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PRELIMINARY GEOCHEMISTRY OF THE NORTHWESTERN PORTION OF THE
MT. HAYES A-6 QUADRANGLE, SOUTHCENTRAL ALASKA

By

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in cooperation with the U.S. Bureau of Mines

Alaska Division of
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ILLUSTRATIONS

Figure 1. Sample location map.....	attached
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INTRODUCTION

The preliminary geochemical data presented in this report were collected during the 1988 field season as part of a geologic mapping project in the northwestern portion of the Mt. Hayes A-6 Quadrangle. Listed herein are the analyses of 214 rock samples, 8 stream sediment samples, and 10 pan concentrate samples; a geologic report and additional data will be prepared and made available over the winter of 1988-89. This study was conducted as part of a cooperative agreement between the U.S. Bureau of Mines and DGGs to investigate the geology and mineralization of the Valdez Creek mining district.

ROCK ANALYSES

Sample number	Au ppb FA+AA	W ppm	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
33201	55	1	2.39	<0.2	15	50	1.0	<2	1.31	0.5	12	47	13	3.15
33202	<5	1	1.65	<0.2	<5	30	0.5	4	5.64	0.5	7	54	41	1.96
33203	<5	1	0.25	<0.2	20	100	<0.5	<2	2.16	<0.5	<1	24	1	0.82
33204	15	1	1.64	<0.2	40	40	2.0	<2	0.85	<0.5	28	154	2	5.76
33205	<5	3	0.19	<0.2	10	140	<0.5	<2	1.82	0.5	<1	37	64	1.14
33206	<5	1	2.53	<0.2	20	30	0.5	2	2.33	<0.5	8	48	4	1.74
33207	10	4	2.24	<0.2	5	110	1.0	2	10.25	8.0	16	64	82	3.29
33208	<5	70	0.55	<0.2	<5	210	1.0	<2	0.42	<0.5	12	191	16	3.42
33209	<5	175	0.42	0.2	<5	130	<0.5	2	0.05	<0.5	35	160	37	4.52
33210	<5	8	0.40	<0.2	<5	340	0.5	2	7.15	<0.5	13	98	7	2.93
33211	2950	6	0.15	<0.2	165	10	<0.5	2	0.06	5.5	<1	48	575	0.45
33212	10	65	0.43	0.2	5	230	<0.5	2	0.22	<0.5	4	153	29	1.41
33213	90	4	0.77	<0.2	40	540	1.0	<2	7.57	1.5	49	446	290	4.60
33214	10	9	0.54	<0.2	40	110	1.5	<2	11.90	<0.5	31	80	94	6.42
33215	<5	2	2.66	<0.2	30	280	0.5	4	1.19	<0.5	2	34	34	3.43
33216	<5	2700	0.28	<0.2	10	2320	<0.5	2	6.27	1.0	5	75	4	1.31
33217	15	750	0.68	<0.2	80	350	1.0	<2	0.24	2.0	16	116	61	4.27
33218	<5	1575	0.26	<0.2	265	3600	0.5	4	4.38	<0.5	5	95	7	2.04
33219	350	175	0.25	5.8	645	130	<0.5	80	0.08	1.0	21	76	1110	14.60
33220	<5	125	2.39	<0.2	30	70	<0.5	4	7.71	0.5	52	164	286	6.40
33221	20	28	3.03	0.6	780	60	1.0	2	0.89	0.5	44	243	331	11.85
33222	20	27	0.79	<0.2	50	40	1.0	<2	5.80	1.0	44	34	467	11.20
33223	20	25	1.24	<0.2	35	20	<0.5	6	10.45	1.0	43	96	146	8.72
33224	1500	16	0.82	85.4	70	20	0.5	<2	12.80	24.5	33	75	>10000	11.80
33225	5	13	0.23	<0.2	40	<10	0.5	2	>15.00	1.0	25	23	278	5.90
33226 & 33227	115	1	0.82	69.6	50	20	1.0	390	0.50	<0.5	59	95	>10000	7.10
33228	<5	35	0.83	<0.2	75	40	2.5	<2	1.74	2.5	176	34	446	>15.00
33229	540	16	0.41	3.4	40	10	<0.5	<2	0.13	1.5	25	90	636	>15.00
33230	20	2	0.38	<0.2	60	10	0.5	4	10.75	1.0	34	64	226	7.49
33231	15	7	1.71	0.4	10	20	<0.5	2	3.74	<0.5	30	239	103	4.72
33232	5	2	0.26	<0.2	25	590	<0.5	<2	4.20	1.5	5	175	23	1.87

Sample number	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
33201	<10	<1	0.09	10	2.28	668	<1	0.01	12	530	8	5	7	31	0.24	<10	<10	64	5	82
33202	10	<1	0.02	<10	1.30	1080	<1	0.01	6	480	156	5	6	120	0.09	<10	<10	37	5	77
33203	<10	<1	0.07	10	1.14	245	2	0.02	<1	30	<2	<5	1	26	<0.01	<10	<10	3	<5	25
33204	<10	<1	0.02	10	1.21	406	<1	0.03	12	510	<2	<5	3	41	0.15	<10	<10	40	5	49
33205	<10	2	0.09	10	0.66	757	<1	0.01	<1	20	2	10	1	15	<0.01	<10	<10	3	<5	120
33206	10	<1	0.03	10	1.39	607	<1	0.03	13	690	6	5	3	43	0.18	<10	<10	52	5	41
33207	20	<1	0.11	<10	1.89	1930	<1	0.02	24	410	196	5	10	71	0.06	<10	<10	53	15	1465
33208	<10	<1	0.28	20	0.08	70	4	0.05	3	590	16	<5	3	79	0.08	<10	<10	22	110	24
33209	<10	<1	0.29	<10	0.04	33	322	0.03	6	110	8	<5	1	9	<0.01	<10	<10	7	255	20
33210	10	<1	0.07	<10	2.56	771	1	0.01	24	70	2	5	5	81	<0.01	<10	<10	47	15	42
33211	<10	11	0.04	<10	0.02	23	1	<0.01	15	40	4	>10000	<1	10	<0.01	<10	10	2	<5	25
33212	<10	<1	0.31	10	0.06	57	22	0.03	2	400	12	1260	2	78	0.16	<10	<10	14	95	6
33213	10	<1	0.12	<10	5.66	1025	<1	0.03	266	610	6	1390	39	160	<0.01	<10	<10	134	35	51
33214	20	<1	0.08	<10	1.96	1615	<1	0.03	56	670	<2	105	19	214	<0.01	<10	<10	140	35	72
33215	10	<1	0.09	20	2.84	500	<1	0.01	5	500	2	30	9	86	0.28	<10	<10	65	15	51
33216	10	<1	0.06	<10	0.07	858	3	0.01	4	120	8	45	5	1120	<0.01	<10	<10	4	1620	29
33217	<10	6	0.17	10	0.18	1070	6	0.02	34	820	2	55	12	34	<0.01	<10	<10	88	940	175
33218	<10	<1	0.06	<10	0.09	1050	<1	0.01	5	290	16	30	6	370	<0.01	<10	<10	11	2490	36
33219	<10	<1	0.02	<10	0.05	347	57	0.02	67	390	<2	10	18	5	0.11	<10	<10	183	295	144
33220	20	<1	<0.01	<10	2.23	1375	<1	0.05	86	550	<2	10	41	43	0.05	<10	<10	233	80	72
33221	<10	<1	0.19	10	1.60	447	2	0.04	96	600	<2	10	29	20	0.02	<10	<10	244	40	98
33222	10	<1	0.13	<10	1.12	2030	<1	0.05	60	1890	<2	40	31	34	<0.01	<10	<10	199	70	132
33223	20	<1	0.04	<10	1.74	1910	<1	0.03	82	480	<2	15	36	44	<0.01	<10	<10	219	50	105
33224	20	<1	0.07	<10	0.63	2160	20	0.01	55	550	<2	15	7	79	0.07	<10	<10	99	15	1240
33225	20	<1	0.03	<10	5.58	1525	<1	0.03	45	240	<2	10	11	74	<0.01	<10	<10	107	30	68
33226 & 33227	<10	<1	<0.01	10	0.09	2040	<1	<0.01	31	3440	<2	<5	48	49	0.05	<10	<10	272	730	1200
33228	<10	<1	0.01	80	0.78	>10000	<1	0.02	139	350	<2	5	70	24	<0.01	<10	<10	241	<5	329
33229	<10	<1	0.09	<10	0.06	519	<1	0.03	27	960	<2	<5	15	5	<0.01	<10	<10	138	<5	82
33230	20	<1	0.03	<10	2.40	1520	<1	0.05	62	350	<2	5	29	69	<0.01	<10	<10	253	15	105
33231	20	<1	<0.01	10	1.68	668	<1	0.03	68	550	<2	5	12	13	0.40	<10	<10	204	20	69
33232	10	<1	0.12	<10	0.12	911	1	0.02	12	210	<2	5	5	151	<0.01	<10	<10	33	5	69

