	N	20	N	200	200	N	30	300	100	180
77221	N	30	N	200	200	N	50	<200	500	80
77222	N	30	N	200	200	N	50	<200	300	70
77223	N	20	N	200	200	N	30	<200	200	110
77224	N	20	N	200	200	N	30	200	100	130
77225	N	20	N	200	200	N	50	200	300	90

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
77226	67 36 48	153 24 60	3.0	1.50	3.00	.50	300	N	N	N	70	700
77227	67 36 41	153 24 34	3.0	1.50	3.00	.50	500	N	N	N	100	1,000
77228	67 34 43	153 29 13	5.0	1.50	2.00	.70	500	N	N	N	70	700
77229	67 34 43	154 11 42	7.0	2.00	1.50	.70	700	N	N	N	70	500
77230	67 37 59	154 15 16	5.0	1.50	.50	.50	300	N	N	N	70	1,000
77231	67 38 26	154 16 37	5.0	1.50	.20	.70	500	N	N	N	50	700
77232	67 39 21	154 20 51	5.0	1.00	.15	.50	300	N	N	N	70	500
77233	67 41 0	154 22 49	3.0	1.00	.15	.50	500	N	N	N	70	500
77234	67 40 52	154 24 34	3.0	1.00	.15	.50	500	N	N	N	70	500
77235	67 38 1	154 24 31	3.0	1.00	5.00	.50	300	N	N	N	50	300
77236	67 41 49	154 29 58	10.0	1.50	.20	.70	300	N	N	N	70	500
77237	67 42 39	154 34 41	5.0	1.00	.10	.70	300	N	N	N	70	500
77238	67 42 26	154 37 59	10.0	1.50	.10	.50	300	N	N	N	100	500
77239	67 43 3	154 46 8	5.0	1.00	.15	.50	50	N	N	N	100	500
77240	67 43 1	154 49 6	7.0	1.00	.15	.50	30	N	N	N	100	500
77241	67 44 12	154 56 30	2.0	.70	.15	.50	30	N	N	N	70	500
77242	67 44 32	155 1 36	7.0	1.00	.20	.50	50	N	N	N	100	500
77243	67 42 36	154 57 12	7.0	1.50	.70	.50	300	N	N	N	100	500
77244	67 42 25	154 51 50	7.0	1.50	3.00	.50	500	N	N	N	100	500
77245	67 41 51	154 49 54	5.0	1.50	2.00	.50	300	N	N	N	70	300
77246	67 40 32	154 40 34	5.0	1.50	3.00	.50	300	N	N	N	100	300
77247	67 38 18	154 42 57	10.0	1.50	.50	.70	500	N	N	N	100	500
77248	67 37 59	154 43 31	1.5	1.00	15.00	.30	200	N	N	N	50	200
77249	67 38 1	154 43 0	1.0	1.50	20.00	.30	200	N	N	N	10	100
77250	67 40 25	154 37 4	5.0	1.50	7.00	.50	500	N	N	N	70	500
77251	67 40 35	154 31 27	10.0	1.50	.50	.50	500	N	N	N	70	500
77252	67 39 25	154 28 15	5.0	1.50	3.00	.50	200	N	N	N	70	700
77253	67 37 1	154 25 26	2.0	.50	2.00	.50	300	N	N	N	70	500
77254	67 35 37	154 25 10	3.0	.70	3.00	.70	300	N	N	N	50	500
77255	67 34 50	154 19 3	3.0	.70	1.00	.70	500	N	N	N	70	300
77256	67 33 58	154 13 50	3.0	.70	10.00	.20	200	N	N	N	20	200
77257	67 32 2	154 10 21	5.0	1.00	.70	.70	700	N	N	N	50	300
77258	67 30 50	154 1 25	5.0	1.00	10.00	.70	300	N	N	N	50	200
77259	67 33 0	154 40 53	3.0	1.00	2.00	.70	500	N	N	N	50	200
77260	67 33 15	154 40 57	5.0	1.50	10.00	.50	300	N	N	N	50	300
77261	67 33 46	154 37 22	3.0	1.00	7.00	.50	200	N	N	N	70	300
77262	67 33 27	154 36 38	5.0	1.00	7.00	.50	500	N	N	N	30	500
77263	67 35 48	154 33 44	3.0	1.00	7.00	.50	200	N	N	N	50	200
77264	67 35 43	154 34 11	3.0	1.50	15.00	.30	200	N	N	N	50	200
77265	67 31 45	154 31 7	3.0	1.00	5.00	.50	500	N	N	N	100	200
77266	67 30 43	154 33 9	3.0	1.50	5.00	.50	300	N	N	N	50	300
77267	67 30 33	154 32 49	3.0	1.50	2.00	.50	300	N	N	N	30	300
77268	67 32 32	154 31 43	7.0	1.50	5.00	.70	300	N	N	N	50	300
77269	67 30 54	154 15 41	3.0	1.00	3.00	.50	300	N	N	N	70	300
77270	67 30 47	154 14 14	3.0	1.00	7.00	.50	300	N	N	N	70	200

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
77226	1.0	N	N	50	150	20	70	N	<20	70	20
77227	1.5	N	N	50	150	50	50	10	<20	70	30
77228	1.5	N	N	50	200	50	70	N	<20	70	30
77229	1.0	N	N	100	300	100	100	N	<20	70	50
77230	1.0	N	N	50	200	50	50	N	<20	70	50
77231	1.0	N	N	70	300	50	50	N	<20	100	50
77232	1.0	N	N	50	300	30	50	N	<20	70	30
77233	1.0	N	N	50	300	30	50	N	<20	70	30
77234	1.0	N	N	50	200	20	70	N	<20	50	20
77235	1.0	N	N	50	150	300	50	N	<20	50	20
77236	1.0	N	N	100	500	100	70	N	<20	100	30
77237	1.0	N	N	70	200	70	70	N	<20	70	20
77238	1.0	N	N	50	300	70	70	N	<20	100	30
77239	1.0	N	N	50	200	50	50	N	<20	70	30
77240	1.0	N	N	50	200	30	50	N	<20	70	20
77241	1.0	N	N	30	150	20	50	N	<20	50	10
77242	1.0	N	N	50	200	70	100	N	<20	70	50
77243	1.0	N	N	100	200	70	50	N	<20	70	30
77244	1.0	N	N	50	200	30	70	N	<20	50	30
77245	1.0	N	N	50	150	30	50	N	<20	50	30
77246	1.0	N	N	50	150	30	50	N	<20	50	50
77247	1.0	N	N	100	200	150	70	N	<20	70	50
77248	N	N	N	<5	70	5	<20	N	N	<5	20
77249	N	N	N	<5	70	<5	<20	N	N	<5	20
77250	1.0	N	N	70	200	50	50	N	<20	70	30
77251	1.0	N	N	100	300	50	50	N	<20	100	50
77252	1.0	N	N	70	200	50	50	<5	<20	70	30
77253	1.0	N	N	20	70	50	100	N	<20	50	10
77254	1.0	N	N	50	150	70	50	N	<20	50	30
77255	1.0	N	N	50	100	20	50	N	<20	50	20
77256	1.0	N	N	20	100	10	50	N	<20	30	20
77257	1.0	N	N	100	150	50	70	N	<20	70	30
77258	1.0	N	N	30	100	20	50	N	<20	30	100
77259	1.0	N	N	30	50	20	50	N	<20	20	20
77260	1.0	N	N	50	200	50	50	N	<20	50	30
77261	1.0	N	N	50	200	30	50	N	<20	50	30
77262	1.0	N	N	50	70	20	50	N	<20	20	20
77263	1.0	N	N	30	100	15	70	N	<20	20	100
77264	1.0	N	N	20	100	10	50	N	<20	20	20
77265	1.0	N	N	20	100	20	70	N	<20	30	30
77266	1.0	N	N	30	70	20	50	N	<20	20	50
77267	1.0	N	N	20	70	20	50	N	<20	20	70
77268	1.0	N	N	50	200	30	50	N	<20	50	20
77269	1.0	N	N	20	150	20	70	N	<20	50	20
77270	1.0	N	N	20	150	50	50	N	<20	50	50

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
77226	N	20	N	200	150	N	30	<200	200	80
77227	N	20	N	200	300	N	30	200	150	120
77228	N	30	N	200	200	N	30	200	200	100
77229	N	50	N	200	200	N	30	<200	200	80
77230	N	30	N	200	200	N	30	<200	200	110
77231	N	30	N	200	200	N	100	<200	200	140
77232	N	30	N	200	200	N	30	<200	200	130
77233	N	20	N	200	200	N	30	<200	200	120
77234	N	20	N	200	200	N	30	<200	200	90
77235	N	20	N	200	200	N	30	<200	100	70
77236	N	30	N	200	200	N	30	<200	300	100
77237	N	20	N	200	200	N	30	<200	200	110
77238	N	30	N	200	300	N	30	<200	200	140
77239	N	20	N	200	200	N	30	<200	200	110
77240	N	20	N	200	200	N	30	<200	300	120
77241	N	20	N	200	200	N	30	<200	150	130
77242	N	30	N	200	200	N	30	<200	200	140
77243	N	30	N	200	200	N	30	<200	300	110
77244	N	30	N	200	200	N	30	<200	150	80
77245	N	20	N	200	150	N	20	<200	100	80
77246	N	30	N	200	150	N	30	<200	200	70
77247	N	30	N	200	200	N	30	<200	200	130
77248	N	<5	N	700	70	N	20	N	70	30
77249	N	<5	N	500	20	N	10	N	50	20
77250	N	30	N	200	200	N	50	<200	200	85
77251	N	30	N	200	200	N	30	<200	200	130
77252	N	20	N	200	200	N	20	N	100	100
77253	N	15	N	200	150	N	20	N	100	75
77254	N	20	N	300	150	N	20	N	100	65
77255	N	20	N	200	150	N	50	N	100	70
77256	N	10	N	1,000	100	N	20	N	50	30
77257	N	20	N	200	200	N	30	N	100	120
77258	N	20	20	300	100	N	30	<200	100	110
77259	N	20	N	200	100	N	30	N	150	50
77260	N	15	N	200	150	N	20	N	100	60
77261	N	15	N	300	150	N	30	N	100	70
77262	N	15	N	500	150	N	30	N	100	60
77263	N	10	N	300	100	N	30	N	100	45
77264	N	10	N	500	70	N	20	N	70	30
77265	N	10	N	200	100	N	30	N	200	65
77266	N	15	N	200	100	N	50	N	200	60
77267	N	10	50	200	100	N	30	N	150	50
77268	N	20	N	200	200	N	50	N	100	65
77269	N	15	N	200	200	N	30	<200	100	70
77270	N	10	20	200	150	N	30	<200	70	130

