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LAND SELECTION UNIT 36 (HAINES UNIT, SKAGWAY QUADRANGLE): GEOLOGIC SUMMARY, REFERENCES, DGGS SAMPLE LOCATIONS, GEOCHEMICAL AND MAJOR OXIDE DATA

by

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Evaluation unit 36 encompasses 513 thousand acres in the Skagway Quadrangle. Assessment of unit 36 was accomplished using previous publications as well as reports on the geology of the entire area by Gilbert and others (in preparation) and Burns and others (in preparation). Field work was done in the late 1980s. Data released herein was paid for by the U.S. Bureau of Mines as part of a cooperative project with D.G.G.S; this data will be interpreted in Gilbert and others (in preparation) and Burns and others (in preparation). Previous publications on the geology of parts of the area include MacKevett and others (1974), Gilbert (1988), Gilbert and others (1987), Gilbert and others (1988), Gilbert and others (1989), Redman and others (1984), Redman and others (1985), Plafker and Hudson (1980), and Plafker and others (1989). The only geophysical publication on the area is by Barnes (1986); D.F. Barnes also kindly furnished us his unpublished gravity data on the area. The trace element geochemistry was reported on by Gilbert and others (1991). Other reports on similar geologic trends in southeast Alaska include Brew and others (1978), Brew and Morrell (1983), Brew and Ford (1985), Brew (1988), Dodds and Campbell (1988), Gehrels and Berg (1988). Other reports of interest for economic geology and placer mining include Robertson (1956), Bundtzen (1986), Bundtzen and Clautice (1986), Hoekzema and others (1986), Nokleberg and others (1987), and Still and others (1991). The potential for mineral deposits of the area based on geological and geochemical data and estimated by a Monte Carlo simulation process is outlined in a summary by DGGS staff. The summary is to be released in PDF form.

GEOLOGIC SUMMARY

Evaluation unit 36 encompasses 513 thousand acres in the Skagway Quadrangle. The area is divided in half geologically along the Chilkat-Klehini Rivers. The western area is dominated by metavolcanic and metasedimentary units of Paleozoic and Mesozoic(?) age, which are intruded by Cretaceous and Tertiary diorites and granodiorites, and Tertiary granites. The eastern portion consists almost entirely of plutonic rock which although are also of Cretaceous to Tertiary age, are unrelated to the plutons to the west; a small bit of amphibolite (metavolcanic rock) of probable Triassic age is also present in the eastern portion.

Many prospects and several known deposits are present in the western half of the area. Main types include volcanogenic massive sulfide deposits, gold lodes, and several types of skarn. The source of the lode gold has not been determined with certainty. The most favored explanation is that the deposits are related to plutons (which is included in the simulation summary below). However, a metamorphic gold system could also have formed the deposits, and would have a comparable, but not additional, endowment; the metamorphic

gold system is not included in the simulation summary below. Both gold-copper-bearing and lead-zinc-bearing skarns are present in the area and contribute significantly to the potential endowment. Portions of the large gold placers within the Porcupine mining district are present in the area.

The eastern portion of the area consists mainly of plutons from mid-Cretaceous (110 Ma) to mid-Tertiary(?) age. Plutons are, from oldest to youngest, the Klukwan-Haines diorite, the Klukwan zoned ultramafic complex, the Kashagnak pluton (a zoned quartz monzonite complex), tonalite of the Great Tonalite Sill complex, and a young granite. Metamorphic country rock (volcanic ?) is included as roof pendants in the tonalite, and amphibolites of Triassic(?) age are in fault contact with the plutonic bodies. The appropriate plutons were investigated for their gold potential and their porphyry copper potential. Gold deposits were simulated to have moderate amounts of gold, while the porphyry copper potential was negligible. Gold could also potentially be concentrated from metamorphic processes and was simulated, but should be used as an alternative hypothesis. The Klukwan ultramafic body contains anomalous iron and vanadium ore and is largely privately owned. The Klukwan alluvial fan has some potential for iron placers.