Sample number	Au ppb FA+AA	W ppm	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
33233	<5	7	2.34	<0.2	15	240	1.0	4	4.25	<0.5	32	135	179	5.44
33234	<5	3	0.24	<0.2	5	120	<0.5	<2	1.77	0.5	<1	217	9	1.36
33235	<5	3	0.33	<0.2	20	90	<0.5	<2	2.22	0.5	<1	259	<1	1.39
33236	<5	1	0.18	<0.2	<5	220	<0.5	2	1.46	1.5	5	205	<1	0.91
33237	<5	1	0.32	0.6	25	120	<0.5	<2	0.11	0.5	<1	129	10	1.48
33238	<5	2	0.15	<0.2	20	50	<0.5	2	3.97	2.0	5	119	14	2.04
33239	<5	2	0.30	<0.2	15	130	<0.5	<2	1.86	2.0	3	247	26	2.06
33240	<5	1	0.26	<0.2	10	120	<0.5	4	7.04	1.0	<1	164	13	1.50
33242	<5	3	0.55	0.2	10	200	<0.5	<2	0.08	3.5	20	184	39	2.20
33243	<5	1	0.46	<0.2	25	160	<0.5	10	3.53	1.0	3	180	16	1.81
33244	<5	3	0.52	0.6	30	230	<0.5	2	0.24	1.0	1	197	20	1.90
33245	<5	1	0.46	0.2	15	110	<0.5	8	0.67	0.5	2	238	17	1.92
33246	<5	3	0.24	<0.2	45	130	<0.5	4	0.97	1.5	4	143	32	1.37
33247	<5	4	0.66	<0.2	5	760	<0.5	14	5.01	0.5	10	208	14	2.34
33248	145	17	0.76	<0.2	60	20	<0.5	12	5.96	<0.5	30	40	362	8.03
33249	40	1	0.63	<0.2	25	10	<0.5	6	2.00	<0.5	52	62	287	7.79
33250	760	5	0.27	0.4	65	<10	<0.5	<2	2.27	<0.5	159	120	139	>15.00
33300	240	1	0.07	28.4	465	490	<0.5	70	4.31	4.5	8	252	2690	1.75
33301	5	8	1.00	0.2	15	860	<0.5	6	0.82	<0.5	51	109	300	1.49
33302	5	1	0.60	<0.2	195	650	<0.5	<2	9.18	1.5	20	81	128	4.71
33303	10	1	0.90	0.6	<5	470	<0.5	8	0.15	<0.5	2	85	88	2.30
33304	<5	4	3.15	1.0	<5	200	0.5	<2	1.74	<0.5	41	178	7900	3.60
33306	30	975	0.95	<0.2	25	20	<0.5	<2	1.45	<0.5	53	183	359	12.10
33307	<5	4	0.40	<0.2	65	<10	<0.5	<2	12.75	<0.5	36	16	119	9.47
33308	<5	1	0.57	<0.2	<5	230	<0.5	2	0.54	<0.5	3	114	39	1.59
33309	5	3	2.36	<0.2	5	10	<0.5	<2	1.65	<0.5	64	22	142	5.77
33310	5	9	1.03	0.2	225	50	<0.5	<2	0.26	<0.5	77	41	75	>15.00
33311	10	9	0.26	0.2	15	80	<0.5	6	0.14	0.5	2	28	29	1.34
33312	<5	1	2.20	0.8	15	280	<0.5	4	0.46	<0.5	18	158	144	6.09
33313	<5	19	0.57	<0.2	5	50	<0.5	12	7.11	<0.5	16	65	46	4.30
33314	10	1	0.25	0.4	30	30	<0.5	4	0.11	<0.5	1	70	17	0.66
33315	<5	7	0.69	<0.2	<5	170	<0.5	2	1.68	<0.5	5	65	121	2.31
33316	30	1	0.73	<0.2	60	30	<0.5	16	>15.00	<0.5	16	57	922	2.24

Sample number	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
33233	20	<1	0.19	10	2.14	1030	<1	0.21	49	1560	<2	<5	16	358	0.22	<10	<10	211	10	83
33234	<10	<1	0.16	10	0.06	604	<1	0.02	7	120	2	<5	1	78	<0.01	<10	<10	14	5	59
33235	<10	<1	0.13	10	0.09	686	1	0.03	7	220	<2	<5	2	122	<0.01	<10	<10	18	5	69
33236	<10	<1	0.08	10	0.01	2030	<1	0.03	15	140	6	<5	2	51	<0.01	<10	<10	11	<5	72
33237	<10	<1	0.14	10	0.07	118	1	0.04	14	600	4	<5	3	21	<0.01	<10	<10	45	5	68
33238	<10	1	0.02	<10	0.87	857	4	0.04	14	580	2	5	11	152	<0.01	<10	<10	36	5	135
33239	<10	2	0.16	<10	0.38	476	4	0.03	19	380	2	5	3	51	<0.01	<10	<10	31	10	210
33240	10	<1	0.05	<10	0.51	1140	1	0.03	7	220	<2	<5	5	517	<0.01	<10	<10	32	5	77
33242	<10	<1	0.15	<10	0.10	605	5	0.03	49	170	2	<5	3	14	<0.01	<10	<10	43	5	308
33243	<10	<1	0.12	<10	0.66	894	2	0.03	14	240	6	<5	2	185	<0.01	<10	<10	43	<5	101
33244	<10	1	0.20	10	0.12	176	8	0.02	17	500	8	<5	3	18	<0.01	<10	<10	51	<5	123
33245	<10	<1	0.06	10	0.30	260	2	0.03	13	210	<2	<5	2	24	<0.01	<10	<10	41	<5	86
33246	<10	<1	0.05	10	0.03	204	7	0.03	26	430	<2	<5	2	35	<0.01	<10	<10	58	<5	152
33247	<10	<1	0.01	<10	1.98	776	1	0.03	32	300	<2	<5	5	131	0.06	<10	<10	67	<5	65
33248	10	<1	0.03	<10	2.27	1330	<1	0.03	57	550	<2	<5	23	24	<0.01	<10	<10	164	<5	65
33249	<10	<1	0.02	10	1.26	1405	<1	0.04	72	500	<2	<5	26	20	<0.01	<10	<10	128	<5	75
33250	<10	<1	<0.01	20	1.26	917	<1	0.01	45	70	<2	<5	3	7	<0.01	10	<10	43	<5	57
33300	<10	<1	<0.01	<10	2.18	653	6	0.01	47	10	1960	5	2	47	<0.01	<10	<10	13	<5	37
33301	<10	<1	0.22	20	0.22	2630	2	0.07	16	560	16	<5	3	119	0.10	<10	<10	28	<5	31
33302	<10	<1	0.03	<10	4.17	900	<1	0.04	28	480	16	5	17	140	<0.01	<10	<10	124	20	67
33303	<10	<1	0.39	<10	0.41	138	12	0.03	<1	360	16	<5	3	27	0.11	<10	<10	20	<5	16
33304	10	<1	<0.01	10	2.56	1140	<1	0.01	70	420	18	<5	7	256	0.23	<10	<10	90	<5	97
33306	10	1	0.08	20	0.28	2260	4	0.05	71	840	4	<5	49	16	0.01	<10	<10	300	15	122
33307	<10	<1	0.01	<10	5.52	1955	<1	0.03	48	100	<2	<5	12	61	<0.01	<10	<10	114	40	110
33308	<10	<1	0.26	20	0.12	86	114	0.04	<1	580	16	<5	2	76	0.14	<10	<10	19	805	8
33309	10	<1	0.10	10	1.59	908	<1	0.06	57	620	<2	<5	6	11	0.46	<10	<10	165	20	80
33310	<10	<1	<0.01	40	0.12	2190	<1	<0.01	71	460	8	<5	37	11	0.01	<10	<10	259	<5	220
33311	<10	<1	0.13	10	0.02	205	<1	0.03	<1	290	4	225	<1	9	<0.01	<10	<10	3	<5	34
33312	10	<1	0.65	10	1.77	412	<1	0.09	34	680	24	<5	11	21	0.25	<10	<10	131	10	92
33313	<10	1	0.23	<10	1.14	860	5	0.04	29	880	6	<5	11	195	<0.01	<10	<10	39	15	70
33314	<10	1	0.12	10	0.02	75	3	0.04	<1	10	18	<5	<1	9	<0.01	<10	<10	1	5	7
33315	<10	<1	0.27	30	0.62	353	3	0.03	5	1110	<2	<5	3	145	0.02	<10	<10	24	5	51
33316	<10	2	0.08	<10	0.47	284	1	0.04	16	460	14	5	6	33	0.05	<10	<10	85	25	29

Sample number	Au ppb FA+AA	W ppm	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
33317	30	13	0.60	<0.2	140	20	<0.5	6	3.20	0.5	5	67	1010	1.69
33318	125	1	0.97	<0.2	50	<10	<0.5	4	3.18	3.0	49	141	689	3.95
33319	295	27	0.85	1.2	130	<10	<0.5	<2	1.36	<0.5	152	34	321	>15.00
33320	10	1	3.45	1.6	25	40	<0.5	<2	1.08	1.5	33	302	>10000	7.19
33321	1880	8	0.31	13.6	40	10	<0.5	34	12.50	85.0	23	69	852	4.48
33322	460	1	2.09	6.0	5	<10	<0.5	<2	4.47	1.5	10	116	8710	2.12
33323	50	1	0.58	<0.2	355	470	0.5	10	10.00	1.5	25	93	210	8.95
33324	<5	1	0.58	0.4	60	140	<0.5	<2	0.19	1.0	5	103	78	3.14
33325	<5	1	0.11	<0.2	20	40	<0.5	18	>15.00	0.5	5	43	14	0.70
33326	<5	1	0.53	<0.2	75	520	<0.5	2	8.61	<0.5	11	81	50	3.89
33327	<5	4	0.82	<0.2	60	150	<0.5	6	3.25	<0.5	19	33	71	5.55
33328	<5	1	0.42	<0.2	50	590	<0.5	10	3.76	<0.5	2	201	74	3.18
33329	<5	1	0.17	<0.2	30	270	<0.5	<2	2.01	1.5	3	59	25	2.16
33330	<5	1	0.75	<0.2	680	170	<0.5	4	8.06	4.0	28	259	79	4.82
33331	5	1	0.03	<0.2	10	30	<0.5	36	>15.00	0.5	2	14	9	0.33
33332	<5	1	0.32	<0.2	35	140	<0.5	<2	6.42	0.5	5	135	26	2.35
33333	<5	1	0.18	<0.2	<5	430	<0.5	4	5.60	1.5	5	143	14	1.36
33334	95	5	2.26	0.2	145	40	<0.5	<2	4.14	0.5	19	93	2290	5.87
33335	20	1	2.20	0.4	30	20	<0.5	<2	0.53	<0.5	115	77	222	9.86
33336	15	7	0.96	<0.2	15	<10	<0.5	4	7.22	<0.5	33	67	124	7.33
33337	40	3	1.82	0.2	265	10	<0.5	<2	1.28	1.5	30	57	957	8.41
33602	20	4	2.26	0.2	<5	100	<0.5	2	0.13	0.5	4	47	52	4.46
33603	<5	1	0.23	<0.2	<5	<10	<0.5	<2	0.02	<0.5	1	221	87	5.80
33604	<5	1	2.38	<0.2	5	40	<0.5	12	5.78	<0.5	22	128	11	2.78
33605	<5	5	5.93	0.6	50	100	1.5	<2	0.05	10.0	444	32	1120	5.57
33621	<5	1	0.12	<0.2	15	<10	<0.5	<2	>15.00	<0.5	10	9	9	3.53
33622	<5	1	0.24	<0.2	15	860	<0.5	4	0.37	1.5	3	270	6	1.45
33623	<5	1	0.18	<0.2	5	90	<0.5	2	0.23	1.0	1	236	8	1.42
33624	<5	1	0.10	<0.2	15	1430	<0.5	8	0.91	1.0	1	153	7	1.37
33625	<5	1	0.05	<0.2	<5	110	<0.5	6	1.24	0.5	1	122	<1	0.79
33626	<5	1	0.09	<0.2	10	410	<0.5	8	5.05	0.5	2	82	5	0.94
33627	<5	1	1.61	<0.2	<5	40	<0.5	10	5.41	<0.5	6	127	9	1.18
33628	<5	1	0.28	<0.2	15	100	<0.5	10	3.52	<0.5	1	245	<1	2.04