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
77271	67 29 21	154 17 52	5.0	1.00	3.00	.50	500	N	N	N	70	300
77272	67 28 10	154 17 47	3.0	1.00	5.00	.50	300	N	N	N	70	300
77273	67 26 56	154 20 8	5.0	1.00	2.00	.70	300	N	N	N	50	500
77274	67 25 55	154 19 58	3.0	1.00	7.00	.50	1,000	N	N	N	50	300
77275	67 24 37	154 23 13	5.0	2.00	2.00	.70	500	N	N	N	20	500
77276	67 24 5	154 20 45	3.0	1.50	5.00	.50	300	N	N	N	50	200
77277	67 22 41	154 21 17	3.0	1.50	5.00	.70	300	N	N	N	70	200
77278	67 22 41	154 22 28	3.0	1.50	1.50	1.00	1,000	N	N	N	50	200
77279	67 28 32	153 59 36	3.0	1.50	2.00	1.00	500	N	N	N	50	300
77280	67 26 43	154 3 10	3.0	1.50	10.00	.50	300	N	N	N	20	200
77281	67 25 42	154 5 3	3.0	.70	1.00	.30	200	N	N	N	10	200
77282	67 25 26	154 9 6	2.0	.20	.70	.30	200	N	N	N	10	200
77283	67 28 44	154 7 23	3.0	1.50	15.00	.50	300	N	N	N	50	200
77284	67 24 47	153 57 47	2.0	.20	1.00	.30	200	N	N	N	10	200
77285	67 24 29	153 55 6	3.0	1.00	2.00	.30	300	N	N	N	50	200
77286	67 24 42	153 52 24	3.0	1.50	10.00	.30	300	N	N	N	50	200
77287	67 22 23	153 56 4	2.0	.20	.20	.20	200	N	N	N	10	150
77288	67 22 9	153 56 28	2.0	.20	.50	.20	300	N	N	N	10	200
77289	67 21 53	153 56 7	5.0	1.00	2.00	.70	700	N	N	N	100	200
77290	67 24 6	153 48 19	1.0	1.50	20.00	.20	300	N	N	N	50	100
77291	67 33 12	154 24 13	2.0	1.00	5.00	.50	500	N	N	N	50	200
77292	67 33 19	154 24 19	7.0	1.50	1.00	.70	500	N	N	N	100	500
77293	67 33 39	154 23 27	7.0	1.00	2.00	.50	500	N	N	N	100	500
77294	67 35 52	154 5 55	2.0	.70	20.00	.20	200	N	N	N	30	150
77295	67 36 12	154 6 32	5.0	1.00	1.00	.70	500	N	N	N	100	300
77296	67 34 1	153 55 54	5.0	1.00	1.50	.50	500	N	N	N	100	300
77297	67 35 5	153 53 17	3.0	1.00	2.00	.50	300	N	N	N	50	200
77298	67 36 9	153 49 14	5.0	.70	.30	.70	300	N	N	N	100	700
77299	67 33 12	153 41 55	5.0	.70	.30	.70	500	N	N	N	100	500
77300	67 34 8	153 40 34	5.0	1.00	.50	.70	300	N	N	N	100	500
77301	67 34 8	153 39 54	5.0	1.00	1.00	.70	300	N	N	N	100	500
77302	67 32 36	153 36 56	5.0	1.00	2.00	.70	300	N	N	N	100	500
77303	67 31 3	153 42 49	5.0	1.00	1.00	.70	300	N	N	N	100	700
77304	67 29 29	153 50 11	5.0	1.00	1.00	.70	300	N	N	N	100	500
77305	67 28 26	153 50 42	2.0	1.00	10.00	.50	200	N	N	N	100	300
77306	67 26 57	153 46 4	2.0	1.00	15.00	.50	200	N	N	N	50	100
77307	67 29 56	153 43 22	2.0	.70	10.00	.50	300	N	N	N	100	700
77308	67 29 57	153 44 33	5.0	1.00	1.00	.50	300	N	N	N	100	500
77309	67 26 22	153 39 53	1.0	.70	15.00	.50	200	N	N	N	50	200
77310	67 27 7	153 37 13	2.0	1.00	15.00	.50	200	N	N	N	50	200
77311	67 27 44	153 32 28	2.0	.70	7.00	.50	300	N	N	N	100	500
77312	67 28 42	153 30 38	5.0	1.00	5.00	.50	500	N	N	N	100	500
77313	67 30 10	153 25 58	3.0	1.00	2.00	.50	300	N	N	N	100	500
77314	67 30 60	153 25 38	5.0	1.00	1.50	.70	300	N	N	N	100	500
77315	67 33 50	153 19 26	3.0	1.50	5.00	.50	200	N	N	N	70	700

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
77271	1.0	N	N	50	150	50	50	N	<20	50	30
77272	1.0	N	N	50	100	50	50	N	<20	30	70
77273	1.0	N	N	50	150	50	50	N	<20	30	50
77274	1.0	N	N	30	100	30	50	N	<20	30	50
77275	1.0	N	--	70	200	50	50	N	<20	50	70
77276	1.0	N	--	50	100	20	50	15	<20	30	70
77277	1.0	N	--	30	150	20	70	N	<20	30	20
77278	1.0	N	--	50	100	30	100	N	<20	30	30
77279	2.0	N	--	50	100	20	70	N	<20	30	50
77280	1.0	N	--	30	200	15	50	N	<20	30	100
77281	7.0	N	--	10	20	10	100	N	<20	<5	100
77282	7.0	N	--	<5	20	<5	100	N	<20	<5	50
77283	1.0	N	--	50	100	150	50	N	<20	30	100
77284	2.0	N	--	<5	20	<5	200	N	<20	<5	30
77285	5.0	<10	--	30	150	70	70	N	<20	30	100
77286	1.0	N	--	30	100	10	50	N	<20	30	50
77287	10.0	N	--	<5	<10	5	100	N	<20	<5	70
77288	7.0	N	--	<5	<10	5	150	N	<20	<5	70
77289	2.0	N	--	50	100	30	70	N	<20	20	70
77290	1.0	N	--	<5	70	<5	50	N	<20	10	20
77291	1.0	N	--	20	70	30	50	N	<20	20	30
77292	1.5	N	--	10	300	70	100	N	<20	100	50
77293	1.5	N	--	10	200	50	100	N	<20	100	50
77294	N	N	--	20	100	5	50	N	<20	10	10
77295	1.0	N	--	50	150	50	70	N	<20	70	50
77296	1.0	N	--	50	200	50	100	N	<20	100	50
77297	1.0	N	--	30	150	30	50	N	<20	30	30
77298	2.0	N	N	50	200	50	70	N	<20	100	50
77299	2.0	N	N	50	200	50	50	N	<20	70	20
77300	2.0	N	N	50	200	30	70	N	<20	70	20
77301	2.0	N	N	50	200	30	70	N	<20	70	20
77302	2.0	N	N	50	200	50	200	N	<20	70	30
77303	2.0	N	N	50	200	50	70	N	<20	70	30
77304	2.0	N	N	50	200	50	50	N	<20	70	50
77305	1.0	N	N	20	100	7	50	N	<20	20	15
77306	<1.0	N	N	20	70	5	50	N	<20	10	15
77307	1.0	N	N	20	100	10	150	N	<20	20	15
77308	2.0	N	N	50	200	30	100	N	<20	70	20
77309	1.0	N	N	20	70	5	50	N	<20	10	20
77310	<1.0	N	N	20	100	7	50	N	<20	10	20
77311	1.0	N	N	30	70	10	100	N	<20	20	15
77312	1.0	N	N	50	150	30	70	N	<20	70	30
77313	1.0	N	N	50	200	30	70	N	<20	70	15
77314	1.5	N	N	100	200	30	100	N	<20	100	50
77315	1.0	N	N	50	100	100	200	N	<20	50	30

samole	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
77271	N	20	N	200	150	N	50	N	300	50
77272	N	15	N	300	150	N	30	N	150	130
77273	N	20	N	200	150	N	50	N	150	80
77274	N	15	N	300	150	N	30	N	150	90
77275	N	30	N	200	150	N	50	N	200	65
77276	N	20	N	300	150	N	30	N	100	50
77277	N	20	N	300	150	N	30	N	100	35
77278	N	30	N	200	150	N	70	N	150	45
77279	N	20	30	200	150	N	50	N	150	80
77280	N	15	50	500	150	N	30	N	70	160
77281	N	10	50	200	50	N	150	N	300	90
77282	N	5	<10	200	30	N	150	N	500	30
77283	N	10	50	500	100	N	30	N	150	120
77284	N	10	<10	100	20	N	100	N	>1,000	25
77285	N	15	50	200	100	N	100	N	200	110
77286	N	15	<10	500	100	N	30	N	100	40
77287	N	5	<10	<100	20	N	150	N	1,000	60
77288	N	5	50	<100	20	N	150	N	1,000	50
77289	N	20	30	300	100	N	70	N	700	90
77290	N	<5	N	700	50	N	10	N	50	20
77291	N	15	N	300	100	N	30	N	200	60
77292	N	30	N	200	300	N	30	N	200	130
77293	N	20	N	300	300	N	50	N	200	100
77294	N	5	N	2,000	50	N	10	N	50	20
77295	N	20	N	200	200	N	50	N	300	75
77296	N	20	N	300	200	N	30	N	200	110
77297	N	10	N	200	150	N	20	N	200	75
77298	N	30	N	200	200	N	50	N	150	110
77299	N	30	N	200	200	N	30	200	150	120
77300	N	30	N	200	200	N	30	200	200	110
77301	N	30	N	200	200	N	70	200	200	100
77302	N	30	N	200	200	N	30	200	150	120
77303	N	30	N	300	200	N	30	200	200	130
77304	N	30	N	200	200	N	50	200	200	110
77305	N	20	N	300	100	N	20	<200	100	50
77306	N	10	N	500	50	N	15	N	50	30
77307	N	15	N	200	100	N	20	<200	70	60
77308	N	20	N	200	200	N	50	200	300	100
77309	N	10	N	300	50	N	15	N	100	40
77310	N	10	N	300	50	N	15	N	100	30
77311	N	10	N	300	70	N	20	N	300	55
77312	N	20	N	200	150	N	50	N	150	80
77313	N	20	N	200	200	N	30	<200	150	90
77314	N	30	N	200	200	N	50	N	300	110
77315	N	20	N	200	150	N	50	N	300	90

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
77316	67 33 41	153 16 30	5.0	1.00	1.00	.70	200	N	N	N	100	1,500
77317	67 28 36	153 27 17	2.0	.70	20.00	.15	200	N	N	N	50	200
77318	67 26 14	153 24 33	1.0	.50	20.00	.20	200	N	N	N	30	100
77319	67 25 19	153 27 54	3.0	1.00	3.00	.70	300	N	N	N	150	500
77320	67 23 31	153 42 18	2.0	1.00	2.00	.70	300	N	N	N	50	300
77321	67 23 60	153 39 6	2.0	1.00	20.00	.70	300	N	N	N	30	100
77322	67 22 41	153 33 50	2.0	1.00	15.00	.50	200	N	N	N	50	200
77323	67 23 44	153 32 55	3.0	1.50	5.00	.50	300	N	N	N	100	500
77324	67 24 32	153 29 16	1.5	1.00	15.00	.50	200	N	N	N	70	200
77325	67 22 35	153 22 45	1.5	1.00	15.00	.30	300	N	N	N	50	300
77326	67 22 29	153 22 52	2.0	1.00	15.00	.30	300	N	N	N	100	300
77327	67 21 2	153 24 32	1.5	1.00	15.00	.30	300	N	N	N	70	200
77328	67 20 3	153 21 48	1.0	1.50	20.00	.20	500	N	N	N	15	100
77329	67 19 57	153 21 47	1.5	1.50	3.00	.30	300	N	N	N	50	200
77330	67 23 53	153 14 6	1.5	1.50	20.00	.30	200	N	N	N	30	200
77331	67 24 15	153 13 49	2.0	1.50	20.00	.30	300	N	N	N	30	500
77332	67 23 26	153 9 44	1.5	1.50	10.00	.30	200	N	N	N	50	300
77333	67 22 43	153 6 41	1.0	1.50	20.00	.20	300	N	N	N	50	500
77334	67 25 45	153 4 30	2.0	.50	1.00	.50	300	N	N	N	50	300
77335	67 27 30	153 4 15	5.0	1.00	.50	.50	300	N	N	N	50	500
77336	67 29 45	153 2 45	7.0	1.00	.30	.50	500	N	N	N	100	500
77337	67 32 40	153 2 24	5.0	1.00	.20	1.00	300	N	N	N	70	500
77338	67 33 6	153 2 40	3.0	1.00	3.00	.50	300	N	N	N	50	300
77339	67 34 13	153 12 0	3.0	1.00	3.00	.50	300	N	N	N	50	300
77340	67 30 58	153 11 52	3.0	1.00	.20	.70	300	N	N	N	70	500
77341	67 30 43	153 11 34	3.0	.70	.20	.70	200	N	N	N	70	300
77342	67 30 20	153 12 39	3.0	.70	2.00	.50	300	N	N	N	70	300
77343	67 27 29	153 11 39	3.0	.70	7.00	.50	300	N	N	N	70	300
77344	67 27 7	153 8 24	3.0	.20	.20	.70	200	N	N	N	50	500
77345	67 25 19	153 7 60	3.0	.70	3.00	.50	300	N	N	N	70	500
77346	67 20 40	153 3 5	.5	1.00	10.00	.10	200	N	N	N	20	100
77347	67 20 10	153 2 60	3.0	1.50	5.00	.30	300	N	N	N	30	300
77348	67 19 59	153 10 35	5.0	1.50	7.00	.50	300	N	N	N	50	300
77349	67 19 54	153 12 59	1.5	1.50	20.00	.20	200	N	N	N	<10	50
77350	67 19 29	153 53 48	3.0	1.00	3.00	.50	300	N	N	N	50	200
77351	67 19 26	153 53 38	3.0	1.50	15.00	.70	300	N	N	N	50	200
77352	67 20 12	153 50 26	3.0	3.00	7.00	.50	300	N	N	N	50	200
77353	67 21 14	153 47 40	3.0	1.00	1.50	.50	300	N	N	N	70	300
77354	67 21 6	153 45 22	1.0	.70	1.00	.20	100	N	N	N	10	100
77355	67 19 56	153 40 27	3.0	1.50	10.00	.50	300	N	N	N	20	100
77356	67 18 11	153 36 6	2.0	1.50	7.00	.50	300	N	N	N	30	200
77357	67 15 43	153 33 47	3.0	2.00	10.00	.50	300	N	N	N	50	200
77358	67 15 41	153 30 46	2.0	2.00	10.00	.50	300	N	N	N	50	700
77359	67 12 8	153 26 37	2.0	1.50	2.00	.50	300	N	N	N	50	200
77360	67 14 4	153 21 39	5.0	3.00	5.00	.70	500	N	N	N	70	300