ANALYTICAL DATA AND TABLES

Geochemical data was analyzed at Bondar-Clegg during a cooperative study with the U.S. Bureau of Mines. In addition to the authors, samples were collected by Earl Redman, R.M. Rutherford, B.D. Hickok, Jan Still, Kevin Weir, and R.G. Forbes.

Plutonic rocks names are consistent with those of Streckeisen (1976) in the tables (tables 1-10). Because of the size of the area and density of samples, the sample locations were placed on two sheets with some overlap among them. All samples included on the sheets 1 and 2 were analyzed for major element +/- trace element data. Sample names frequently have 'M' or 'MO' attached to the end of the field number, and is just a temporary problem of the computer system. Nothing is meant by the M or MO. Symbols in the tables are as follows: MB - metabasalt, MA - meta-andesite, MC - metachert, MS - metasandstone, MR - metarhyolite, dio/gab - dioritic or gabbroic rock, includes some hornblendites, qtz dio - quartz diorite, granodio - granodiorite, qtzmonzodio - quartz monzodiorite, bt - biotite, cpxite, clinopyroxenite, hb - hornblende, mt - magnetite, w/ um - with ultramafic, qtz monz - quartz monzonite, monzodio - monzodiorite, qtz monz - quartz monzonite, cpx - clinopyroxene, dio - diorite, ton - tonalite, qtz sy - quartz syenite, syenogran - syenogranite. A few analyses were previously published by Redman and others (1984), but are included herein for completeness of the data set.

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Table 1: Major oxide analyses from Klehini metavolcanic belt: MB - metbasalt, MA - meta-andesite, MC - metachert: page 6

SAMPLE #	84ER174	85AFSKR11	85WG95b	85WG96	85WG110a	85WG111	85WG136	85WG141
ROCK UNIT	MB	MB	MB	MB	MB	MB	MB	MB
MAJOR OXIDES (%)								
SiO2	51.98	49.26	48.95	41.52	44.84	47.54	47.72	44.77
TiO2	1.1	0.57	0.99	0.52	0.79	0.98	1.82	0.8
Al2O3	15.9	7.41	13.05	11.83	8.91	19.01	16.51	16.58
FeO	6.55	6.16	7.07	1.44	7.92	8.51	8.58	9.23
Fe2O3	1.95	4.55	3.45	1.4	3.45	2.45	3.15	2.3
MnO	0.19	0.19	0.15	0.06	0.23	0.17	0.28	0.19
MgO	7.49	15.65	11.28	2.97	17.53	7.23	7.77	10.31
CaO	6.9	15.09	7.98	16.66	10.65	5.96	8.21	10.07
Na2O	2.25	0.84	1.83	0.94	0.2	4.12	2.8	1.68
K2O	2.42	0.34	2.88	2.21	0.24	0.22	0.21	0.23
P2O5	0.38	0.24	0.27	0.14	0.12	0.18	0.18	0.13
LOI	1.55	1.53	1.71	18.73	4.88	2.82	1.38	2.62
TOTALS	98.66	101.83	99.61	98.42	99.76	99.19	98.61	98.91
H2O+	0.99	1.06	1.18	1.12	3.34	2.49	0.45	1.61
H2O-	0.13	0.05	0.23	0.37	0.16	0.12	0.12	0.04
CO2	0.17	<0.01	0.05	13.27	1.08	0.17	0.65	0.79
TRACE ELEMENTS (ppm)								
Au	0.003	0.004	0.005	0.004	0.003	0.003	0.006	0.007
Ag	0.1	<0.1	<0.1	0.2	0.2	0.1	0.1	<0.1
Ba	1700	<20	560	100	<20	<20	<20	<20
Cu	116	20	82	28	34	24	85	72
Pb	<2	<2	<2	6	<2	<2	<2	<2
Zn	48	18	46	84	36	56	36	40
Rb	18	<5	46	73	<5	6	<5	<5
Sr	350	190	260	185	77	225	295	265
Co	19	10	20	5	25	11	14	18
Cr	116	126	236	29	530	53	72	239
Ni	59	73	55	21	217	17	39	102
Zr	110	78	65	115	83	84	110	73
U	<1	<1	<1	3	<1	<1	<1	<1
Y	13	<5	<5	<5	<5	<5	7	<5
Nb	16	5	7	13	13	<5	10	<5
Th	4.7	6	1.5	5.6	0.9	1.7	1	1.1
RARE EARTH (ppm)								
Ce	76	37	16	29	17	23	23	10
Dy	6	4	3	3	2	5	6	3
Er	<100	<100	<100	<100	<100	<100	<100	<100
Eu	3	1	<1	<1	<1	1	2	<1
Gd	<200	<200	<200	<200	<200	<200	<200	<200
Ho	<1	<1	<1	<1	<1	1	1	<1
La	36	18	6.4	14	8	9.3	8.4	3.9
Lu	0.5	0.3	0.3	0.4	0.2	0.4	0.4	0.3
Nd	31	20	11	15	12	14	14	<10
Pr	<50	<50	<50	<50	<50	<50	<50	<50
Sc	37.5	50.1	35	14	28.4	47.4	37.5	52.8
Sm	7.1	4.4	2.8	3.1	2.4	3.6	4.2	2
Tb	1	<1	<1	<1	<1	<1	<1	<1
Tm	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Yb	2.9	1.4	1.2	2.2	1.1	2	2.7	1.7