Sample number	Ga ppm	Hg ppm	K %	La ppm	Hg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
33317	<10	<1	0.40	<10	1.30	533	2	0.02	5	800	2	5	2	14	<0.01	<10	<10	32	10	20
33318	<10	<1	0.03	<10	0.61	534	1	0.04	34	380	124	<5	9	46	0.23	<10	<10	86	<5	102
33319	<10	<1	0.12	20	0.83	1300	2	0.06	78	200	12	<5	20	9	<0.01	<10	<10	116	10	100
33320	<10	<1	0.02	10	3.54	657	2	0.04	69	<10	<2	<5	31	15	0.01	<10	<10	216	<5	255
33321	<10	<1	0.02	<10	5.23	1240	46	0.02	44	160	1080	<5	6	106	<0.01	<10	<10	62	30	5990
33322	10	<1	<0.01	<10	0.41	326	<1	0.01	18	330	20	<5	5	102	0.40	<10	<10	107	<5	96
33323	<10	<1	0.02	<10	2.87	1070	<1	0.02	40	3620	2	<5	35	111	0.05	<10	<10	223	20	137
33324	<10	<1	0.15	10	0.06	194	5	0.03	24	740	<2	<5	3	26	<0.01	<10	<10	34	<5	206
33325	<10	<1	0.03	<10	0.31	277	<1	0.01	8	1160	8	<5	1	237	<0.01	<10	10	34	<5	29
33326	<10	<1	0.13	<10	4.29	811	<1	0.03	24	210	16	<5	4	300	<0.01	<10	<10	32	15	70
33327	<10	<1	0.26	<10	1.34	1005	<1	0.03	38	730	22	<5	8	93	<0.01	<10	<10	67	5	112
33328	<10	<1	0.12	<10	1.52	605	<1	0.02	21	280	14	<5	3	51	<0.01	<10	<10	34	5	133
33329	<10	<1	0.06	<10	0.06	632	2	0.01	10	260	8	<5	4	51	<0.01	<10	<10	42	<5	130
33330	<10	<1	0.03	<10	0.87	883	<1	0.04	70	170	6	<5	23	109	<0.01	<10	<10	156	15	62
33331	<10	<1	0.01	<10	0.25	256	<1	0.01	5	370	4	5	<1	166	<0.01	<10	<10	7	<5	12
33332	<10	<1	0.09	<10	0.10	711	2	0.02	18	380	<2	<5	5	145	<0.01	<10	<10	32	<5	82
33333	<10	<1	0.03	<10	0.19	1045	1	0.03	12	280	<2	<5	5	218	<0.01	<10	<10	15	<5	71
33334	10	1	0.20	<10	0.44	757	1	0.13	27	570	<2	<5	12	61	0.31	<10	<10	230	<5	57
33335	10	<1	0.06	10	0.71	201	<1	0.06	88	1040	<2	<5	23	9	0.20	<10	<10	253	<5	107
33336	<10	<1	0.22	<10	1.17	1200	<1	0.03	49	480	<2	<5	26	47	<0.01	<10	<10	153	15	61
33337	<10	<1	0.10	20	0.26	1395	2	0.16	62	750	<2	<5	33	22	0.02	<10	<10	209	<5	91
33602	<10	<1	0.13	10	2.20	596	3	0.03	7	430	22	<5	6	6	0.17	<10	<10	60	<5	95
33603	<10	<1	<0.01	<10	0.03	27	<1	<0.01	<1	270	<2	<5	1	<1	<0.01	<10	<10	15	<5	16
33604	<10	<1	0.04	<10	1.63	1155	<1	0.01	66	300	<2	5	10	133	0.15	<10	<10	87	5	55
33605	10	1	0.09	30	2.53	>10000	2	0.01	94	580	<2	<5	34	5	<0.01	<10	<10	92	<5	479
33621	<10	4	<0.01	<10	9.26	800	<1	0.01	29	60	<2	<5	2	41	<0.01	<10	<10	18	20	55
33622	<10	1	0.03	<10	0.11	657	1	0.02	5	140	<2	<5	3	18	<0.01	<10	<10	53	<5	90
33623	<10	1	0.03	<10	0.05	623	2	0.02	8	170	<2	<5	2	7	<0.01	<10	<10	23	<5	49
33624	<10	<1	0.03	<10	0.15	675	1	0.01	1	140	<2	<5	3	10	<0.01	<10	<10	40	<5	71
33625	<10	<1	0.01	<10	0.18	425	1	0.01	<1	60	<2	<5	<1	31	<0.01	<10	<10	9	5	34
33626	<10	2	0.04	<10	0.12	771	<1	0.01	<1	140	<2	5	1	242	<0.01	<10	<10	17	5	49
33627	<10	<1	0.04	<10	0.33	222	<1	0.01	21	70	<2	<5	1	45	0.04	<10	<10	46	10	14
33628	<10	<1	0.05	<10	0.61	1055	<1	0.02	3	240	6	<5	3	100	<0.01	<10	<10	35	<5	51

Sample number	Au ppb FA+AA	W ppm	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
33629	<5	1	0.08	<0.2	10	490	<0.5	4	2.25	0.5	1	80	3	1.68
33630	<5	1	0.13	<0.2	10	210	<0.5	12	12.30	0.5	4	50	10	0.87
33631	<5	3	0.30	<0.2	40	390	<0.5	<2	1.86	5.5	6	118	23	2.52
33633	<5	2	0.16	<0.2	35	220	<0.5	2	3.80	1.5	4	43	15	3.19
33634	<5	1	0.05	<0.2	<5	70	<0.5	16	>15.00	<0.5	3	90	5	0.53
33635	<5	1	0.06	<0.2	<5	40	<0.5	<2	0.32	0.5	1	163	<1	0.69
33636	<5	1	0.13	<0.2	10	50	<0.5	22	>15.00	0.5	3	22	7	0.73
33637	<5	1	0.14	<0.2	<5	70	<0.5	<2	0.63	0.5	2	100	3	1.08
33638	<5	1	0.56	0.4	25	120	<0.5	<2	0.18	0.5	4	121	44	3.34
33640	<5	1	0.07	<0.2	<5	40	<0.5	2	6.35	0.5	2	100	5	0.85
33641	<5	1	0.22	0.2	10	380	<0.5	<2	0.15	<0.5	2	54	7	2.37
33642	<5	1	0.05	<0.2	<5	30	<0.5	<2	0.02	1.0	1	209	1	0.44
33643	<5	1	0.20	<0.2	<5	240	<0.5	<2	0.04	2.0	5	302	8	0.99
33644	<5	1	0.07	<0.2	5	50	<0.5	<2	2.98	<0.5	2	112	<1	1.44
33645	<5	1	0.07	<0.2	<5	60	<0.5	<2	0.10	0.5	<1	131	3	0.50
33646	10	1	0.26	<0.2	<5	140	<0.5	<2	0.56	<0.5	1	258	<1	0.71
33647	<5	4	0.14	<0.2	<5	100	<0.5	18	>15.00	<0.5	4	43	3	1.60
33648	<5	1	0.11	<0.2	10	300	<0.5	<2	3.65	1.5	5	60	10	1.55
33649	<5	1	0.11	<0.2	<5	1310	<0.5	4	5.44	0.5	1	62	3	1.37
33650	<5	1	0.07	<0.2	<5	130	<0.5	6	9.10	0.5	1	67	4	0.81
33651	<5	1	0.44	<0.2	55	330	<0.5	<2	13.65	<0.5	5	28	21	3.40
33652	<5	1	0.13	<0.2	10	30	<0.5	8	12.35	<0.5	3	110	5	1.51
33653	<5	1	0.36	<0.2	35	100	<0.5	4	6.57	<0.5	10	191	39	2.82
33654	<5	1	0.11	0.2	15	440	<0.5	14	>15.00	1.0	3	51	25	1.62
33655	<5	1	0.39	0.2	65	70	<0.5	<2	10.95	<0.5	16	119	34	4.44
33656	<5	1	0.21	0.2	25	60	<0.5	2	1.15	0.5	6	54	42	2.24
33779	<5	1	0.11	0.2	3330	150	<0.5	38	>15.00	<0.5	22	9	4	1.58
33780	<5	1	0.04	0.2	6520	130	<0.5	24	>15.00	<0.5	7	7	<1	1.91
33781	30	1	3.20	24.6	155	10	<0.5	<2	4.97	2.0	34	61	>10000	6.43
33782	<5	4	0.22	1.2	65	230	<0.5	2	0.13	<0.5	1	63	281	0.57
33783	<5	2	1.62	0.2	30	100	<0.5	<2	0.11	<0.5	2	25	270	4.29
33784	25	2	0.17	1.2	30	510	<0.5	<2	0.04	<0.5	3	68	212	9.58
33785	<5	8	1.74	0.2	25	270	<0.5	<2	0.04	<0.5	2	40	226	11.00