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
77316	1.0	N	N	100	200	50	150	N	<20	70	100
77317	<1.0	N	N	20	100	10	50	N	<20	20	50
77318	<1.0	N	N	10	50	7	50	N	<20	10	20
77319	1.5	N	N	50	150	20	100	N	<20	30	50
77320	1.0	N	N	30	100	10	100	N	<20	20	20
77321	<1.0	N	N	20	70	10	50	N	<20	10	20
77322	<1.0	N	N	20	70	15	50	N	<20	15	50
77323	1.0	N	N	50	150	30	50	N	<20	50	50
77324	<1.0	N	N	15	70	10	50	N	<20	15	50
77325	<1.0	N	N	15	100	10	50	N	<20	15	70
77326	1.0	N	N	20	100	15	50	N	<20	20	100
77327	<1.0	N	N	10	50	20	50	N	<20	10	20
77328	<1.0	N	N	<5	100	10	50	N	<20	<5	20
77329	<1.0	N	N	20	100	50	50	N	<20	15	30
77330	<1.0	N	N	15	100	20	50	N	<20	15	30
77331	<1.0	N	N	15	100	10	50	N	<20	20	30
77332	<1.0	N	N	15	70	10	50	N	<20	15	20
77333	<1.0	N	N	<5	70	10	50	N	<20	7	50
77334	1.0	N	N	30	70	10	50	N	<20	20	20
77335	1.0	N	N	50	150	50	150	N	<20	50	50
77336	1.0	N	N	50	200	70	200	N	<20	100	70
77337	1.5	N	N	70	200	50	70	N	<20	100	70
77338	1.0	N	N	20	100	20	50	N	<20	50	20
77339	1.0	N	N	50	100	30	50	N	<20	50	20
77340	1.5	N	N	50	150	20	70	N	<20	70	30
77341	1.5	N	N	50	200	50	70	N	<20	70	50
77342	1.5	N	N	30	150	20	70	N	<20	70	50
77343	1.0	N	N	30	100	20	70	N	<20	50	50
77344	1.0	N	N	30	70	20	200	N	<20	20	20
77345	1.0	N	N	50	150	30	50	N	<20	50	50
77346	<1.0	N	N	<5	50	7	<20	N	<20	<5	15
77347	1.0	N	N	50	100	30	50	N	<20	30	20
77348	<1.0	N	N	70	200	30	50	N	<20	50	30
77349	<1.0	N	N	15	70	15	<20	N	<20	10	10
77350	1.0	N	N	50	100	30	50	N	<20	30	70
77351	<1.0	N	N	50	100	30	<20	N	<20	20	50
77352	1.0	N	N	50	100	50	50	N	<20	30	50
77353	1.0	N	N	30	70	15	50	N	<20	30	50
77354	N	N	N	<5	50	10	50	N	<20	<5	N
77355	<1.0	N	N	50	70	20	50	N	<20	20	20
77356	<1.0	N	N	30	70	20	50	N	<20	20	20
77357	<1.0	N	N	30	70	70	70	N	<20	20	30
77358	1.0	N	N	20	70	10	50	N	<20	20	50
77359	<1.0	N	N	20	100	10	50	N	<20	30	30
77360	1.0	N	N	50	300	20	50	N	<20	50	30

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
77316	N	30	N	200	200	N	50	<200	300	130
77317	N	<5	N	300	50	N	10	N	70	60
77318	N	<5	N	500	20	N	10	N	200	30
77319	N	20	N	200	150	N	50	N	200	60
77320	N	20	N	200	100	N	30	N	300	50
77321	N	15	N	700	50	N	20	N	70	40
77322	N	5	N	500	50	N	10	N	70	30
77323	N	20	N	200	150	N	30	N	200	70
77324	N	5	N	300	50	N	20	N	100	50
77325	N	5	N	500	70	N	20	N	100	50
77326	N	10	N	700	100	N	30	N	300	60
77327	N	5	N	1,000	50	N	20	N	70	35
77328	N	<5	N	500	20	N	10	N	50	20
77329	N	7	N	200	70	N	10	N	70	70
77330	N	7	N	700	50	N	10	N	70	30
77331	N	5	N	700	50	N	10	N	70	35
77332	N	5	N	200	30	N	15	N	100	30
77333	N	5	N	1,000	20	N	10	N	70	30
77334	N	20	N	100	100	N	20	N	200	55
77335	N	20	N	100	150	N	50	N	500	70
77336	N	50	N	100	200	N	30	200	200	110
77337	N	30	N	200	200	N	50	<200	200	120
77338	N	15	N	200	100	N	20	<200	100	65
77339	N	20	N	200	100	N	30	<200	150	75
77340	N	20	N	100	150	N	30	<200	200	110
77341	N	20	N	100	150	N	30	<200	200	110
77342	N	20	N	200	150	N	30	200	100	110
77343	N	15	N	300	100	N	20	<200	200	80
77344	N	15	N	100	100	N	70	N	500	50
77345	N	20	N	200	150	N	30	<200	150	90
77346	N	<5	N	500	20	N	10	N	50	20
77347	N	15	N	500	100	N	20	<200	70	70
77348	N	15	N	300	100	N	20	N	100	50
77349	N	5	N	700	70	N	<10	N	30	20
77350	N	15	N	300	100	N	20	N	150	70
77351	N	20	N	700	70	N	20	N	200	30
77352	N	20	N	300	150	N	30	N	100	40
77353	N	20	N	200	100	N	30	N	200	55
77354	N	N	N	N	<10	N	N	N	20	45
77355	N	20	N	300	100	N	30	N	200	35
77356	N	20	N	300	150	N	20	N	70	50
77357	N	20	N	300	70	N	50	N	200	30
77358	N	15	N	300	100	N	20	N	70	50
77359	N	15	N	200	100	N	20	N	150	40
77360	N	20	N	200	150	N	20	N	100	45

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
77361	67 10 44	153 19 20	2.0	1.50	15.00	.70	300	N	N	N	50	100
77362	67 8 8	153 24 8	5.0	1.00	2.00	.70	300	N	N	N	70	500
77363	67 4 14	153 33 14	5.0	1.00	.20	.70	300	N	N	N	100	700
77364	67 2 14	153 39 8	3.0	.50	1.00	.70	300	N	N	N	50	500
77365	67 1 27	153 32 55	2.0	1.00	.70	.70	300	N	N	N	70	1,000
77366	67 3 5	153 27 42	3.0	1.00	.50	.70	500	N	N	N	100	700
77367	67 0 3	153 25 41	3.0	1.00	.50	.70	300	N	N	N	50	1,000
77368	67 1 28	153 10 26	3.0	1.00	1.00	.70	500	N	N	N	50	700
77369	67 3 50	153 5 49	3.0	1.00	1.00	.70	500	N	N	N	70	1,500
77370	67 7 54	153 3 55	3.0	1.00	.70	.50	300	N	N	N	100	700
77371	67 11 15	153 5 22	3.0	1.00	1.50	.50	700	N	N	N	50	700
77372	67 10 41	153 8 13	5.0	1.50	.70	.50	500	N	N	N	70	700
77373	67 13 14	153 11 34	5.0	1.00	.30	.70	500	N	N	N	70	300
77374	67 14 33	153 3 29	5.0	1.00	.30	.70	1,000	N	N	N	70	300
77375	67 14 51	153 2 30	5.0	1.50	1.50	.70	1,000	N	N	N	70	500
77376	67 14 46	153 6 53	5.0	1.00	1.50	.50	1,000	N	N	N	70	300
77377	67 18 49	153 14 27	3.0	1.00	3.00	.50	300	N	N	N	70	300
77378	67 18 35	153 16 7	1.5	2.00	20.00	.20	200	N	N	N	10	100
77379	67 16 8	153 59 26	3.0	2.00	10.00	.50	300	N	N	N	10	100
77380	67 16 17	153 58 57	5.0	2.00	5.00	.50	300	N	N	N	30	200
77381	67 19 21	154 3 45	2.0	.50	.30	.15	300	N	N	N	20	200
77382	67 21 19	154 9 37	2.0	.30	.50	.20	300	N	N	N	10	200
77383	67 20 19	154 8 10	3.0	.20	.20	.30	300	N	N	N	20	500
77384	67 18 5	154 3 10	3.0	1.00	.50	.30	200	N	N	N	50	500
77385	67 16 39	154 14 5	3.0	1.50	7.00	.50	300	N	N	N	100	500
77386	67 17 51	154 13 45	2.0	.50	1.00	.20	200	N	N	N	20	300
77387	67 17 58	154 17 51	5.0	1.50	7.00	.50	500	N	N	N	70	300
77388	67 18 16	154 18 38	5.0	2.00	7.00	.50	500	N	N	N	50	300
77389	67 18 39	154 29 56	2.0	.50	.30	.20	200	N	N	N	10	200
77390	67 14 58	153 49 31	3.0	2.00	10.00	.30	300	N	N	N	50	200
77391	67 14 48	153 50 40	5.0	2.00	7.00	.50	500	N	N	N	20	200
77392	67 14 30	153 50 9	5.0	1.50	5.00	.50	300	N	N	N	100	500
77393	67 14 39	153 46 15	2.0	1.50	2.00	.30	300	N	N	N	100	700
77394	67 14 44	153 42 32	5.0	1.50	5.00	.50	300	N	N	N	50	300
77395	67 14 23	153 41 17	5.0	3.00	3.00	.50	300	N	N	N	100	700
77396	67 11 58	153 43 20	5.0	1.50	7.00	.70	300	N	N	N	50	300
77397	67 10 27	153 44 42	3.0	1.50	5.00	.50	500	N	N	N	100	500
77398	67 10 17	153 44 6	7.0	1.50	.70	.70	1,000	N	N	N	100	500
77399	67 1 54	154 8 13	3.0	1.00	.70	.70	700	N	N	N	50	1,000
77400	67 1 29	154 0 52	3.0	1.00	.70	.50	300	N	N	N	70	700
77401	67 2 7	153 54 28	5.0	.70	.70	.70	700	N	N	N	50	500
77402	67 19 54	153 29 55	3.0	1.50	20.00	.50	300	N	N	N	20	200
77403	67 17 44	153 21 57	3.0	1.50	7.00	.50	300	N	N	N	70	300
77404	67 14 6	153 36 53	2.0	5.00	10.00	.30	300	N	N	N	70	300
77405	67 13 8	153 39 2	3.0	2.00	7.00	.50	500	N	N	N	70	300

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
77361	<1.0	N	N	10	50	<5	100	N	<20	10	20
77362	2.0	N	N	50	150	20	50	N	<20	50	20
77363	1.0	N	N	70	200	50	70	N	<20	100	50
77364	1.0	N	N	30	100	10	50	N	<20	50	20
77365	1.0	N	N	50	150	30	50	N	<20	70	20
77366	1.0	N	N	50	150	30	100	N	<20	70	30
77367	1.0	N	N	50	100	10	50	N	<20	70	20
77368	1.0	N	N	30	100	20	50	N	<20	50	20
77369	1.0	N	N	50	150	30	100	N	<20	70	20
77370	1.0	N	N	20	100	20	50	N	<20	50	30
77371	1.0	N	N	50	100	20	100	N	<20	70	20
77372	1.0	N	N	50	200	20	50	N	<20	50	30
77373	1.0	N	N	50	150	30	50	N	<20	50	30
77374	1.0	N	N	50	150	30	50	N	<20	50	20
77375	1.0	N	N	50	150	30	50	N	<20	50	50
77376	1.0	N	N	50	100	10	50	N	<20	30	20
77377	1.0	N	N	50	150	15	50	N	<20	30	30
77378	<1.0	N	N	15	100	10	<20	N	<20	20	20
77379	<1.0	N	N	50	100	30	50	N	<20	30	10
77380	1.0	N	N	70	100	30	50	N	<20	50	20
77381	15.0	N	N	10	30	10	50	<5	<20	10	200
77382	5.0	N	N	<5	<10	<5	70	N	<20	<5	50
77383	5.0	N	N	10	N	5	150	N	<20	<5	50
77384	5.0	N	N	50	100	50	50	N	<20	50	70
77385	2.0	N	N	50	150	20	50	N	<20	50	50
77386	5.0	N	N	10	N	5	100	N	<20	<5	50
77387	2.0	N	N	50	100	100	50	N	<20	50	70
77388	3.0	N	N	50	100	30	50	N	<20	30	70
77389	7.0	N	N	<5	20	5	70	N	<20	<5	70
77390	1.0	N	N	50	100	30	50	N	<20	30	30
77391	1.0	N	N	50	70	30	50	N	<20	30	20
77392	1.0	N	N	50	100	20	200	N	<20	50	20
77393	1.5	N	N	20	100	10	50	N	<20	20	30
77394	1.0	N	N	50	100	20	70	N	<20	30	20
77395	1.0	N	N	50	150	30	50	N	<20	30	50
77396	1.0	N	N	50	100	20	50	N	<20	50	30
77397	1.5	N	N	50	150	30	50	N	<20	50	30
77398	2.0	N	N	100	200	70	50	N	<20	100	30
77399	1.5	N	N	50	150	10	70	N	<20	50	10
77400	1.0	N	N	50	150	30	100	N	<20	50	30
77401	1.0	N	N	30	100	15	150	N	<20	30	15
77402	<1.0	N	N	20	100	20	50	N	<20	20	10
77403	1.0	N	N	20	100	20	70	N	<20	20	30
77404	1.0	N	N	20	100	10	50	N	<20	20	30
77405	1.0	N	N	50	100	20	70	N	<20	50	50

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
77361	N	10	N	1,000	70	N	50	N	100	25
77362	N	20	N	200	150	N	20	N	200	80
77363	N	30	N	150	200	N	20	<200	150	140
77364	N	20	N	150	50	N	20	N	200	60
77365	N	20	N	200	150	N	20	N	200	80
77366	N	20	N	100	150	N	30	N	200	80
77367	N	20	N	100	150	N	20	N	200	85
77368	N	20	N	100	150	N	20	N	200	60
77369	N	30	N	100	200	N	20	N	200	85
77370	N	20	N	100	150	N	30	N	300	55
77371	N	30	N	150	150	N	30	200	100	100
77372	N	30	N	100	200	N	20	<200	150	75
77373	N	30	N	100	150	N	20	<200	200	65
77374	N	50	N	100	150	N	30	N	200	60
77375	N	30	N	100	150	N	30	N	200	60
77376	N	30	N	100	100	N	30	N	300	60
77377	N	30	N	300	100	N	30	N	200	25
77378	N	5	N	700	50	N	10	N	50	15
77379	N	30	N	500	100	N	20	N	100	30
77380	N	30	N	300	150	N	30	N	100	45
77381	N	5	70	<100	50	N	150	500	100	220
77382	N	5	N	<100	30	N	50	N	500	50
77383	N	5	N	100	30	N	100	N	1,000	30
77384	N	15	50	100	100	N	30	N	200	75
77385	N	15	N	500	100	N	20	N	100	50
77386	N	5	N	200	50	N	50	N	300	50
77387	N	20	N	300	150	N	30	N	100	55
77388	N	30	20	300	200	N	30	<200	150	70
77389	N	5	20	100	50	N	50	N	100	50
77390	N	20	N	500	100	N	50	N	100	35
77391	N	30	N	300	150	N	30	N	100	35
77392	N	30	N	300	100	N	30	N	300	60
77393	N	15	N	200	70	N	30	N	200	40
77394	N	20	N	300	200	N	30	N	200	50
77395	N	20	N	200	100	N	30	N	200	60
77396	N	20	N	700	100	N	30	N	100	50
77397	N	20	N	500	100	N	30	N	150	55
77398	N	50	N	100	150	N	50	<200	150	80
77399	N	30	N	100	100	N	30	N	300	60
77400	N	50	N	100	150	N	50	N	300	70
77401	N	50	N	100	100	N	50	N	700	55
77402	N	20	N	500	100	N	20	N	70	30
77403	N	20	N	300	100	N	30	N	150	50
77404	N	10	N	200	100	N	20	N	100	40
77405	N	20	N	300	100	N	50	N	100	55

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
77406	67 4 36	155 1 25	3.0	.70	.30	.50	300	3.0	N	N	50	1,500
77407	67 4 33	155 1 15	1.0	.20	.20	.50	200	N	N	N	20	700
77408	67 4 27	155 1 40	5.0	1.00	.20	.70	500	2.0	N	N	70	1,500
77409	67 4 4	155 1 49	5.0	1.00	.50	.70	300	N	N	N	70	1,000
77410	67 3 35	155 2 22	5.0	1.00	.50	1.00	500	N	N	N	100	1,000
77411	67 3 40	155 2 19	5.0	1.00	.30	.70	500	N	N	N	50	1,000
77412	67 3 31	155 3 11	3.0	1.00	.30	.70	300	N	N	N	70	700
77413	67 3 35	155 2 51	5.0	1.00	.50	.70	500	N	N	N	70	1,000
77414	67 3 10	155 3 13	5.0	1.00	.30	.70	300	N	N	N	70	1,000
77415	67 3 17	155 3 10	3.0	1.00	.70	.70	300	N	N	N	70	1,000
77416	67 3 7	155 2 45	3.0	1.00	.20	.70	200	N	N	N	50	1,000
77417	67 2 50	155 3 9	3.0	1.00	.30	.50	300	N	N	N	70	1,000
77418	67 2 42	155 2 54	5.0	1.00	.30	.70	300	N	N	N	70	1,000
77419	67 2 33	155 3 32	5.0	1.00	.50	.70	500	N	N	N	70	500
77420	67 1 42	155 3 44	5.0	1.00	.50	.70	300	N	N	N	70	700
77421	67 39 24	155 39 6	3.0	.20	3.00	.20	300	N	N	N	50	500
77422	67 40 1	155 45 42	2.0	.20	10.00	.15	700	N	N	N	20	300
77423	67 40 24	155 57 46	2.0	.20	.70	.30	500	N	N	N	50	500
77424	67 38 33	155 50 50	3.0	.15	.20	.30	300	N	N	N	50	700
77425	67 37 38	155 55 15	3.0	.15	.10	.30	300	N	N	N	70	700
77426	67 35 32	155 52 36	2.0	.50	2.00	.15	300	N	N	N	30	1,000
77427	67 34 44	155 56 21	2.0	.50	2.00	.20	300	N	N	N	30	500
77428	67 33 7	155 53 48	1.0	.50	10.00	.10	200	N	N	N	10	500
77429	67 31 53	155 54 34	2.0	.70	5.00	.15	300	N	N	N	20	1,500
77430	67 32 34	155 57 24	2.0	.30	2.00	.15	300	N	N	N	20	1,000
78431	67 11 28	154 16 18	10.0	1.50	3.00	1.00	700	N	N	N	300	500
78432	67 11 24	154 16 6	10.0	1.50	2.00	1.00	3,000	N	N	N	300	700
78433	67 11 27	154 16 33	10.0	1.00	1.00	.70	5,000	N	N	N	300	700
78434	67 10 36	154 16 36	10.0	1.50	2.00	1.00	3,000	N	N	N	300	700
78435	67 10 18	154 16 36	15.0	1.50	.70	1.00	1,000	N	N	N	200	1,000
78436	67 10 0	154 16 12	15.0	1.50	1.00	1.00	3,000	N	N	N	200	300
78437	67 8 60	154 16 30	7.0	1.00	1.00	1.00	2,000	N	N	N	150	700
78438	67 8 60	154 16 10	10.0	1.50	.70	1.00	1,000	N	N	N	200	700
78439	67 8 6	154 14 36	15.0	1.00	1.00	1.00	3,000	N	N	N	150	300
78440	67 12 60	154 34 6	10.0	2.00	2.00	1.00	700	N	N	N	300	1,000
78441	67 12 54	154 34 18	10.0	1.50	1.00	.70	700	N	N	N	300	1,000
78442	67 12 30	154 34 12	10.0	1.50	.70	1.00	1,000	N	N	N	300	700
78443	67 11 60	154 33 30	10.0	1.50	.50	1.00	1,000	N	N	N	300	700
78444	67 11 45	154 32 54	7.0	1.50	.50	1.00	1,000	N	N	N	200	500
78445	67 11 3	154 31 24	10.0	.70	.70	1.00	1,500	N	N	N	200	500
78446	67 10 51	154 12 6	10.0	3.00	10.00	1.00	700	N	N	N	200	500
78447	67 10 54	154 12 24	10.0	1.50	1.00	1.00	2,000	N	N	N	500	700
78448	67 10 30	154 12 29	15.0	2.00	.70	1.00	2,000	N	N	N	300	700
78449	67 10 3	154 12 18	15.0	1.50	.50	.70	1,500	N	N	N	200	300
78450	67 10 9	154 12 4	10.0	2.00	2.00	1.00	2,000	N	N	N	300	300

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
77406	1.5	N	N	50	100	500	100	N	<20	50	300
77407	<1.0	N	N	50	20	10	150	N	<20	50	<10
77408	2.0	N	N	150	150	150	200	N	<20	150	200
77409	2.0	N	N	70	200	50	70	N	<20	70	50
77410	1.5	N	N	100	300	50	150	N	<20	100	50
77411	1.5	N	N	150	200	150	150	N	<20	150	100
77412	1.0	N	N	50	100	30	70	N	<20	50	30
77413	1.0	N	N	100	200	150	150	N	<20	150	70
77414	1.0	N	N	50	100	30	100	N	<20	70	30
77415	1.0	N	N	70	100	150	100	N	<20	70	30
77416	1.0	N	N	30	100	20	50	N	<20	50	50
77417	1.5	N	N	70	100	20	50	N	<20	50	30
77418	1.5	N	N	100	200	70	50	N	<20	100	50
77419	1.5	N	N	50	200	30	200	N	<20	70	30
77420	1.0	N	N	50	200	30	70	N	<20	70	30
77421	1.0	N	N	20	150	30	100	N	<20	50	20
77422	1.0	N	N	15	70	15	70	N	<20	20	20
77423	1.5	N	N	15	70	20	70	N	<20	20	30
77424	1.0	N	N	30	100	30	70	N	<20	70	20
77425	1.0	N	N	30	100	20	50	N	<20	70	20
77426	1.0	N	N	15	50	50	50	7	<20	50	20
77427	1.0	N	N	15	50	50	50	N	<20	50	30
77428	<1.0	N	N	10	30	15	50	N	<20	30	<10
77429	1.0	N	N	15	50	30	50	N	<20	30	20
77430	1.0	N	N	15	50	30	50	5	<20	30	20
78431	2.0	N	N	30	150	20	70	N	<20	50	30
78432	2.0	N	N	30	150	70	50	N	<20	50	30
78433	2.0	N	N	300	150	200	700	N	<20	1,000	30
78434	2.0	N	N	150	150	70	300	N	<20	200	30
78435	2.0	N	N	50	200	100	100	N	<20	150	50
78436	2.0	N	N	100	150	100	200	N	<20	150	50
78437	2.0	N	N	50	150	50	50	N	<20	70	50
78438	2.0	N	N	50	200	100	100	N	<20	70	50
78439	1.0	N	N	70	100	70	150	N	<20	70	30
78440	1.0	N	N	30	150	70	50	N	<20	50	50
78441	2.0	N	N	20	150	70	70	N	<20	50	50
78442	2.0	N	N	30	150	70	70	N	<20	70	50
78443	2.0	N	N	30	100	50	70	N	<20	50	50
78444	2.0	N	N	20	100	15	50	N	<20	30	20
78445	2.0	N	N	20	100	15	50	N	<20	20	15
78446	1.5	N	N	20	100	20	50	N	<20	30	30
78447	1.0	N	N	20	100	30	50	N	<20	30	30
78448	2.0	N	N	50	200	100	100	N	<20	150	50
78449	2.0	N	N	10	100	100	50	N	<20	30	30
78450	1.5	N	N	20	100	20	50	N	<20	50	20