Sample number	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
33629	<10	<1	0.02	<10	0.57	1330	<1	0.01	4	110	26	<5	3	21	<0.01	<10	<10	32	<5	71
33630	<10	<1	0.05	<10	0.30	1355	<1	0.01	7	420	6	<5	2	472	<0.01	<10	<10	11	5	37
33631	<10	3	0.10	<10	0.57	867	5	0.01	19	280	10	5	6	29	<0.01	<10	<10	101	<5	310
33633	<10	<1	0.06	<10	1.20	1220	4	0.01	9	250	10	5	8	70	<0.01	<10	<10	101	<5	129
33634	<10	1	0.01	<10	0.27	2040	1	0.01	<1	240	8	<5	2	970	<0.01	<10	<10	8	<5	26
33635	<10	<1	<0.01	<10	0.08	389	1	0.01	1	110	2	<5	1	8	<0.01	<10	<10	7	<5	19
33636	<10	1	0.01	<10	0.63	1825	2	0.01	8	320	8	<5	2	530	<0.01	<10	<10	29	5	34
33637	<10	<1	0.04	10	0.06	579	1	0.01	3	440	2	5	1	20	<0.01	<10	<10	9	<5	49
33638	<10	<1	0.14	10	0.16	196	3	0.02	9	660	6	5	3	21	<0.01	<10	<10	22	<5	105
33640	<10	1	0.01	<10	0.26	1165	3	0.02	<1	260	14	5	3	325	<0.01	<10	<10	14	<5	43
33641	<10	<1	0.14	10	0.02	404	1	<0.01	1	870	12	<5	1	11	<0.01	<10	<10	5	<5	86
33642	<10	<1	<0.01	<10	<0.01	471	<1	<0.01	4	30	6	<5	<1	2	<0.01	<10	<10	3	<5	14
33643	<10	1	0.03	<10	0.01	747	1	0.02	11	140	4	<5	1	6	<0.01	<10	<10	15	<5	40
33644	<10	<1	0.01	<10	1.01	1055	1	0.01	<1	140	<2	<5	1	11	<0.01	<10	<10	11	<5	29
33645	<10	1	0.01	<10	0.04	582	<1	0.01	3	90	<2	<5	<1	2	<0.01	<10	<10	5	<5	29
33646	<10	1	0.04	<10	0.19	454	<1	0.01	2	90	2	<5	<1	11	<0.01	<10	<10	10	<5	25
33647	<10	<1	0.04	<10	0.28	4720	<1	0.01	2	250	4	5	5	1025	<0.01	<10	<10	12	5	20
33648	<10	<1	0.06	<10	0.12	1380	1	0.01	16	160	4	<5	3	160	<0.01	<10	<10	27	<5	112
33649	<10	1	0.07	<10	0.34	926	1	0.01	4	110	<2	<5	4	63	<0.01	<10	<10	47	<5	47
33650	<10	<1	0.04	<10	0.22	921	<1	0.01	4	90	<2	<5	1	272	<0.01	<10	<10	11	<5	42
33651	<10	<1	0.04	<10	7.58	771	<1	0.04	18	230	<2	<5	4	271	<0.01	<10	<10	67	10	78
33652	<10	2	<0.01	<10	3.02	768	<1	0.04	13	90	4	<5	5	204	<0.01	<10	<10	46	<5	23
33653	<10	<1	0.07	<10	1.63	666	<1	0.02	24	440	22	<5	3	182	<0.01	<10	<10	31	5	75
33654	<10	<1	0.02	<10	2.03	1100	<1	0.01	13	240	<2	<5	3	384	<0.01	<10	<10	30	<5	56
33655	<10	<1	0.01	<10	5.03	1215	<1	0.03	47	70	<2	<5	15	193	<0.01	<10	<10	92	<5	44
33656	<10	<1	0.04	10	0.17	353	2	0.01	17	250	12	<5	2	51	<0.01	<10	<10	27	<5	118
33779	<10	<1	0.03	<10	0.52	1050	1	0.02	42	190	2	55	<1	371	<0.01	<10	<10	3	5	123
33780	<10	<1	<0.01	<10	0.24	622	1	0.01	25	140	14	10	<1	200	<0.01	<10	<10	1	5	64
33781	20	<1	<0.01	<10	1.05	481	<1	0.02	47	<10	4	<5	18	14	0.46	<10	<10	266	<5	236
33782	<10	1	0.09	<10	0.02	24	4	0.03	3	50	154	<5	<1	4	<0.01	<10	<10	3	<5	16
33783	10	<1	0.09	10	1.39	568	<1	0.07	8	890	124	<5	4	14	0.24	<10	<10	60	<5	110
33784	<10	<1	0.04	10	0.02	15	<1	0.02	5	760	418	<5	<1	9	<0.01	<10	<10	18	<5	43
33785	<10	<1	0.09	10	1.32	430	<1	0.03	10	1720	62	<5	9	8	<0.01	<10	<10	131	<5	67

Sample number	Au ppb FA+AA	W ppm	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
33786	<5	1	0.17	1.2	35	480	<0.5	8	0.03	<0.5	<1	15	42	1.39
33787	<5	1	0.36	0.2	10	340	<0.5	<2	0.03	<0.5	1	61	23	0.48
33788	<5	1	2.11	0.2	<5	300	<0.5	2	0.56	<0.5	10	45	20	4.24
33789	<5	22	0.64	0.2	100	30	<0.5	<2	5.13	<0.5	51	220	122	8.23
33790	<5	3	3.89	0.2	15	60	<0.5	<2	0.78	<0.5	2	25	11	4.74
33791	<5	13	3.01	0.2	5	40	<0.5	<2	0.69	<0.5	6	39	20	4.38
33792	260	4	2.71	0.2	<5	240	<0.5	2	0.50	1.0	94	53	286	5.92
33793	20	1	1.85	0.2	45	30	<0.5	<2	0.47	<0.5	21	46	53	9.41
33794	<5	1	2.24	0.2	65	50	<0.5	4	0.43	<0.5	24	33	95	6.34
33795	10	1	0.81	0.8	205	10	<0.5	4	0.35	0.5	34	46	157	5.86
33796	<5	1	0.25	0.2	<5	20	<0.5	<2	0.15	1.0	8	43	45	0.27
33797	<5	1	3.94	0.6	180	10	<0.5	<2	0.08	<0.5	109	48	501	>15.00
33798	50	70	4.74	13.6	35	10	<0.5	52	0.05	<0.5	84	55	128	>15.00
33799	<5	1	0.15	0.2	5	30	<0.5	<2	0.01	<0.5	3	146	28	0.81
33800	<5	35	0.28	0.6	10	80	<0.5	<2	0.20	<0.5	19	20	61	5.87
33801	<5	14	0.24	0.2	20	20	<0.5	<2	11.00	<0.5	15	86	42	3.93
33802	<5	1	0.23	0.2	75	10	<0.5	<2	12.15	<0.5	19	138	47	4.33
33803	<5	1	0.21	0.2	5	10	<0.5	2	2.37	<0.5	10	95	8	1.93
33804	<5	1	0.24	0.2	10	<10	<0.5	<2	10.30	<0.5	7	127	28	3.65
33805	45	5	0.38	4.4	20	710	<0.5	12	0.44	<0.5	2	253	26	2.56
33806	20	1	0.32	0.2	15	130	<0.5	2	11.75	<0.5	11	70	38	2.87
33807	<5	1	0.27	0.2	5	460	<0.5	<2	9.11	<0.5	14	233	<1	2.89
33808	<5	1	2.47	1.4	10	30	<0.5	<2	10.00	<0.5	25	204	7030	3.47
33809	<5	1	0.31	0.2	10	120	<0.5	<2	11.25	<0.5	3	28	72	2.12
33810	<5	1	2.25	0.4	30	30	<0.5	<2	0.51	1.0	38	39	145	5.55
33811	<5	1	2.46	0.2	45	30	<0.5	<2	0.37	<0.5	8	38	57	5.76
33812	<5	1	3.04	1.4	80	10	<0.5	<2	0.53	<0.5	126	49	594	7.57
33813	15	3	0.23	1.0	<5	960	<0.5	<2	0.03	<0.5	1	65	19	0.78
33814	10	1	1.49	0.4	45	80	<0.5	<2	0.37	<0.5	7	29	26	4.80
33816	5	1	1.16	0.2	30	170	<0.5	<2	0.07	<0.5	7	22	195	14.25
33817	15	1	2.78	0.4	20	20	<0.5	<2	2.00	<0.5	24	70	15	6.04
33818	10	1	0.36	<0.2	705	10	<0.5	<2	7.06	4.0	18	67	2360	4.82

Sample number	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
33786	<10	2	0.05	10	0.01	14	<1	<0.01	<1	100	110	5	<1	8	<0.01	<10	<10	3	<5	5
33787	<10	<1	0.16	<10	0.02	15	<1	0.03	5	20	20	10	<1	2	<0.01	<10	<10	1	<5	4
33788	10	<1	0.09	10	1.76	1375	<1	0.02	11	430	10	<5	5	55	0.28	<10	<10	56	<5	130
33789	<10	3	<0.01	<10	2.89	1435	<1	0.02	126	220	<2	<5	43	43	<0.01	<10	<10	264	5	98
33790	10	1	0.11	10	3.06	1070	<1	0.03	3	380	<2	<5	8	67	0.31	<10	<10	85	<5	116
33791	10	<1	0.04	10	2.43	936	2	0.01	16	360	<2	<5	8	93	0.31	<10	<10	99	<5	95
33792	10	1	0.09	20	1.74	2800	2	0.01	55	590	2	<5	6	35	0.34	<10	<10	76	<5	194
33793	<10	<1	0.04	10	2.07	671	<1	0.01	19	460	22	<5	2	56	0.23	<10	<10	54	<5	83
33794	<10	<1	0.05	10	2.15	993	<1	0.01	25	240	<2	<5	2	56	0.23	<10	<10	30	<5	87
33795	<10	<1	0.01	10	0.60	290	<1	0.03	20	420	98	<5	2	16	0.27	<10	<10	62	<5	48
33796	<10	<1	0.05	<10	0.04	198	3	0.03	4	110	12	<5	<1	8	0.03	<10	<10	2	<5	67
33797	<10	<1	0.03	10	3.10	1480	17	<0.01	19	310	<2	<5	3	6	0.24	<10	<10	61	<5	132
33798	<10	<1	<0.01	20	1.48	8110	876	<0.01	14	50	232	<5	5	9	0.04	<10	<10	72	<5	399
33799	<10	<1	<0.01	<10	0.03	90	11	<0.01	5	20	26	5	1	4	<0.01	<10	<10	3	<5	7
33800	<10	<1	0.09	10	0.13	111	37	0.01	5	480	34	<5	1	27	0.09	<10	<10	10	30	16
33801	<10	<1	0.02	<10	4.93	1825	<1	0.01	48	60	<2	<5	13	80	<0.01	<10	<10	82	<5	37
33802	<10	1	<0.01	<10	5.76	736	<1	0.03	64	50	<2	<5	13	73	<0.01	<10	<10	163	10	69
33803	<10	<1	0.01	<10	0.17	360	<1	<0.01	32	20	<2	<5	2	4	<0.01	<10	<10	58	<5	16
33804	<10	<1	<0.01	<10	5.12	761	<1	0.02	33	70	<2	<5	13	25	<0.01	<10	<10	93	<5	45
33805	<10	1	0.22	10	0.23	67	8	0.01	3	50	262	5	1	13	<0.01	<10	<10	5	<5	12
33806	<10	3	<0.01	<10	4.84	913	<1	0.02	31	310	6	<5	10	90	<0.01	<10	<10	69	<5	34
33807	<10	1	0.01	<10	4.62	1795	<1	0.05	84	100	16	<5	11	79	<0.01	<10	<10	61	<5	63
33808	<10	1	0.04	<10	3.17	774	<1	0.01	99	400	<2	<5	4	68	0.22	<10	<10	78	<5	82
33809	<10	1	<0.01	<10	6.04	1335	<1	0.11	4	50	10	<5	3	119	<0.01	<10	<10	43	<5	97
33810	<10	2	0.02	10	2.44	1075	2	0.02	18	360	2	<5	2	23	0.11	<10	<10	56	<5	126
33811	<10	<1	0.03	10	2.62	876	3	0.01	10	370	<2	<5	2	19	0.20	<10	<10	56	<5	103
33812	<10	2	<0.01	10	3.50	978	11	0.02	65	440	<2	<5	5	36	0.10	<10	<10	65	<5	90
33813	<10	2	0.06	<10	0.12	40	<1	0.01	<1	40	52	<5	<1	18	<0.01	<10	<10	5	<5	9
33814	<10	2	0.03	10	1.44	652	<1	0.03	<1	710	28	<5	4	23	0.40	<10	<10	83	<5	93
33816	<10	1	0.04	10	0.61	262	4	0.01	7	790	38	<5	3	9	0.09	<10	<10	74	<5	101
33817	<10	<1	0.02	10	2.96	2040	3	0.02	23	550	52	<5	6	32	0.11	<10	<10	44	<5	173
33818	<10	281	<0.01	<10	3.43	806	<1	0.02	21	130	<2	35	17	38	<0.01	<10	<10	140	<5	92