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
77406	N	20	N	100	200	N	50	500	200	500
77407	N	<5	N	<100	70	N	100	<200	30	100
77408	N	20	N	<100	200	N	150	500	150	550
77409	N	20	N	100	200	N	30	<200	100	120
77410	N	30	N	100	200	N	50	<200	200	120
77411	N	20	N	100	200	N	70	500	150	500
77412	N	20	N	100	200	N	30	<200	150	153
77413	N	30	N	100	200	N	70	300	150	320
77414	N	20	N	100	200	N	50	<200	150	110
77415	N	20	N	100	200	N	50	<200	150	180
77416	N	20	N	100	200	N	100	<200	200	70
77417	N	20	N	100	200	N	30	200	100	190
77418	N	20	N	100	200	N	50	<200	200	150
77419	N	20	N	100	200	N	30	<200	150	90
77420	N	20	N	100	200	N	30	<200	150	180
77421	N	30	N	200	70	N	20	<200	100	70
77422	N	15	N	200	70	N	30	<200	100	75
77423	N	20	N	<100	70	N	30	<200	200	90
77424	N	30	N	100	150	N	30	200	150	230
77425	N	30	N	100	100	N	50	<200	150	65
77426	N	7	N	150	70	N	15	300	100	270
77427	N	20	N	200	70	N	30	<200	100	180
77428	N	5	N	200	30	N	50	N	20	55
77429	N	7	N	200	70	N	20	<200	50	160
77430	N	10	N	150	100	N	20	200	70	220
78431	N	20	N	300	200	N	50	<200	200	55
78432	N	20	N	300	200	N	50	<200	200	50
78433	N	20	N	150	200	N	1,000	200	150	400
78434	N	20	N	300	200	N	200	<200	200	110
78435	N	30	N	200	300	N	100	<200	200	110
78436	N	30	N	200	300	N	300	200	200	240
78437	N	20	N	200	300	N	70	<200	200	110
78438	N	30	N	100	300	N	70	<200	200	90
78439	N	30	N	100	200	N	100	200	200	100
78440	N	20	N	200	300	N	70	<200	200	60
78441	N	20	N	200	300	N	70	<200	200	65
78442	N	20	N	200	300	N	70	<200	300	70
78443	N	20	N	200	200	N	50	<200	300	70
78444	N	10	N	200	200	N	50	<200	300	60
78445	N	20	N	200	150	N	70	<200	300	40
78446	N	15	N	500	200	N	50	<200	100	50
78447	N	20	N	200	150	N	70	<200	300	55
78448	N	20	N	150	300	N	70	<200	200	85
78449	N	20	N	150	300	N	70	<200	200	50
78450	N	20	N	200	200	N	70	<200	200	40

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
78451	67 9 51	154 11 40	15.0	2.00	2.00	.70	2,000	N	N	N	300	700
78452	67 9 21	154 11 48	15.0	2.00	1.00	.70	3,000	N	N	N	200	1,000
78453	67 8 52	154 12 1	15.0	2.00	.70	.70	3,000	N	N	N	200	300
78454	67 8 56	154 12 12	10.0	1.50	1.50	1.00	2,000	N	N	N	200	500
78455	67 8 43	154 12 20	15.0	.70	.70	1.00	2,000	N	N	N	20	500
78456	67 11 56	154 31 6	10.0	2.00	2.00	1.00	1,000	N	N	N	500	700
78457	67 11 48	154 30 24	15.0	1.50	1.50	>1.00	1,500	N	N	N	300	500
78458	67 11 12	154 29 24	15.0	2.00	2.00	1.00	1,500	N	N	N	200	1,500
78459	67 11 0	154 28 48	10.0	2.00	2.00	1.00	2,000	N	N	N	300	1,500
78460	67 9 22	153 43 12	15.0	.70	.70	1.00	1,500	N	N	N	300	700
78461	67 9 26	153 43 4	10.0	.70	.70	1.00	2,000	N	N	N	300	500
78462	67 9 21	153 48 50	10.0	2.00	2.00	1.00	2,000	N	N	N	200	1,000
78463	67 9 20	153 49 4	10.0	1.00	1.00	1.00	2,000	N	N	N	200	700
78464	67 9 51	153 48 2	15.0	2.00	2.00	1.00	1,500	N	N	N	200	700
78465	67 9 56	153 47 58	10.0	10.00	10.00	.70	1,000	N	N	N	150	500
78466	67 10 10	153 46 46	10.0	10.00	10.00	1.00	700	N	N	N	200	500
78467	67 10 8	153 45 40	15.0	.70	.70	1.00	1,500	N	N	N	300	500
78468	67 10 33	153 43 38	10.0	.70	.70	1.00	1,000	N	N	N	500	500
78469	67 6 22	154 33 48	10.0	.70	.70	1.00	1,000	N	N	N	200	1,500
78470	67 6 15	154 33 54	15.0	.50	.50	1.00	1,000	N	N	N	300	1,000
78471	67 6 12	154 32 46	15.0	.50	.50	1.00	1,000	N	N	N	200	1,000
78472	67 6 0	154 32 48	10.0	.50	.50	1.00	1,000	N	N	N	200	1,500
78473	67 5 42	154 31 60	15.0	.70	.70	1.00	1,000	N	N	N	200	1,000
78474	67 5 42	154 31 42	15.0	.50	.50	1.00	1,000	N	N	N	300	2,000
78475	67 8 12	154 34 12	15.0	.70	.70	1.00	2,000	N	N	N	200	700
78476	67 8 12	154 33 48	15.0	1.00	1.00	1.00	1,000	N	N	N	200	1,000
78477	67 8 24	154 34 12	10.0	2.00	2.00	1.00	1,500	N	N	N	100	700
78478	67 8 24	154 35 36	10.0	1.50	.50	1.00	2,000	N	N	N	200	700
78479	67 8 27	154 36 12	10.0	2.00	.50	1.00	1,500	N	N	N	200	1,000
78480	67 8 30	154 36 48	10.0	2.00	.70	1.00	1,000	N	N	N	200	1,000
78481	67 8 34	154 36 48	10.0	1.50	.70	1.00	2,000	N	N	N	150	500
78482	67 3 49	154 30 6	10.0	1.50	.50	1.00	1,000	N	N	N	200	700
78483	67 3 35	154 29 36	10.0	1.50	.20	1.00	700	N	N	N	200	700
78484	67 50 12	155 15 12	10.0	1.00	.15	1.00	1,500	N	N	N	200	700
78485	67 3 38	154 29 4	15.0	1.50	.50	1.00	1,000	N	N	N	200	1,000
78486	67 52 12	155 13 42	10.0	1.00	.10	1.00	1,500	N	N	N	200	500
78487	67 52 4	155 13 10	10.0	1.50	.15	1.00	1,500	N	N	N	200	700
78488	67 52 19	155 13 30	10.0	1.00	.15	1.00	1,500	N	N	N	200	500
78489	67 51 47	155 11 48	7.0	1.00	.15	1.00	1,500	N	N	N	200	500
78490	67 50 28	155 26 36	10.0	1.00	.15	1.00	1,000	N	N	N	300	700
78491	67 50 21	155 27 10	10.0	1.00	.15	1.00	1,000	N	N	N	200	700
78492	67 52 18	155 27 12	7.0	1.50	.15	1.00	1,500	N	N	N	200	700
78493	67 53 21	155 28 5	10.0	1.00	.15	1.00	1,500	N	N	N	200	700
78494	67 54 10	155 24 25	10.0	.70	.15	1.00	1,500	N	N	N	200	700
78495	67 54 13	155 24 6	10.0	.70	.15	1.00	1,000	N	N	N	300	1,500

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
78451	1.0	N	N	50	150	7C	50	N	<20	50	20
78452	2.0	N	N	50	150	100	50	N	<20	100	30
78453	2.0	N	N	200	150	150	700	N	<20	500	50
78454	2.0	N	N	100	100	70	200	N	<20	150	30
78455	2.0	N	N	70	150	150	100	N	<20	100	50
78456	2.0	N	N	50	150	70	100	N	<20	50	50
78457	2.0	N	N	50	150	100	100	N	<20	50	30
78458	2.0	N	N	50	150	50	100	N	<20	100	30
78459	2.0	N	N	50	150	50	100	N	<20	100	50
78460	2.0	N	N	100	200	100	100	N	<20	100	50
78461	2.0	N	N	100	150	100	100	N	<20	100	50
78462	2.0	N	N	100	150	150	70	N	<20	150	30
78463	2.0	N	N	50	150	100	70	N	<20	100	30
78464	2.0	N	N	50	150	100	70	N	<20	100	30
78465	1.0	N	N	20	150	100	50	N	<20	30	30
78466	1.0	N	N	15	100	15	50	N	<20	20	20
78467	2.0	N	N	70	150	100	50	N	<20	100	30
78468	1.0	N	N	<5	100	50	50	N	<20	20	20
78469	1.5	N	N	70	200	100	50	N	<20	150	30
78470	2.0	N	N	70	200	100	70	N	<20	150	50
78471	2.0	N	N	50	150	100	50	N	<20	150	30
78472	2.0	N	N	30	150	100	50	N	<20	150	100
78473	2.0	N	N	50	150	100	50	N	<20	150	50
78474	2.0	N	N	50	200	150	70	N	<20	150	100
78475	1.5	N	N	50	150	70	50	N	<20	100	30
78476	1.5	N	N	50	150	100	50	N	<20	100	30
78477	2.0	N	N	20	70	30	50	N	<20	20	50
78478	2.0	N	N	100	100	100	300	N	<20	150	30
78479	2.0	N	N	50	150	100	50	N	<20	100	50
78480	2.0	N	N	50	200	70	70	N	<20	100	50
78481	1.5	N	N	50	150	30	50	N	<20	100	20
78482	2.0	N	N	50	200	30	70	N	<20	100	20
78483	2.0	N	N	50	200	50	200	N	<20	100	15
78484	2.0	N	N	50	150	100	50	N	<20	100	50
78485	2.0	N	N	50	200	70	50	N	<20	150	30
78486	2.0	N	N	50	150	70	50	N	<20	100	30
78487	2.0	N	N	50	200	100	50	N	<20	100	30
78488	2.0	N	N	50	150	70	50	N	<20	100	30
78489	2.0	N	N	50	150	70	50	N	<20	100	20
78490	2.0	N	N	50	200	70	50	N	<20	100	50
78491	2.0	N	N	50	200	50	50	N	<20	100	20
78492	2.0	N	N	50	200	50	50	N	<20	100	20
78493	2.0	N	N	50	200	50	50	N	<20	100	20
78494	2.0	N	N	50	200	70	70	N	<20	100	20
78495	2.0	N	N	50	200	70	70	N	<20	100	30