Sample number	Au ppb FA+AA	W ppm	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
33819	<5	1	0.30	<0.2	30	<10	<0.5	<2	8.93	0.5	12	46	40	3.97
33820	<5	1	0.26	<0.2	15	40	<0.5	<2	10.30	<0.5	11	37	17	2.85
33821	<5	1	0.27	<0.2	10	10	<0.5	<2	>15.00	<0.5	16	11	9	4.14
33822	<5	1	1.22	<0.2	40	60	<0.5	<2	3.66	<0.5	13	35	47	2.90
33823	<5	1	0.55	<0.2	<5	660	<0.5	<2	2.76	<0.5	6	96	7	1.87
33824	<5	1	0.71	<0.2	25	10	<0.5	<2	11.85	<0.5	36	78	40	6.33
33825	<5	2	0.29	<0.2	10	30	<0.5	<2	7.09	0.5	25	87	100	4.35
33826	<5	1	0.15	<0.2	10	10	<0.5	<2	6.44	<0.5	8	28	7	2.73
33827	<5	1	0.24	<0.2	25	50	<0.5	<2	9.35	<0.5	20	139	40	4.06
33828	<5	3	0.23	<0.2	<5	20	<0.5	<2	6.81	<0.5	9	16	9	3.57
33829	<5	3	0.19	<0.2	5	940	<0.5	<2	3.29	<0.5	8	29	6	1.82
33851	10	1	0.17	22.0	950	290	<0.5	4	6.90	>99.9	21	32	2600	4.77
33852	305	1	0.19	22.6	10	30	<0.5	<2	0.25	4.0	19	93	>10000	4.91
33853	15	1	0.48	3.2	10	10	<0.5	<2	1.14	3.0	6	150	8890	1.64
33854	15	1	0.77	0.6	30	30	<0.5	<2	0.40	4.0	15	62	253	4.93
33855	<5	80	0.32	<0.2	410	20	<0.5	<2	11.35	2.0	20	160	90	5.96
33856	<5	16	0.46	<0.2	270	10	<0.5	<2	2.19	1.5	13	97	68	4.16
33857	<5	2	0.30	<0.2	45	<10	<0.5	<2	5.47	<0.5	10	163	43	2.62
33858	15	19	1.49	0.4	275	10	<0.5	<2	0.20	1.0	36	47	225	9.48
33859	5	1	0.18	<0.2	20	20	<0.5	<2	4.62	<0.5	6	46	29	1.83
33860	<5	1	2.12	<0.2	<5	30	<0.5	<2	1.32	1.0	11	51	26	2.94
33861	<5	1	0.48	0.4	20	240	<0.5	<2	0.21	<0.5	7	18	7	3.49
33862	<5	1	0.15	0.2	15	660	<0.5	2	0.67	<0.5	5	21	18	1.72
33863	<5	1	0.17	0.2	5	1330	<0.5	<2	0.03	<0.5	1	32	18	0.91
33864	<5	1	1.04	0.4	100	50	<0.5	4	0.78	<0.5	28	25	92	11.50
33865	<5	1	2.47	0.4	70	30	<0.5	<2	0.31	<0.5	42	29	37	10.75
33866	15	1	3.20	0.6	5	80	<0.5	<2	1.99	3.0	30	12	2030	9.42
33867	<5	1	1.68	<0.2	5	80	<0.5	<2	0.10	<0.5	9	38	51	4.86
33868	15	1	1.83	<0.2	25	10	<0.5	<2	1.04	<0.5	29	9	406	5.72
33869	<5	1	0.51	<0.2	200	30	<0.5	4	7.25	1.0	31	302	109	5.20
33870	<5	1	0.28	<0.2	20	120	<0.5	<2	0.03	<0.5	2	16	23	2.93
33871	<5	1	0.44	<0.2	375	60	<0.5	<2	7.12	2.0	32	207	265	5.45
33873	<5	3	0.77	<0.2	5	90	<0.5	<2	0.05	<0.5	2	29	4	2.76

Sample number	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
33819	<10	11	0.01	<10	4.46	901	<1	0.03	24	100	26	<5	12	64	<0.01	<10	<10	115	<5	89
33820	<10	2	0.01	<10	5.65	601	<1	0.04	47	80	<2	<5	5	214	<0.01	<10	<10	51	5	49
33821	<10	<1	0.01	<10	7.65	942	<1	0.06	25	80	<2	<5	6	131	<0.01	<10	<10	81	15	59
33822	<10	<1	0.11	<10	1.18	407	<1	0.01	23	210	<2	5	6	38	<0.01	<10	<10	68	<5	30
33823	<10	<1	0.05	<10	0.92	375	<1	0.06	16	110	<2	<5	5	41	<0.01	<10	<10	66	5	24
33824	<10	<1	0.01	<10	5.63	1330	<1	0.02	87	50	<2	<5	15	339	<0.01	<10	<10	117	10	83
33825	<10	<1	0.01	<10	3.47	892	<1	0.02	60	50	<2	<5	32	119	<0.01	<10	<10	125	<5	58
33826	<10	<1	<0.01	<10	2.21	413	<1	0.01	18	50	8	<5	8	33	<0.01	<10	<10	88	<5	31
33827	<10	<1	<0.01	<10	4.83	944	<1	0.02	60	40	6	<5	15	118	<0.01	<10	<10	128	10	51
33828	<10	<1	0.05	<10	0.71	663	<1	0.01	3	350	14	<5	8	62	<0.01	<10	<10	35	<5	36
33829	<10	<1	0.02	<10	1.13	413	<1	0.02	11	110	<2	<5	4	56	<0.01	<10	<10	57	<5	23
33851	<10	16	0.01	<10	3.62	3010	21	0.02	4	30	>10000	20	13	32	<0.01	<10	<10	99	<5	5190
33852	<10	1	<0.01	10	0.13	79	<1	0.01	111	<10	204	<5	1	6	<0.01	<10	<10	6	<5	194
33853	<10	<1	<0.01	<10	0.50	185	1	<0.01	25	80	142	<5	1	7	0.04	<10	<10	30	<5	145
33854	<10	<1	0.08	<10	0.33	335	<1	0.02	8	180	72	<5	2	14	0.04	<10	<10	11	<5	301
33855	<10	36	0.04	<10	5.19	1090	<1	0.02	62	470	38	<5	13	61	<0.01	<10	<10	123	20	65
33856	<10	31	0.02	<10	0.99	643	<1	0.01	59	270	30	<5	13	11	<0.01	<10	<10	113	<5	39
33857	<10	6	<0.01	<10	2.84	613	<1	0.01	38	100	30	<5	9	16	<0.01	<10	<10	66	<5	31
33858	<10	29	<0.01	10	0.12	808	<1	<0.01	32	390	22	<5	35	8	<0.01	<10	<10	359	<5	120
33859	<10	12	0.05	<10	0.59	388	<1	0.01	28	380	16	<5	3	12	<0.01	<10	<10	35	<5	40
33860	<10	<1	0.01	10	1.15	452	5	0.01	14	730	22	<5	3	37	0.19	<10	<10	58	<5	72
33861	<10	<1	0.11	<10	0.13	110	<1	0.02	6	180	6	<5	1	8	0.06	<10	<10	6	<5	13
33862	<10	<1	0.05	10	0.36	343	<1	0.02	5	130	14	<5	1	10	<0.01	<10	<10	3	<5	57
33863	<10	<1	0.11	20	0.04	53	<1	0.02	4	50	32	5	<1	22	<0.01	<10	<10	1	<5	15
33864	<10	1	0.04	30	2.55	5650	<1	0.01	17	450	48	<5	5	11	<0.01	<10	<10	54	<5	627
33865	<10	<1	0.02	10	2.45	751	11	0.01	27	130	10	<5	2	26	0.16	<10	<10	52	<5	93
33866	20	1	0.01	20	1.51	746	<1	0.01	9	3000	24	<5	13	58	0.30	<10	<10	60	<5	189
33867	<10	<1	0.11	<10	1.73	844	1	0.12	2	260	26	<5	12	9	0.01	<10	<10	108	<5	140
33868	10	<1	<0.01	20	1.04	346	1	0.02	10	1550	6	<5	5	32	0.38	<10	<10	129	<5	88
33869	<10	<1	0.01	<10	3.59	849	<1	0.01	181	250	2	<5	22	141	<0.01	<10	<10	128	<5	61
33870	<10	<1	0.11	<10	0.03	18	<1	0.01	5	370	14	<5	1	5	<0.01	<10	<10	5	<5	19
33871	<10	3	0.04	<10	3.28	958	<1	0.01	73	60	<2	5	35	56	<0.01	<10	<10	185	<5	62
33873	<10	<1	0.16	<10	0.74	178	1	0.02	5	310	6	<5	1	2	0.05	<10	<10	9	<5	18

Sample number	Au ppb FA+AA	W ppm	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %
33874	<5	1	1.10	<0.2	100	30	<0.5	<2	0.10	0.5	6	43	4	3.76
33875	<5	1	0.40	<0.2	55	180	<0.5	<2	3.77	3.0	4	282	19	1.70
33876	<5	1	0.39	<0.2	15	210	<0.5	2	3.74	1.0	2	101	17	1.37
33877	<5	1	0.13	<0.2	15	70	<0.5	6	5.86	<0.5	3	137	20	0.97
33878	<5	1	0.70	<0.2	55	270	<0.5	<2	1.49	2.0	5	197	23	3.00
33879	<5	1	1.06	0.4	10	460	<0.5	<2	0.15	<0.5	3	529	21	2.34
33880	<5	1	1.07	0.4	40	180	<0.5	<2	0.07	3.5	8	78	84	4.34
33881	<5	1	0.22	<0.2	15	100	<0.5	<2	1.52	<0.5	1	105	9	1.17
33882	170	1	0.28	0.4	1925	190	<0.5	<2	0.18	1.0	3	51	25	2.89
33883	5	1	0.25	<0.2	25	90	<0.5	<2	1.71	0.5	3	136	18	1.52
33885	15	1	0.15	<0.2	40	190	<0.5	2	4.75	1.0	3	117	17	1.34
33887	25	1	0.30	0.4	60	140	<0.5	<2	0.11	<0.5	5	76	17	3.31
33888	5	1	0.21	0.4	35	190	<0.5	<2	0.06	<0.5	2	80	24	2.06
33889	<5	1	0.18	<0.2	20	120	<0.5	<2	1.14	0.5	1	89	13	1.44
33890	<5	1	0.26	0.6	50	290	<0.5	<2	0.48	0.5	5	70	30	2.41
33891	30	2	0.30	0.4	30	420	<0.5	2	0.08	0.5	3	95	18	3.17
33892	15	1	0.23	<0.2	40	150	<0.5	<2	7.76	<0.5	11	134	15	3.14
33893	<5	1	0.49	0.2	35	170	<0.5	<2	0.10	1.5	5	90	40	3.52
33894	<5	1	0.36	0.4	35	130	<0.5	<2	0.10	1.0	4	58	20	3.92