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
78451	N	20	N	200	300	N	70	<200	200	75
78452	N	20	N	200	300	N	70	<200	200	65
78453	N	30	N	150	300	N	700	<200	200	300
78454	N	20	N	200	200	N	150	200	150	110
78455	N	50	N	200	300	N	150	<200	200	85
78456	N	20	N	200	300	N	70	<200	300	70
78457	N	30	N	200	300	N	70	<200	300	60
78458	N	20	N	200	300	N	70	200	200	120
78459	N	20	N	200	300	N	70	200	200	100
78460	N	30	N	150	300	N	70	200	200	75
78461	N	30	N	100	300	N	70	<200	200	90
78462	N	30	N	100	300	N	70	<200	150	95
78463	N	30	N	100	300	N	70	<200	150	70
78464	N	30	N	200	300	N	70	<200	200	65
78465	N	15	N	1,000	300	N	50	<200	50	65
78466	N	10	N	700	200	N	50	<200	70	45
78467	N	30	N	200	300	N	70	<200	200	75
78468	N	10	N	200	300	N	70	<200	500	100
78469	N	30	N	200	500	N	70	200	200	100
78470	N	30	N	200	500	N	70	200	200	110
78471	N	20	N	200	500	N	70	200	200	100
78472	N	20	N	200	300	N	70	300	200	140
78473	N	30	N	200	500	N	70	200	200	120
78474	N	30	N	200	500	N	70	500	200	320
78475	N	30	N	200	300	N	70	300	200	160
78476	N	30	N	200	300	N	70	300	200	150
78477	N	20	N	300	300	N	100	<200	150	120
78478	N	30	N	100	300	N	300	300	100	170
78479	N	30	N	100	300	N	50	200	200	120
78480	N	30	N	200	300	N	50	200	150	110
78481	N	30	N	150	300	N	100	200	100	100
78482	N	30	N	150	300	N	50	200	200	110
78483	N	30	N	150	300	N	50	200	200	100
78484	N	30	N	150	300	N	70	200	300	150
78485	N	30	N	200	300	N	50	300	300	130
78486	N	20	N	200	300	N	70	200	200	140
78487	N	30	N	200	300	N	70	200	300	120
78488	N	20	N	200	300	N	50	200	200	110
78489	N	20	N	200	300	N	50	200	200	110
78490	N	20	N	200	300	N	70	200	200	120
78491	N	20	N	200	300	N	70	200	200	110
78492	N	20	N	200	300	N	70	200	200	100
78493	N	20	N	200	300	N	70	200	200	110
78494	N	20	N	200	300	N	70	200	500	95
78495	N	20	N	200	300	N	70	200	300	95

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
78496	67 54 10	155 11 8	10.0	1.00	.15	1.00	1,500	N	N	N	200	500
78497	67 53 48	155 12 33	10.0	1.00	.15	1.00	1,500	N	N	N	200	700
78498	67 44 33	155 19 12	10.0	1.50	.20	1.00	1,000	N	N	N	200	700
78499	67 44 32	155 18 47	10.0	1.50	.20	1.00	100	N	N	N	200	500
78500	67 44 0	155 20 0	10.0	1.00	.15	1.00	1,000	N	N	N	200	700
78501	67 43 15	155 21 18	10.0	2.00	.20	1.00	700	N	N	N	200	700
78502	67 43 33	155 21 8	10.0	1.00	.20	1.00	2,000	N	N	N	200	700
78503	67 43 27	155 21 24	15.0	1.50	.20	1.00	1,000	N	N	N	200	700
78504	67 42 48	155 23 12	15.0	2.00	.20	1.00	700	N	N	N	200	1,000
78505	67 42 30	155 24 6	10.0	2.00	.20	1.00	700	N	N	N	200	700
78506	67 42 12	155 24 54	15.0	2.00	.20	1.00	700	N	N	N	200	700
78507	67 45 48	155 28 30	10.0	1.50	.20	1.00	1,500	N	N	N	200	700
78508	67 45 51	155 29 0	15.0	1.50	.20	1.00	1,500	N	N	N	200	700
78509	67 45 27	155 29 15	10.0	1.50	.20	1.00	1,500	N	N	N	200	700
78510	67 45 15	155 28 48	10.0	1.50	.20	1.00	1,000	N	N	N	200	700
78511	67 44 18	155 28 54	10.0	1.00	.20	1.00	1,000	N	N	N	200	700
78512	67 43 56	155 28 0	10.0	1.50	.30	1.00	1,000	N	N	N	200	700
78513	67 43 42	155 28 24	15.0	1.50	.30	1.00	1,000	N	N	N	200	700
78514	67 43 39	155 27 15	15.0	1.50	.50	1.00	1,000	N	N	N	200	700
78515	67 43 28	155 27 36	15.0	1.50	.30	1.00	1,500	N	N	N	200	700
78516	67 37 8	154 54 36	15.0	2.00	1.00	1.00	1,000	N	N	N	300	1,000
78517	67 37 15	154 54 6	10.0	2.00	15.00	1.00	1,000	N	N	N	150	700
78518	67 37 24	154 58 24	10.0	2.00	10.00	1.00	1,000	N	N	N	200	700
78519	67 37 20	154 58 52	10.0	2.00	20.00	.70	700	N	N	N	200	500
78520	67 36 52	154 59 30	15.0	2.00	1.00	1.00	1,000	N	N	N	200	1,000
78521	67 37 2	154 59 52	10.0	2.00	10.00	1.00	700	N	N	N	200	700
78522	67 36 34	154 59 56	15.0	2.00	.30	1.00	700	N	N	N	200	700
78523	67 36 3	155 1 15	7.0	1.00	7.00	.70	700	N	N	N	150	500
78524	67 36 0	155 0 48	7.0	.70	5.00	1.00	700	N	N	N	150	500
78525	67 35 30	155 3 6	7.0	.70	2.00	1.00	700	N	N	N	150	1,500
78526	67 35 18	155 4 24	7.0	.70	2.00	1.00	700	N	N	N	200	700
78527	67 35 12	155 7 6	5.0	1.00	5.00	.70	1,000	<.5	N	N	150	1,500
78528	67 35 36	155 5 7	7.0	1.00	3.00	.70	700	N	N	N	150	500
78529	67 35 4	155 10 48	7.0	1.00	7.00	.70	700	N	N	N	150	500
78530	67 32 21	154 58 24	7.0	1.00	15.00	.50	1,000	N	N	N	100	700
78531	67 31 45	154 53 48	7.0	1.00	15.00	.70	1,000	N	N	N	50	1,500
78532	67 32 24	154 56 18	7.0	1.00	15.00	.70	700	N	N	N	70	700
78533	67 37 38	154 48 30	7.0	1.50	3.00	.70	1,000	N	N	N	200	700
78534	67 37 43	154 48 12	7.0	1.50	3.00	.70	1,000	N	N	N	150	500
78535	67 36 36	154 49 12	5.0	2.00	15.00	.50	500	N	N	N	100	300
78536	67 36 30	154 48 36	5.0	1.50	20.00	.50	500	N	N	N	200	300
78537	67 36 0	154 50 56	7.0	1.00	2.00	.70	1,000	N	N	N	200	700
78538	67 36 18	154 50 30	7.0	2.00	5.00	.70	700	N	N	N	200	700
78539	67 35 36	154 51 24	15.0	2.00	.50	1.00	2,000	N	N	N	200	1,000
78540	67 35 48	154 51 36	10.0	2.00	2.00	1.00	1,000	N	N	N	200	1,000

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
78496	2.0	N	N	50	200	70	50	N	<20	100	20
78497	2.0	N	N	50	200	100	70	N	<20	100	30
78498	2.0	N	N	50	200	150	50	N	<20	150	20
78499	2.0	N	N	50	200	30	50	N	<20	100	10
78500	2.0	N	N	30	200	100	50	N	<20	150	20
78501	2.0	N	N	50	150	70	150	N	<20	100	20
78502	2.0	N	N	50	150	70	200	N	<20	100	20
78503	2.0	N	N	50	200	100	200	N	<20	150	20
78504	2.0	N	N	50	200	70	150	N	<20	150	20
78505	2.0	N	N	30	200	50	150	N	<20	100	20
78506	2.0	N	N	50	200	70	150	N	<20	150	50
78507	2.0	N	N	50	200	70	70	N	<20	100	15
78508	2.0	N	N	70	300	100	70	N	<20	150	20
78509	2.0	N	N	50	200	50	50	N	<20	100	20
78510	2.0	N	N	50	200	50	200	N	<20	100	20
78511	2.0	N	N	50	200	100	50	N	<20	150	20
78512	2.0	N	N	50	200	100	50	N	<20	150	20
78513	2.0	N	N	50	200	100	100	N	<20	150	20
78514	2.0	N	N	50	200	100	100	N	<20	150	30
78515	2.0	N	N	50	200	70	70	N	<20	150	30
78516	2.0	N	N	50	300	100	100	N	<20	150	30
78517	2.0	N	N	50	150	50	50	N	<20	100	30
78518	2.0	N	N	50	150	50	70	N	<20	100	50
78519	2.0	N	N	50	150	30	50	N	<20	100	50
78520	2.0	N	N	50	200	100	100	N	<20	150	50
78521	2.0	N	N	50	200	30	70	N	<20	100	50
78522	2.0	N	N	50	200	100	150	N	<20	150	50
78523	2.0	N	N	50	150	30	70	N	<20	100	30
78524	2.0	N	N	50	150	30	150	N	<20	100	30
78525	2.0	N	N	30	100	50	50	<5	<20	100	100
78526	2.0	N	N	20	100	50	100	N	<20	70	20
78527	2.0	N	N	20	100	100	50	50	<20	100	30
78528	2.0	N	N	30	150	50	150	N	<20	100	20
78529	1.5	N	N	20	100	30	50	N	<20	70	20
78530	1.5	N	N	20	100	70	50	N	<20	100	150
78531	1.0	N	N	20	50	100	50	N	<20	50	15
78532	1.0	N	N	20	100	70	50	N	<20	50	30
78533	2.0	N	N	50	150	70	70	N	<20	100	30
78534	2.0	N	N	50	100	50	70	N	<20	70	30
78535	1.0	N	N	20	70	10	50	N	<20	20	20
78536	1.0	N	N	20	100	20	70	N	<20	30	30
78537	2.0	N	N	50	150	100	100	N	<20	150	30
78538	2.0	N	N	50	150	70	100	N	<20	150	50
78539	2.0	N	N	70	200	100	100	N	<20	150	150
78540	2.0	N	N	70	200	100	100	N	<20	150	100

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
78496	N	20	N	200	300	N	70	200	200	120
78497	N	20	N	200	300	N	70	200	200	110
78498	N	20	N	200	300	N	70	200	200	110
78499	N	20	N	200	300	N	70	200	300	100
78500	N	30	N	200	300	N	50	200	200	120
78501	N	20	N	200	300	N	50	200	200	160
78502	N	30	N	200	300	N	70	200	300	110
78503	N	30	N	200	300	N	70	200	200	130
78504	N	30	N	200	300	N	70	200	200	150
78505	N	30	N	200	300	N	70	200	200	130
78506	N	30	N	200	300	N	70	200	200	120
78507	N	30	N	200	300	N	70	200	300	90
78508	N	30	N	200	300	N	70	<200	300	85
78509	N	30	N	200	300	N	70	<200	300	90
78510	N	30	N	200	300	N	70	<200	300	100
78511	N	30	N	200	300	N	70	200	300	110
78512	N	30	N	200	300	N	70	200	300	120
78513	N	30	N	200	300	N	70	200	300	130
78514	N	30	N	200	300	N	70	<200	300	110
78515	N	30	N	200	300	N	70	<200	300	90
78516	N	30	N	200	500	N	70	200	300	120
78517	N	30	N	1,000	300	N	70	<200	200	65
78518	N	30	N	500	300	N	70	<200	300	65
78519	N	20	N	1,000	300	N	70	<200	100	55
78520	N	30	N	200	500	N	70	200	300	130
78521	N	20	N	500	300	N	70	<200	200	75
78522	N	30	N	200	500	N	100	<200	200	130
78523	N	20	N	700	200	N	50	N	100	70
78524	N	20	N	200	200	N	70	<200	200	90
78525	N	20	N	200	300	N	50	200	200	150
78526	N	20	N	200	200	N	100	200	300	90
78527	N	10	N	200	500	N	70	300	100	240
78528	N	20	N	300	300	N	70	<200	150	90
78529	N	15	N	500	200	N	70	<200	100	75
78530	N	10	N	200	300	N	50	500	100	190
78531	N	10	N	200	200	N	50	<200	100	75
78532	N	10	N	200	200	N	50	200	100	65
78533	N	20	N	200	300	N	70	200	200	85
78534	N	20	N	200	300	N	70	<200	200	80
78535	N	10	N	700	200	N	50	<200	150	45
78536	N	10	N	1,500	200	N	50	N	100	40
78537	N	20	N	200	300	N	70	200	200	130
78538	N	20	N	300	300	N	70	200	200	110
78539	N	30	N	300	300	N	100	200	200	120
78540	N	30	N	200	300	N	100	200	200	130