Sample number	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
33874	<10	1	0.13	<10	1.23	176	<1	0.04	5	290	6	<5	4	14	0.15	<10	<10	35	<5	20
33875	<10	<1	0.15	<10	0.33	774	3	0.03	13	230	6	<5	3	168	<0.01	<10	<10	32	<5	166
33876	<10	<1	0.16	<10	0.09	818	4	0.03	9	190	<2	5	2	178	<0.01	<10	<10	31	<5	113
33877	<10	<1	0.01	<10	0.19	809	<1	0.01	12	200	<2	<5	1	332	<0.01	<10	<10	10	<5	31
33878	<10	<1	0.21	10	0.27	653	4	0.03	18	390	<2	<5	3	95	<0.01	<10	<10	65	<5	184
33879	<10	<1	0.38	<10	0.12	95	2	0.12	16	290	<2	<5	4	27	<0.01	<10	<10	72	<5	75
33880	<10	<1	0.15	<10	0.41	766	6	0.02	23	580	4	<5	3	13	<0.01	<10	<10	93	<5	263
33881	<10	<1	0.10	10	0.02	386	2	0.02	9	270	2	<5	2	76	<0.01	<10	<10	12	<5	56
33882	<10	64	0.07	10	0.03	139	6	0.01	14	680	<2	10	6	19	<0.01	<10	<10	44	5	107
33883	<10	<1	0.07	10	0.05	357	1	0.01	14	320	10	<5	2	102	<0.01	<10	<10	14	<5	59
33885	<10	<1	0.06	<10	0.30	705	2	0.01	9	400	<2	5	3	189	<0.01	<10	<10	11	<5	117
33887	<10	<1	0.10	10	0.03	141	4	0.01	19	470	<2	<5	3	11	<0.01	<10	<10	14	<5	125
33888	<10	<1	0.12	10	0.01	99	4	<0.01	17	200	14	<5	1	8	<0.01	<10	<10	13	<5	166
33889	<10	<1	0.06	10	0.09	176	2	0.02	12	200	<2	<5	2	67	<0.01	<10	<10	9	<5	79
33890	<10	<1	0.14	10	0.02	313	3	0.01	14	350	12	<5	2	45	<0.01	<10	<10	23	<5	120
33891	<10	<1	0.12	10	0.02	153	5	0.03	18	340	14	<5	3	23	<0.01	<10	<10	31	<5	131
33892	<10	<1	0.04	<10	3.66	845	<1	0.05	35	170	<2	<5	11	283	<0.01	<10	<10	55	<5	55
33893	<10	<1	0.14	10	0.03	153	8	0.05	20	580	6	<5	3	60	<0.01	<10	<10	30	<5	208
33894	<10	<1	0.10	10	0.04	155	5	0.04	17	450	<2	<5	3	38	<0.01	<10	<10	31	<5	159

STREAM SEDIMENT ANALYSES

Sample number	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm
33607	1.68	1.0	120	210	2.5	<2	0.36	2.0	49	25	169	7.34	<10	2
33608	1.02	0.8	550	270	1.5	<2	1.56	2.5	28	21	192	6.06	<10	<1
33610	1.89	0.2	495	110	1.5	<2	1.78	0.5	49	79	175	7.05	<10	<1
33612	0.99	0.2	125	300	1.5	<2	0.40	5.0	24	50	75	5.20	<10	2
33613	2.37	0.2	20	110	0.5	<2	0.98	1.5	25	95	158	5.70	<10	<1
33615	2.96	0.2	35	30	1.5	<2	1.68	<0.5	48	66	328	7.33	10	<1
33618	2.80	0.2	30	30	1.0	<2	1.83	0.5	48	75	330	7.56	10	<1
33620	1.95	0.2	115	100	2.0	<2	0.99	<0.5	48	86	155	5.74	<10	3

Sample number	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm	W Au ppm	ppb FA+AA
33607	0.09	20	0.72	2120	<1	0.01	35	930	92	<5	10	44	0.05	<10	<10	61	10	301	1	30
33608	0.09	20	0.62	1250	7	<0.01	50	810	40	10	10	56	0.03	<10	<10	56	25	328	1	100
33610	0.06	20	1.56	1240	<1	0.01	69	490	<2	5	19	57	0.15	<10	<10	156	25	165	1	<10
33612	0.20	20	0.36	1375	7	0.02	39	930	10	5	10	46	0.01	<10	<10	75	15	390	1	5
33613	0.08	20	1.80	914	<1	0.02	44	490	<2	<5	13	32	0.19	<10	<10	137	20	143	1	15
33615	0.01	20	2.46	1115	<1	0.01	54	490	<2	5	14	36	0.50	<10	<10	219	25	113	1	50
33618	0.04	20	2.70	1360	<1	0.01	58	520	<2	<5	20	50	0.48	<10	<10	224	20	106	1	<5
33620	0.09	20	1.77	1335	<1	0.02	88	1180	<2	<5	17	66	0.16	<10	<10	170	10	116	1	<5

PAN CONCENTRATE ANALYSES

Sample number	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm
33601	3.20	<0.2	225	150	<0.5	2	2.97	0.5	29	114	104	5.82	<10	<1
33609	1.84	0.2	305	620	<0.5	2	1.80	1.0	16	73	89	3.96	<10	<1
33611	1.91	<0.2	100	480	<0.5	2	0.48	3.0	14	86	55	4.22	<10	<1
33614	3.30	<0.2	20	130	<0.5	2	2.00	0.5	27	137	128	5.56	<10	<1
33616	2.98	<0.2	<5	20	<0.5	2	2.79	<0.5	31	68	188	6.70	<10	<1
33617	3.33	<0.2	5	30	<0.5	2	3.26	<0.5	32	78	187	7.00	<10	<1
33619	3.33	<0.2	50	80	<0.5	2	2.38	<0.5	33	107	121	6.56	<10	<1
33872	3.99	<0.2	220	80	<0.5	2	2.65	<0.5	35	119	105	6.30	<10	<1
33884	1.31	0.6	95	570	0.5	2	0.43	2.0	8	113	38	2.72	<10	<1
33886	1.59	0.6	285	640	0.5	2	0.80	1.5	12	124	51	3.42	<10	<1

Sample number	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm	WO3 NAA %	Au FA+AA ppb
33601	0.22	<10	1.67	820	2	0.05	62	450	<2	<5	21	122	0.33	<10	<10	197	15	120	<0.001	<5
33609	0.47	10	0.60	784	5	0.03	33	680	16	5	12	126	0.05	10	<10	87	10	206	<0.001	25
33611	0.61	10	0.44	806	7	0.03	36	780	<2	5	14	63	0.02	<10	<10	124	10	306	<0.001	<5
33614	0.22	10	1.90	856	1	0.05	45	430	<2	<5	20	82	0.32	<10	<10	181	10	120	<0.001	<5
33616	0.05	<10	2.20	770	<1	0.04	50	480	<2	<5	16	62	0.74	<10	<10	264	15	87	<0.001	<5
33617	0.10	<10	2.29	863	<1	0.06	51	490	<2	<5	22	121	0.73	<10	<10	274	20	84	<0.001	<5
33619	0.18	20	2.01	906	<1	0.17	69	1170	<2	<5	22	251	0.56	<10	<10	264	15	99	<0.001	<5
33872	0.22	<10	2.63	1045	<1	0.05	57	300	<2	5	27	120	0.34	<10	<10	217	10	113	0.001	5
33884	0.53	10	0.13	539	8	0.03	32	660	8	5	9	94	<0.01	<10	<10	87	5	224	<0.001	25
33886	0.60	10	0.31	719	6	0.05	28	570	2	<5	14	92	0.03	10	<10	106	10	186	<0.001	55

ROCKS

All samples are selected individual rocks unless otherwise noted.

<u>Sample</u>	<u>Trp(S)</u>	<u>Rge(E)</u>	<u>Sec</u>	<u>Elev</u>	<u>Brief rock sample description</u>
33201	20	4	1	4400	1 ft wide, lt green/tan altered (aspy?, clay) zone in massive, resistant tuff
33202	20	4	1	4400	qtz-epidote vein, trace galena(?)
33203	20	4	1	4500	4 ft wide, fine- med-grained, qtz-Kspar dike, finely dissem pyrite
33204	20	4	1	4630	2 ft wide zone of orange/black, limonite-stained pyritic tuff
33205	20	4	1	4650	fractured, schistose tuff
33206	20	4	1	4600	fine-grained hornblende qtz diorite
33207	20	4	1	4250	limonite cemented breccia float from creek mouth
33208	20	4	1	4700	100 ft wide zone trending down gully of orange-stained aplite (felsic tuff?)
33209	20	4	1	4700	33208 with 1/4-1/2" wide fractures of limonite, aspy(?), py, cpy, lt green 'bloom'
33210	20	4	1	4580	aplite/felsic tuff
33211	19	5	31	5200	2" wide Sb vein in 3 ft wide zone of qtz-rich felsic tuff that trends across ridge
33212	19	5	31	5200	felsic tuff associated with 33211
33213	20	4	1	4250	aphanitic green/gray felsic dike (calc-silicate hornfels?) assoc. with qtz-carb. in talus
33214	20	4	1	4250	qtz-carbonate breccia in argillite
33215	19	5	30	5450	orange, limonitic, felsic dike/breccia within chlorite schist/tuff unit
33216	20	5	6	4650	qtz-scheelite veins associated with deep red limonite in argillite float near trenches
33217	20	5	6	4650	scheelite-bearing weathered argillite/soil from trench floor
33218	20	5	6	4650	qtz-scheelite veins, limonite in limey, black argillite float
33219	19	5	29	4900	5 ft chip sample over limonite-stained, qtz-carbonate breccia zone
33220	19	5	29	4700	sheared basalt with dissem sulfides, adjacent to orange-stained soil
33221	19	5	29	4700	2 ft wide orange-stained soil above 33220
33222	19	5	29	4900	qtz-carbonate alteration in finely fractured, gray-maroon, orange weathered rock (basalt?)
33223	19	5	29	5000	basalt breccia
33224	19	5	29	4800	10-20 ft wide, malachite-, limonite-stained zone in hornfelsed, limey sed. below mafic sill
33225	19	5	32	5100	qtz-carbonate breccia
33226	19	5	31	5060	1.5 " thick, massive tetrahedrite(?)/qtz vein in rubble crop with epidote-alt. amyg. basalt
33227	19	5	31	4600	iron concretions in very weathered/alt. basalt
33228	19	5	31	4600	very weathered, clay-altered, blue-gray aphanitic dike rock(?) in creek bottom
33229	19	5	29	4600	white, clay-altered, pyritic rock associated with 3-4 ft wide breccia/gossan zone
33230	19	5	29	4900	white clay and limonite breccia adjacent to orange carbonate horizon
33231	20	5	6	4800	basalt breccia, qtz-carbonate matrix, 50 ft below argillite contact
33232	20	5	6	4850	argillite with qtz veins
33233	20	5	6	4880	fine-grained hornblende andesite

<u>Sample</u>	<u>Twp(S)</u>	<u>Rge(E)</u>	<u>Sec</u>	<u>Elev</u>	<u>Brief rock sample description</u>
33234	20	5	6	5200	argillite with qtz veins
33235	20	5	6	5200	argillite with qtz veins
33236	20	5	6	5200	argillite with qtz veins
33237	20	5	6	5150	argillite with qtz veins
33238	20	5	6	5200	argillite with qtz veins
33239	20	5	6	5200	argillite with qtz veins
33240	20	5	6	5100	argillite with qtz veins
33242	20	5	6	5050	argillite with qtz veins
33243	20	5	6	4900	argillite with qtz veins
33244	20	5	6	4900	argillite with qtz veins
33245	20	5	6	4850	argillite with qtz veins
33246	20	5	6	4750	argillite with qtz veins
33247	20	5	6	4800	argillite and green tuff in creek float
33248	19	5	29	4350	blue-gray, v. fn-grained rock with abundant silica flooding/calcite veining
33249	19	5	29	4450	blue-gray clay, weathered version of 33248, abundant in drainages.
33250	19	5	29	4650	massive pyrite float in vicinity of very pyritic basalt and hornfelsed seds
33251	19	5	29	4350	Joy Creek 'skarn', very finely fractured, pyritic, qtz-epidote rock
33252	19	5	29	5000	fractured conglomerate; limestone, intrusive, qtz, arg. clasts in black argillite matrix
33300	20	5	6	5310	qtz vein, about 10'wide, minor malachite and azurite
33301	19	5	31	5080	black, Mn-stained felsic tuff
33302	20	5	6	5230	qtz-carbonate veins with pyrite, hosted by altered felsic tuff
33303	19	5	31	4900	gossanous pyritic tuff
33304	19	5	31	4900	mafic dike with qtz veins, malachite, azurite, sulfide; in felsic tuff unit
33305	19	5	31	4780	brown-weathering intermediate meta-tuff
33306	19	5	31	5000	very altered greenstone(?) with pyrite, Fe-staining
33307	19	5	31	5220	qtz-carbonate veins in altered greenstone
33308	19	5	32	5150	pyritic med-grained felsic intrusive in greenstone rubble
33309	19	5	32	5050	very Fe-stained basalt
33310	19	5	31	4580	Fe + Mn concretionary nodules
33311	19	5	20	5880	light tannish weathered felsic dike intruding 'Ja' argillites, with disseminated pyrite.
33312	19	5	20	5700	pyritic, Fe-stained dark blue-grey hornfelsed argillite
33313	19	5	20	5300	qtz-carbonate veins
33314	19	5	20	5300	aplite dike in granitic intrusive
33315	19	5	20	5300	pyrrhotite-bearing biotite granitic intrusive
33316	19	5	29	4200	clasts of black argillite, basalt and felsic intrusive cemented by calcite
33317	19	5	29	4275	felsic dike with disseminated pyrite/pyrrhotite
33318	19	5	29	4500	qtz-pyrite-epidote veins, 'Joy Ck skarn'

<u>Sample</u>	<u>Twp(S)</u>	<u>Rge(E)</u>	<u>Sec</u>	<u>Elev</u>	<u>Brief rock sample description</u>
33319	19	5	29	4500	grey sulfide zone in silicified rock, 'Joy Ck skarn'
33320	19	5	29	4750	malachite coating on greenstone
33321	19	5	29	4800	qtz-carbonate veins brecciating greenstone, 'Copper Knob Peak'
33322	19	5	29	5200	qtz-epidote vein in basalt with pyrite, chalcopyrite, malachite, about 10cm wide
33323	19	5	32	5000	qtz-carbonate veins in fractured basalt
33324	20	5	6	4750	black argillite with up to 40% white veining along foliation
33325	20	5	6	5100	grey limestone with white calcite veins and brown-weathering veins
33326	20	5	6	5100	veins in black argillite
33327	20	5	6	5100	orange-weathering calcareous veinlets in argillite
33328	20	5	6	5100	veins in black argillite
33329	19	5	31	4740	very weathered qtz-carbonate-limonite between tuff and argillite/limestone
33330	19	5	31	4680	veins in black argillite
33331	19	5	31	4580	massive white carbonate lens, about 10' thick
33332	20	4	1	4300	orange-weathering veinlets in black argillite
33333	20	4	1	4350	veins in black argillite
33334	19	5	29	4350	fractured Fe- and malachite-stained greenstone above felsic dike in 'Joy Ck'
33335	19	5	29	4550	Fe-stained, fractured pyritic basalt
33336	19	5	29	4450	extremely silicified blue-grey and maroon rock, orange-weathering
33337	19	5	29	4370	very weathered orange rock from clay alteration zone, 'Joy Ck'
33602	20	4	10	4380	gossanous felsite(?)
33603	20	4	10	4250	massive chunks of gossan on slope, possibly ferricrete
33604	20	4	10	4130	altered, pyritic greenstone
33605	20	4	10	4100	black gossan material from drill pad area
33606	20	4	10	4050	black gossan material in cat trench/drill pad
33622	20	4	12	4580	argillite with qtz veining
33623	20	4	12	4540	argillite with qtz veining
33624	20	4	12	4510	argillite with qtz veining
33625	20	4	12	4480	argillite with qtz veining
33626	20	4	12	4520	argillite with qtz veining
33627	20	4	12	4500	white qtz veins with cream-colored mineral in greenstone in gully float
33628	20	4	12	4480	argillite with qtz veining
33629	20	4	12	4460	argillite with qtz veining
33630	20	4	12	4450	argillite with qtz veining
33631	20	4	12	4440	composite chip sample, rusty veins in folded argillite
33632	20	4	12	4430	argillite with qtz veining
33633	20	4	12	4420	argillite with veins, in place
33634	20	4	12	4410	argillite with qtz veining

<u>Sample</u>	<u>Top(S)</u>	<u>Roe(E)</u>	<u>Sec</u>	<u>Elev</u>	<u>Brief rock sample description</u>
33635	20	4	12	4400	argillite with qtz veining
33636	20	4	12	4390	argillite with qtz veining
33637	20	4	12	4380	float fragments of rusty qtz veining in argillite, some creamy-colored minerals
33638	20	4	12	4370	argillite with qtz veining
33639	20	4	12	4360	argillite with qtz veining
33640	20	4	12	4350	argillite with qtz veining
33641	20	4	12	4330	argillite with qtz veining
33642	20	4	12	4320	argillite with qtz veining
33643	20	4	12	4310	argillite with qtz veining
33644	20	4	12	4300	argillite with qtz veining
33645	20	4	12	4300	argillite with qtz veining
33646	20	4	12	4300	argillite with qtz veining
33647	20	4	12	4380	white qtz-carbonate veining in limy argillite, not very rusty, 8 ft above greenstone
33648	20	4	12	4380	rusty, qtz veins to 1" thick in argillite, in place, 12 ft above greenstone
33649	20	4	12	4400	argillite with qtz veining
33650	20	4	12	4430	argillite with qtz veining
33651	20	4	11	5250	bright orange weathering carbonate veining in argillite, similar to veins around felsites
33652	20	4	11	5150	brecciated qtz-carbonate veins with thin hair-like orange veinlets in slaty arg. below ls
33653	20	4	11	5150	concordant veins in folded argillite
33654	20	4	11	5150	concordant veins in argillite, somewhat limonitic, some orange calcite, some white calcite
33655	20	4	11	5120	banded, slightly rusty qtz veining in greenstone outcrop
33656	20	4	11	5200	concordant 1.5" qtz vein in argillite, typical rusty vein
33779	20	4	10	4310	rusty calccrete(?) or sinter(?)
33780	20	4	10	4200	rusty calcareous tufa or calccrete around modern-day cold spring
33781	20	4	23	5200	thin, 8" zone of malachite-chalcopyrite-pyrrhotite(?) bearing amygdaloidal basalt
33782	20	4	11	4800	bleached yellow-white felsite dike with iron-oxide pits, adj. to pyritic, rusty tuff
33783	20	4	11	4770	greenish, pyritic tuff next to felsic dike
33784	20	4	11	4850	punky, dark maroon gossan adjacent to altered felsite dike
33785	20	4	11	4770	altered tuff (?), much iron oxide
33786	20	4	11	4850	red, hematitic soil/rock chips at felsite/tuff(?) contact; bright brick-red soil
33787	20	4	11	4820	rusty, schistose felsite dike(?)
33788	20	4	11	4820	pyritic green tuff or flow rock assoc. with felsites
33789	20	4	11	4600	felsite bodies trending down gully, cutting argillite below marker limestone
33790	20	4	10	4520	rusty weathering bleached felsic intrusive above older calccrete deposit.
33791	20	4	10	4680	green, altered pyritic intrusive(?) or tuff(?)
33792	20	4	10	4510	greenish weathering, water-washed, altered tuff(?) in stream
33793	20	4	1	4780	rusty-weathering, pyritic rock (meta-tuff?)