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
78541	67 34 48	154 52 38	2.0	.50	>20.00	.20	500	N	N	N	20	150
78542	67 34 54	154 53 12	10.0	1.00	10.00	1.00	700	N	N	N	150	700
78543	67 34 34	154 53 18	1.0	.50	>20.00	.15	200	N	N	N	N	N
78544	67 33 33	154 54 12	5.0	1.00	10.00	1.00	700	N	N	N	100	500
78545	67 33 48	154 54 30	3.0	1.00	>20.00	.50	500	N	N	N	20	100
78546	67 50 10	155 9 36	10.0	1.50	.20	1.00	1,500	N	N	N	200	700
78547	67 50 28	155 6 36	10.0	1.00	.15	1.00	1,000	N	N	N	200	700
78548	67 47 45	155 23 27	10.0	1.00	.20	1.00	1,000	N	N	N	200	700
78549	67 46 33	155 21 46	7.0	1.00	.15	1.00	700	N	N	N	200	700
78550	67 47 48	155 23 12	10.0	1.00	.15	1.00	1,000	N	N	N	200	700
78551	67 46 33	155 22 6	10.0	1.00	.20	1.00	1,000	N	N	N	200	700
78552	67 47 55	155 19 48	7.0	.70	.15	.50	1,000	N	N	N	200	500
78553	67 46 51	155 21 24	7.0	1.00	.20	1.00	1,000	N	N	N	200	700
78554	67 48 43	155 17 24	10.0	1.00	.15	1.00	1,000	N	N	N	200	700
78555	67 47 42	155 20 6	10.0	1.50	.20	1.00	1,000	N	N	N	200	700
78556	67 49 22	155 15 46	3.0	.50	.10	.50	700	N	N	N	150	500
78557	67 48 6	155 18 48	10.0	1.00	.20	1.00	700	N	N	N	200	700
78558	67 49 50	155 14 36	15.0	2.00	.20	1.00	1,500	N	N	N	200	1,000
78559	67 48 37	155 17 16	10.0	1.00	.20	1.00	1,500	N	N	N	200	700
78560	67 50 12	155 8 12	10.0	1.00	.20	1.00	1,000	N	N	N	200	700
78561	67 48 54	155 6 12	10.0	1.00	.20	1.00	1,000	N	N	N	200	1,000
78562	67 52 28	155 7 24	10.0	1.00	.15	1.00	1,500	N	N	N	200	500
78563	67 14 24	154 22 30	10.0	1.00	2.00	1.00	700	N	N	N	300	700
78564	67 14 20	154 22 36	10.0	1.50	5.00	>1.00	1,000	N	N	N	200	500
78565	67 13 35	154 14 10	10.0	1.50	3.00	1.00	700	N	N	N	300	500
78566	67 13 32	154 14 25	10.0	1.00	3.00	1.00	700	N	N	N	300	500
78567	67 13 42	154 9 60	7.0	2.00	15.00	.70	500	N	N	N	200	500
78568	67 13 36	154 9 60	15.0	1.50	5.00	>1.00	2,000	N	N	N	300	300
78569	67 14 12	154 4 24	7.0	1.50	10.00	1.00	700	N	N	N	300	500
78570	67 13 33	154 1 36	7.0	2.00	15.00	1.00	500	N	N	N	100	300
78571	67 16 15	154 10 6	10.0	2.00	2.00	1.00	1,500	N	N	N	150	500
78572	67 14 45	153 59 56	10.0	3.00	20.00	.50	700	N	N	N	200	500
78573	67 14 35	154 2 40	10.0	3.00	10.00	1.00	700	N	N	N	150	500
78574	67 12 6	153 56 10	10.0	3.00	10.00	1.00	700	N	N	N	300	500
78575	67 12 60	154 1 36	10.0	2.00	10.00	1.00	700	N	N	N	150	300
78576	67 9 47	153 56 24	10.0	2.00	5.00	1.00	1,500	N	N	N	200	500
78577	67 9 40	154 1 10	10.0	2.00	10.00	1.00	1,000	N	N	N	200	500
78578	67 12 48	153 59 12	7.0	3.00	10.00	1.00	700	N	N	N	200	700
78579	67 10 19	154 26 56	7.0	2.00	2.00	1.00	1,000	N	N	N	200	700
78580	67 9 30	154 23 48	7.0	3.00	20.00	.70	700	N	N	N	100	200
78581	67 9 30	154 23 12	7.0	2.00	2.00	.70	500	N	N	N	300	700
78582	67 9 21	154 22 48	10.0	1.50	1.00	1.00	1,000	N	N	N	300	1,000
78583	67 8 6	154 20 3	10.0	1.50	1.50	>1.00	2,000	N	N	N	200	700
78584	67 5 42	154 20 6	10.0	3.00	1.00	1.00	1,500	N	N	N	200	1,000
78585	67 6 34	154 21 32	10.0	3.00	2.00	1.00	1,500	N	N	N	100	700

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
78541	<1.0	N	N	<5	70	10	50	N	N	20	20
78542	2.0	N	N	50	150	100	150	N	<20	100	50
78543	<1.0	N	N	<5	20	<5	<20	N	N	<5	N
78544	1.0	N	N	20	50	70	50	N	N	30	<10
78545	N	N	N	<5	30	10	50	N	<20	10	<10
78546	2.0	N	N	70	200	100	70	N	<20	150	50
78547	2.0	N	N	50	150	70	50	N	<20	150	50
78548	2.0	N	N	50	150	70	50	N	<20	100	30
78549	2.0	N	N	50	150	50	50	N	<20	100	20
78550	2.0	N	N	50	150	70	50	N	<20	150	30
78551	2.0	N	N	50	150	70	50	N	<20	150	100
78552	2.0	N	N	30	100	50	50	N	<20	100	20
78553	2.0	N	N	30	150	30	50	N	<20	200	20
78554	2.0	N	N	50	200	50	50	N	<20	200	30
78555	2.0	N	N	30	200	50	50	N	<20	200	20
78556	1.5	N	N	<5	70	30	50	N	<20	70	15
78557	2.0	N	N	30	150	50	50	N	<20	150	20
78558	2.0	N	N	50	500	150	50	N	<20	150	50
78559	2.0	N	N	30	150	50	50	N	<20	100	20
78560	2.0	N	N	30	150	50	50	N	<20	100	20
78561	2.0	N	N	30	150	50	50	N	<20	100	20
78562	2.0	N	N	30	150	50	50	N	<20	100	30
78563	2.0	N	N	30	100	50	50	N	<20	70	50
78564	2.0	N	N	20	100	50	50	N	<20	30	20
78565	2.0	N	N	30	100	50	50	N	<20	50	20
78566	1.5	N	N	20	100	50	50	N	<20	20	30
78567	1.5	N	N	20	100	50	50	N	<20	20	30
78568	1.0	N	N	30	100	150	50	N	<20	20	30
78569	2.0	N	N	20	100	20	50	N	<20	30	20
78570	1.0	N	N	20	100	50	50	N	<20	50	20
78571	3.0	N	N	30	100	70	50	N	<20	50	50
78572	1.0	N	N	50	150	100	50	N	<20	70	20
78573	1.0	N	N	30	100	50	50	N	<20	50	20
78574	1.5	N	N	20	100	20	50	N	<20	20	20
78575	1.0	N	N	20	100	50	50	N	<20	20	15
78576	2.0	N	N	70	100	30	50	<5	<20	50	30
78577	1.0	N	N	70	100	30	50	<5	<20	50	50
78578	2.0	N	N	50	100	30	50	<5	<20	50	30
78579	1.5	N	N	70	100	30	50	<5	<20	100	20
78580	<1.0	N	N	50	70	20	50	<5	<20	20	20
78581	2.0	N	N	50	150	20	50	<5	<20	50	20
78582	2.0	N	N	70	150	100	50	<5	<20	100	30
78583	5.0	N	N	100	100	30	50	<5	<20	50	30
78584	2.0	N	N	70	500	150	50	<5	<20	150	70
78585	1.0	N	N	70	300	100	50	<5	<20	100	30

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
78541	N	5	N	300	100	N	50	N	50	20
78542	N	30	N	200	300	N	70	200	300	100
78543	N	N	N	300	20	N	<10	N	N	5
78544	N	15	N	200	200	N	50	<200	200	60
78545	N	5	N	300	50	N	20	N	50	15
78546	N	20	N	100	300	N	50	200	200	100
78547	N	20	N	100	300	N	50	200	200	110
78548	N	20	N	100	300	N	70	200	200	100
78549	N	20	N	100	300	N	70	200	200	100
78550	N	20	N	100	300	N	70	200	200	95
78551	N	20	N	100	300	N	70	200	200	110
78552	N	20	N	100	300	N	50	<200	200	100
78553	N	20	N	100	300	N	70	200	200	100
78554	N	20	N	100	300	N	70	<200	300	95
78555	N	20	N	100	300	N	70	<200	300	100
78556	N	7	N	100	200	N	30	200	50	110
78557	N	20	N	100	300	N	50	<200	300	100
78558	N	30	N	100	300	N	70	<200	300	100
78559	N	20	N	100	300	N	70	<200	300	100
78560	N	20	N	100	300	N	70	<200	200	110
78561	N	20	N	100	300	N	70	200	300	100
78562	N	20	N	100	300	N	70	300	300	100
78563	N	20	N	200	200	N	70	200	300	70
78564	N	20	N	300	200	N	70	<200	300	50
78565	N	20	N	200	200	N	70	<200	300	55
78566	N	20	N	200	200	N	70	<200	300	55
78567	N	15	N	700	200	N	50	<200	200	45
78568	N	30	N	300	100	N	70	<200	500	35
78569	N	15	N	500	200	N	70	<200	300	40
78570	N	15	N	1,000	200	N	50	<200	150	40
78571	N	30	N	200	300	N	100	<200	500	55
78572	N	30	N	2,000	300	N	70	<200	70	45
78573	N	20	N	1,000	300	N	70	<200	200	45
78574	N	20	N	300	200	N	70	<200	200	45
78575	N	20	N	700	200	N	70	<200	200	45
78576	N	30	N	300	300	N	70	200	200	60
78577	N	20	N	700	300	N	70	200	200	45
78578	N	20	N	500	300	N	50	200	200	65
78579	N	20	N	200	300	N	50	200	100	80
78580	N	20	N	1,000	200	N	50	<200	50	30
78581	N	20	N	200	300	N	30	200	100	95
78582	N	30	N	200	300	N	70	200	200	80
78583	N	30	N	200	300	N	100	200	300	75
78584	N	30	N	200	300	N	70	200	200	110
78585	N	30	N	200	300	N	70	<200	200	80