<u>Sample</u>	<u>Twp(S)</u>	<u>Rge(E)</u>	<u>Sec</u>	<u>Elev</u>	<u>Brief rock sample description</u>
33794	20	4	1	4700	rusty, pyritic felsite(?)
33795	20	4	1	4700	rusty, pyritic felsite
33796	20	4	1	4700	fractured, pyritic felsite with black manganese stain on fractures
33797	20	4	1	5100	greenish, rusty weathering, punky pyritic felsite, py to 30%, gossany surface
33798	20	4	1	5200	2" wide rusty zone in felsite dike
33799	20	4	1	5250	40-50 ft diameter qtz outcrop on sidehill
33800	20	4	1	4750	pyritic veins cutting greenish altered intrusive body, med to fn grained
33801	20	4	12	4750	rusty weathering, orange qtz-carbonate altered greenstone
33802	20	4	12	4750	silicified, orange breccia in altered felsite(?), Fe-oxide clots after pyrite(?)
33803	20	4	12	4730	Fe-oxide cemented argillite breccia
33804	20	4	12	4700	brecciated, fe-oxide stained felsite
33805	20	4	12	4770	siliceous webwork, with iron oxide lining pits.
33806	20	4	12	4750	qtz-carbonate vein material from argillite section
33807	20	4	12	4880	rusty qtz cutting argillite float
33808	20	4	12	4880	limy argillite float with abundant malachite
33809	20	4	12	4700	rusty qtz-carbonate breccia
33810	20	4	12	4700	pyrite-rich greenish tuff(?), float
33811	20	4	12	4700	gossan float, Fe-oxide after pyrite(?)
33812	20	4	12	4700	pyrite-rich greenstone, layers of pyrite along foliation
33813	20	4	11	4850	pyritic, iron-oxide stained felsite or altered tuff
33814	20	4	11	4800	pyritic felsite cutting bleached tuffs, all iron-oxide stained
33815	20	4	10	4510	green tuff with 30% punky, iron-oxide gossan
33816	20	4	10	4400	rusty, punky ferricrete/calcrete
33817	20	4	12	4900	pyritic greenschist in metatuff sequence within bleached zone
33818	20	4	12	4920	silicified felsite in headwall with some malachite/azurite stain on fracture surface
33819	20	4	12	4920	limonite stained, py-bearing felsite, brecciated & rehealed w/ qtz, some malachite/azurite
33820	20	4	11	4530	altered felsite(?) cut by 1" qtz-carbonate vein with cockscomb texture, rusty
33821	20	4	11	4530	silicified argillite(?) cut by qtz vein, open-space textures, limonite
33822	20	4	11	4530	rusty argillite, brecciated, small qtz veinlets
33823	20	4	11	4530	brecciated felsite, dissem iron-oxide, stockwork qtz veinlets w/ some py, orange weathering
33824	20	4	11	4530	rusty felsite cut by 1/4" qtz veins, orange weathering
33825	20	4	11	4530	brecciated felsite with qtz veinlets in stockwork
33826	20	4	11	4530	rusty, aphanitic felsite, dissem iron-oxide to 5%
33827	20	4	11	4530	qtz veinlet cutting aphanitic felsite
33828	20	4	11	4530	altered felsite with orange limonitic clots and greenish alteration, bright orange limonite
33829	20	4	11	4530	brecciated felsite, stockwork qtz veinlets and dissem py and iron-oxide
33851	20	4	1	5300	altered tuff and tuffaceous argillite with pyrite, arsenopyrite, chalcopyrite, galena veins

<u>Sample</u>	<u>Twp(S)</u>	<u>Rge(E)</u>	<u>Sec</u>	<u>Elev</u>	<u>Brief rock sample description</u>
33852	20	4	1	5020	1-1.5" white qtz veins with malachite stain, some bornite in meta-tuff unit
33853	20	4	13	5330	approx. 1 ft wide bull qtz vein with malachite stain
33854	20	4	14	5220	pyritic, orange-stained feldspar-qtz body, in or. stained tuff, chlorite-altered greenstone
33855	20	4	13	5450	sl. altered greenstone with rare pyrite or pyrrhotite at edge of orange-stained greenstone
33856	20	4	13	5450	mod. altered greenstone, with qtz veins aprox. 1-2mm, 25 ft into orange-stained zone
33857	20	4	13	5450	qtz boxwork with gossan, about 75 ft into orange-stained zone
33858	20	4	13	5450	limonite-carbonate altered greenstone, about 100 feet into orange-stained zone
33859	20	4	13	5410	pyritic-brecciated felsite in middle of 1/4 mi wide orange-stained zone
33860	20	4	14	5280	altered greenstone near felsic intrusive
33861	20	4	14	5280	pyritic felsite near 33860, greenish stain
33862	20	4	12	4330	altered tuffaceous schist
33863	20	4	12	4620	felsite with minor pyrite, some minor yellowish-green stain
33864	20	4	12	4620	float of orange-stained, weakly pyritic felsite
33865	20	4	12	4580	felsite body, about 50 ft wide, intruding tuffaceous schist, abundant pyrite/limonite
33866	20	4	14	4330	6" qtz vein with rusty-weathered fracture filling in greenstone, malachite, rare chalc
33867	20	4	14	5050	orange-stained, moderately altered greenstone
33868	20	4	14	5320	pyroxenite with sulfides
33869	20	4	14	3950	felsite body in qtz-carbonate veined tuff
33870	20	4	14	4080	felsite with pyrite, abundant limonite stain
33871	20	4	14	4380	aprox. 1 ft wide felsite dike in dark green crystal tuff
33873	20	4	14	3950	aprox. 15 ft dike of pyritic felsite in greenstone
33874	20	4	14	4050	pyritic felsite
33875	20	4	14	4500	white quartz veins in black argillite
33876	20	4	14	4630	carbonate veins in contact zone of black argillite/greenstone
33877	20	4	11	4700	300 ft above argillite/greenstone contact; rubble crop of black argillite with qtz veining
33878	20	4	14	4580	qtz vein stockwork in argillite, about 100 ft above greenstone contact
33879	20	4	14	4580	similar to 33878
33880	20	4	14	4580	rusty-weathered qtz vein stockwork in argillite
33881	20	4	14	4550	argillite with qtz vein stockwork
33882	20	4	11	4780	qtz stockwork zone in argillite, rusty weathering
33883	20	4	11	4950	argillite with qtz-vein stockwork, float
33885	20	4	10	4300	black argillite with extensive qtz vein stockwork
33886	20	4	10	3930	faulted argillite with limestone, arg. ls., greenstone, and tuff
33887	20	4	11	5020	rusty-weathering black argillite, moderate qtz veining
33888	20	4	11	5000	rusty weathering argillite with qtz veins
33889	20	4	11	5000	argillite with planar and small folded qtz veins, rusty weathering
33890	20	4	11	5000	rusty weathering argillite with qtz veins

<u>Sample</u>	<u>Twp(S)</u>	<u>Rge(E)</u>	<u>Sec</u>	<u>Elev</u>	<u>Brief rock sample description</u>
33891	20	4	11	4970	qtz veined argillite about 50 ft above greenstone unit
33892	20	4	11	4970	greenstone with qtz veins at argillite contact
33893	20	4	11	4970	qtz-veined argillite
33894	20	4	11	5070	rusty-weathering, qtz-veined black argillite

STREAM SEDIMENTS

<u>Sample</u>	<u>Twp(S)</u>	<u>Rge(E)</u>	<u>Sec</u>	<u>Elev</u>
33607	20	4	10	4200
33608	20	4	10	3750
33610	20	4	14	3850
33612	20	4	11	4620
33613	20	4	14	3900
33615	20	4	14	4370
33618	20	4	14	4400
33620	20	4	14	4150

PAN CONCENTRATES

<u>Sample</u>	<u>Twp(S)</u>	<u>Rge(E)</u>	<u>Sec</u>	<u>Elev</u>
33601	20	4	14	3850
33609	20	4	10	3750
33611	20	4	11	4620
33614	20	4	14	3900
33616	20	4	14	4370
33617	20	4	14	4400
33619	20	4	14	4150
33872	20	4	14	3900
33884	20	4	10	4300
33886	20	4	10	3950

ANALYTICAL PROCEDURES AND SAMPLE PREPARATION: ROCKS

ANALYTICAL PROCEDURES

CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
9 8 1	2 1 4	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
1 8	2 1 4	W ppm: K pyrosulfate fusion	COLORIMETRIC	2	1000
9 2 1	2 1 4	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
9 2 2	2 1 4	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
9 2 3	2 1 4	As ppm: 32 element, soil & rock	ICP-AES	5	10000
9 2 4	2 1 4	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
9 2 5	2 1 4	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
9 2 6	2 1 4	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
9 2 7	2 1 4	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
9 2 8	2 1 4	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
9 2 9	2 1 4	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
9 3 0	2 1 4	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
9 3 1	2 1 4	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
9 3 2	2 1 4	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
9 3 3	2 1 4	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
9 3 4	2 1 4	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
9 3 4	2 1 4	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
9 3 5	2 1 4	La ppm: 32 element, soil & rock	ICP-AES	10	10000
9 3 6	2 1 4	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
9 3 7	2 1 4	Mn ppm: 32 element, soil & rock	ICP-AES	1	10000
9 3 8	2 1 4	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
9 3 9	2 1 4	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
9 4 0	2 1 4	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
9 4 1	2 1 4	P ppm: 32 element, soil & rock	ICP-AES	10	10000
9 4 2	2 1 4	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
9 4 3	2 1 4	Sb ppm: 32 element, soil & rock	ICP-AES	5	10000
9 4 3	2 1 4	Se ppm: 32 elements, soil & rock	ICP-AES	1	100000
9 4 4	2 1 4	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
9 4 5	2 1 4	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
9 4 6	2 1 4	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
9 4 7	2 1 4	U ppm: 32 element, soil & rock	ICP-AES	10	10000
9 4 8	2 1 4	V ppm: 32 element, soil & rock	ICP-AES	1	10000
9 4 9	2 1 4	W ppm: 32 element, soil & rock	ICP-AES	5	10000
9 5 0	2 1 4	Zn ppm: 32 element, soil & rock	ICP-AES	5	10000

SAMPLE PREPARATION

CODE	NUMBER SAMPLES	DESCRIPTION
2 0 8	2 1 4	Assay: Crush, splitting
2 3 8	2 1 4	ICP: Aqua regia digestion

* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

ANALYTICAL PROCEDURES AND SAMPLE PREPARATION:
STREAM SEDIMENTS AND PAN CONCENTRATES

ANALYTICAL PROCEDURES

CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
921	8	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
922	8	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	100
923	8	As ppm: 32 element, soil & rock	ICP-AES	5	10000
924	8	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
925	8	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
926	8	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
927	8	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
928	8	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
929	8	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
930	8	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
931	8	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
932	8	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
933	8	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
934	8	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
935	8	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
936	8	La ppm: 32 element, soil & rock	ICP-AES	10	10000
937	8	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
938	8	Mn ppm: 32 element, soil & rock	ICP-AES	1	10000
939	8	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
940	8	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
941	8	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
942	8	P ppm: 32 element, soil & rock	ICP-AES	10	10000
943	8	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
944	8	Sb ppm: 32 element, soil & rock	ICP-AES	5	10000
945	8	Se ppm: 32 elements, soil & rock	ICP-AES	1	100000
946	8	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
947	8	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
948	8	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
949	8	U ppm: 32 element, soil & rock	ICP-AES	10	10000
948	8	V ppm: 32 element, soil & rock	ICP-AES	1	10000
949	8	W ppm: 32 element, soil & rock	ICP-AES	5	10000
950	8	Zn ppm: 32 element, soil & rock	ICP-AES	5	10000
18	8	W ppm: K pyrosulfate fusion	COLORIMETRIC	2	1000
983	8	Au ppb: Fuse 10 g sample	FA-AAS	5	10000

SAMPLE PREPARATION

CODE	NUMBER SAMPLES	(Stream sediments)	
		DESCRIPTION	
201	6	Dry, sieve -80 mesh: soil, sed.	
203	2	Dry, sieve -35 mesh and ring	
238	8	ICP: Aqua regia digestion	

Note: Pan concentrates were dried, weighed, ring pulverized and screened to -150 prior to Aqua regia digestion.

* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.