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
78586	67 6 52	154 22 14	10.0	2.00	2.00	1.00	1,000	N	N	N	100	1,000
78587	67 45 32	153 25 2	10.0	1.00	.50	1.00	1,000	N	N	N	300	700
78588	67 45 38	153 24 57	10.0	1.00	1.00	1.00	1,000	N	N	N	300	2,000
78589	67 45 48	153 26 50	10.0	1.50	1.00	1.00	1,000	N	N	N	300	700
78590	67 45 54	153 28 12	10.0	2.00	2.00	.70	1,000	N	N	N	300	500
78591	67 45 51	153 29 42	10.0	2.00	2.00	.70	700	N	N	N	300	500
78592	67 45 45	153 32 18	10.0	1.50	1.00	.70	1,500	N	N	N	300	1,000
78593	67 45 40	153 32 57	10.0	.70	.20	.70	700	N	N	N	500	200
78594	67 45 42	153 34 45	10.0	2.00	5.00	.70	1,000	N	N	N	500	500
78595	67 45 36	153 34 45	10.0	1.00	2.00	.70	1,500	N	N	N	300	1,500
78596	67 48 54	154 55 3	10.0	2.00	.20	1.00	1,500	N	N	N	300	1,000
78597	67 48 54	154 54 42	10.0	2.00	.20	1.00	1,500	N	N	N	300	1,000
78598	67 50 33	154 53 24	10.0	1.00	.20	1.00	1,500	N	N	N	300	1,000
78599	67 50 45	154 53 24	10.0	1.00	.20	1.00	1,000	N	N	N	200	1,000
78600	67 52 18	154 47 6	15.0	1.50	.20	1.00	1,500	N	N	N	200	1,000
78601	67 52 0	154 43 36	15.0	1.00	.20	1.00	1,500	N	N	N	200	1,000
78602	67 51 40	154 43 12	10.0	1.00	.20	1.00	1,500	N	N	N	200	1,000
78603	67 49 33	154 44 30	10.0	1.00	.20	1.00	1,000	N	N	N	200	1,000
78604	67 49 12	154 41 6	10.0	1.00	.20	1.00	1,500	N	N	N	200	1,000
78605	67 46 56	154 38 24	10.0	1.00	.20	1.00	1,500	N	N	N	200	1,000
78606	67 47 21	154 37 36	10.0	1.00	.20	1.00	1,000	N	N	N	200	1,000
78607	67 51 40	154 44 0	10.0	1.00	.20	1.00	1,000	N	N	N	200	1,000
78608	67 51 6	155 19 0	10.0	1.00	.20	1.00	1,500	N	N	N	300	1,000
78609	67 51 36	155 6 6	10.0	1.00	.20	1.00	1,500	N	N	N	200	1,000
78611	67 48 8	155 0 30	10.0	1.00	.20	1.00	1,500	N	N	N	200	1,000
78612	67 46 18	155 4 48	10.0	1.00	.20	1.00	1,000	N	N	N	200	1,000
78613	67 45 6	155 3 18	10.0	1.50	.20	1.00	1,000	N	N	N	300	1,000
78614	67 43 18	154 59 0	10.0	1.50	.50	1.00	1,000	N	N	N	500	1,000
78615	67 45 30	154 54 48	10.0	1.00	.20	1.00	1,000	N	N	N	300	1,000
78616	67 45 33	154 55 12	10.0	1.50	.20	1.00	1,500	N	N	N	200	1,000
78617	67 43 3	154 52 18	10.0	1.50	.30	1.00	1,000	N	N	N	300	1,000
78618	67 10 45	154 28 0	10.0	1.50	2.00	1.00	1,500	N	N	N	200	1,000
78619	67 7 10	154 22 48	10.0	2.00	2.00	1.00	1,000	N	N	N	100	1,000
78620	67 7 42	154 23 42	10.0	2.00	1.00	1.00	1,000	N	N	N	200	1,000
78621	67 7 60	154 24 12	10.0	1.50	.50	1.00	1,000	N	N	N	200	700
78622	67 8 21	154 24 6	10.0	1.50	2.00	.70	1,000	N	N	N	200	1,000
78623	67 9 45	154 27 48	10.0	1.50	2.00	1.00	700	N	N	N	200	1,000
78624	67 9 54	154 28 36	7.0	1.50	1.00	.70	500	N	N	N	300	1,000
78625	67 10 6	154 29 6	7.0	1.50	.50	1.00	1,000	N	N	N	300	500
78626	67 10 12	154 29 12	10.0	1.50	.70	1.00	1,000	N	N	N	200	700
78627	67 10 21	154 29 36	7.0	1.00	.50	1.00	700	N	N	N	200	700
78628	67 10 42	154 30 24	10.0	1.00	.70	1.00	1,500	N	N	N	300	700
78629	67 11 8	154 31 33	7.0	1.50	.70	1.00	1,000	N	N	N	200	700
78630	67 6 42	154 13 42	15.0	2.00	1.50	1.00	3,000	N	N	N	200	700
78631	67 8 3	154 8 48	15.0	2.00	1.00	1.00	2,000	N	N	N	200	700

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
78586	1.0	N	N	50	200	50	50	<5	<20	100	30
78587	2.0	N	N	70	150	70	50	<5	<20	100	50
78588	2.0	N	N	70	150	100	50	20	<20	100	30
78589	2.0	N	N	70	150	70	50	N	<20	100	50
78590	2.0	N	N	70	150	50	50	N	<20	100	50
78591	2.0	N	N	70	150	150	150	N	<20	100	20
78592	2.0	N	N	70	100	150	150	20	<20	150	30
78593	2.0	N	N	70	100	200	50	70	<20	150	20
78594	2.0	N	N	70	150	70	50	N	<20	100	30
78595	2.0	N	N	70	150	100	50	N	<20	150	20
78596	2.0	N	N	70	200	100	150	N	<20	150	30
78597	2.0	N	N	70	200	100	100	N	<20	100	50
78598	2.0	N	N	70	150	100	50	N	<20	100	30
78599	2.0	N	N	70	150	50	70	N	<20	100	20
78600	2.0	N	N	70	200	100	50	N	<20	100	50
78601	2.0	N	N	70	200	100	50	N	<20	100	50
78602	2.0	N	N	50	200	100	50	N	<20	100	50
78603	2.0	N	N	50	200	100	50	N	<20	100	30
78604	2.0	N	N	70	200	50	50	N	<20	100	50
78605	2.0	N	N	70	200	100	50	N	<20	100	30
78606	2.0	N	N	50	200	50	50	N	<20	100	20
78607	2.0	N	N	50	200	70	50	N	<20	100	20
78608	2.0	N	N	50	200	70	50	N	<20	100	30
78609	2.0	N	N	50	200	70	50	N	<20	100	20
78611	2.0	N	N	70	200	70	70	N	<20	150	20
78612	2.0	N	N	70	200	50	50	N	<20	150	20
78613	2.0	N	N	50	200	50	70	N	<20	150	20
78614	2.0	N	N	50	200	150	70	N	<20	150	30
78615	2.0	N	N	70	200	100	70	N	<20	150	20
78616	2.0	N	N	50	200	70	70	N	<20	150	20
78617	2.0	N	N	50	200	100	70	N	<20	150	30
78618	2.0	N	N	70	200	150	70	N	<20	150	50
78619	2.0	N	N	70	200	150	50	N	<20	100	50
78620	2.0	N	N	70	200	50	100	N	<20	150	30
78621	2.0	N	N	50	150	30	50	N	<20	50	30
78622	2.0	N	N	50	100	50	50	N	<20	100	50
78623	2.0	N	N	50	100	30	50	N	<20	50	50
78624	2.0	N	N	20	100	30	50	N	<20	30	50
78625	2.0	N	N	20	50	10	50	N	<20	20	20
78626	2.0	N	N	20	100	20	50	N	<20	30	100
78627	2.0	N	N	20	100	20	50	N	<20	30	30
78628	2.0	N	N	20	100	10	50	N	<20	20	20
78629	2.0	N	N	20	100	20	50	N	<20	20	20
78630	1.0	N	N	100	150	100	100	N	<20	150	20
78631	2.0	N	N	100	150	200	100	N	<20	150	50

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
78586	N	30	N	200	300	N	70	<200	200	80
78587	N	20	N	200	300	N	70	200	300	100
78588	N	30	N	200	500	N	70	300	300	160
78589	N	30	N	200	300	N	70	<200	300	100
78590	N	20	N	200	300	N	70	200	300	90
78591	N	20	N	200	300	N	70	200	300	85
78592	N	20	N	200	300	N	70	700	500	440
78593	N	20	N	200	700	N	70	300	200	240
78594	N	20	N	200	300	N	70	<200	300	75
78595	N	20	N	200	300	N	70	700	500	360
78596	N	30	N	200	500	N	70	<200	300	110
78597	N	20	N	200	300	N	70	<200	500	110
78598	N	20	N	200	500	N	70	<200	500	110
78599	N	30	N	150	300	N	70	<200	200	110
78600	N	30	N	150	300	N	70	<200	200	120
78601	N	30	N	150	300	N	70	200	200	120
78602	N	30	N	150	300	N	70	200	200	110
78603	N	20	N	150	300	N	70	200	300	110
78604	N	20	N	150	300	N	70	200	300	120
78605	N	20	N	150	300	N	70	200	300	100
78606	N	20	N	150	300	N	70	200	300	100
78607	N	20	N	150	300	N	70	200	300	95
78608	N	20	N	150	300	N	70	200	200	80
78609	N	20	N	150	300	N	70	200	200	95
78611	N	30	N	100	300	N	70	200	200	110
78612	N	20	N	150	300	N	70	200	300	110
78613	N	20	N	150	300	N	70	200	200	150
78614	N	20	N	150	500	N	70	200	200	150
78615	N	20	N	150	300	N	70	200	300	100
78616	N	20	N	150	300	N	70	200	300	100
78617	N	20	N	150	300	N	70	200	500	140
78618	N	20	N	200	300	N	70	200	300	190
78619	N	20	N	150	300	N	50	300	100	280
78620	N	20	N	150	300	N	100	200	100	220
78621	N	20	N	150	300	N	50	<200	200	60
78622	N	20	N	200	300	N	70	200	100	110
78623	N	20	N	500	300	N	70	<200	200	70
78624	N	20	N	200	300	N	70	<200	200	55
78625	N	20	N	150	200	N	70	<200	300	45
78626	N	20	N	150	200	N	70	<200	300	50
78627	N	20	N	150	200	N	70	<200	300	70
78628	N	20	N	150	200	N	70	<200	300	50
78629	N	20	N	150	200	N	70	<200	500	50
78630	N	30	N	150	300	N	100	200	300	110
78631	N	30	N	150	300	N	200	200	200	110

sample	LATITUDE	LONGITUD	S-FE%	S-MG%	S-CA%	S-TI%	S-MN	S-AG	S-AS	S-AU	S-B	S-BA
78632	67 9 8	154 5 0	10.0	3.00	10.00	1.00	3,000	N	N	N	200	1,000
78633	67 11 3	154 4 24	10.0	5.00	10.00	1.00	1,000	N	N	N	500	1,000
78634	67 8 54	154 2 18	15.0	2.00	7.00	1.00	3,000	N	N	N	200	200
78635	67 7 0	154 6 12	10.0	3.00	3.00	1.00	1,000	N	N	N	300	1,500
78636	67 6 10	153 55 48	15.0	3.00	2.00	1.00	1,500	N	N	N	200	1,500
78637	67 5 3	153 56 24	10.0	2.00	1.00	1.00	1,500	N	N	N	200	700
78638	67 37 18	155 13 24	10.0	2.00	2.00	1.00	1,000	N	N	N	300	1,000
78639	67 32 33	155 5 54	10.0	2.00	3.00	.70	1,000	N	N	N	100	3,000

Stream Sediments--continued

sample	S-BE	S-BI	S-CD	S-CO	S-CR	S-CU	S-LA	S-MO	S-NB	S-NI	S-PB
78632	1.5	N	N	50	150	70	50	N	<20	100	50
78633	1.5	N	N	50	150	30	70	N	<20	50	70
78634	1.0	N	N	20	100	20	50	N	<20	30	20
78635	2.0	N	N	50	150	70	100	N	<20	100	100
78636	2.0	N	N	100	200	150	100	N	<20	200	50
78637	1.0	N	N	20	150	20	70	N	<20	100	20
78638	2.0	N	N	30	200	70	100	N	<20	100	30
78639	2.0	N	N	20	150	150	70	20	<20	100	100

sample	S-SB	S-SC	S-SN	S-SR	S-V	S-W	S-Y	S-ZN	S-ZR	AA-ZN-P
78632	N	20	N	300	300	N	70	<200	200	70
78633	N	20	N	300	200	N	70	<200	300	50
78634	N	30	N	300	300	N	70	<200	100	45
78635	N	30	N	300	300	N	70	<200	200	90
78636	N	30	N	100	300	N	70	<200	500	95
78637	N	30	N	100	300	N	70	<200	200	80
78638	N	20	N	200	300	N	70	<200	300	100
78639	N	20	N	200	500	N	50	500	150	300