Table 1: Major oxide analyses from Klehini metavolcanic belt: MB - metbasalt, MA - meta-andesite, MC - metachert: page 7

SAMPLE #	85WG142	85WG145c	85WG158	85WG170d	85WG214	85WG216	85WG223	85WG261c
ROCK UNIT	MB	MB	MB	MB	MA	MB	MB	MA
MAJOR OXIDES (%)								
SiO2	47.48	48.69	45.51	54.38	57.54	54.13	50.71	59.32
TiO2	1.72	0.84	0.81	0.79	0.56	0.72	1.92	0.89
Al2O3	16.46	13.69	18.51	16.96	17.53	16.93	15.25	15.11
FeO	8.22	6.94	9.95	6.81	4.91	2.75	10.09	7.46
Fe2O3	3.95	4.15	2.9	4.05	1.9	4.85	4.9	2.9
MnO	0.18	0.21	0.24	0.43	0.21	0.13	0.3	0.13
MgO	7.28	7.89	6.42	6.07	3.71	2.65	5.57	4.15
CaO	9.41	10.01	8.74	2.31	6.79	7.02	4.33	1.75
Na2O	3.01	2.14	1.48	1.63	4.29	5.58	2.6	3.13
K2O	0.83	2.18	0.69	1.78	1.33	0.19	0.48	1.42
P2O5	0.24	0.43	0.15	0.14	0.12	0.38	0.34	0.15
LOI	2.71	1.3	2.06	3.96	1.46	2.05	3.24	2.91
TOTALS	99.31	98.77	98.46	99.03	99.23	99.38	99.71	99.12
H2O+	2.09	1.04	1.92	3.27	1.34	1.64	2.96	2.37
H2O-	0.11	<0.01	0.14	0.42	0.15	0.11	0.24	0.29
CO2	0.27	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.23
TRACE ELEMENTS (ppm)								
Au	0.003	0.006	0.011	0.004	0.004	0.003	0.003	0.012
Ag	0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1
Ba	140	1200	230	480	410	90	120	100
Cu	80	104	93	27	34	10	78	84
Pb	2	<2	3	<2	<2	<2	<2	2
Zn	42	44	60	130	22	32	118	108
Rb	<5	44	14	48	17	<5	6	47
Sr	445	480	210	150	285	810	220	84
Co	26	12	21	5	3	11	26	14
Cr	84	64	48	82	35	29	21	36
Ni	57	27	19	16	8	11	14	18
Zr	115	71	67	150	78	82	115	170
U	<1	<1	<1	3	<1	<1	<1	2
Y	<5	7	<5	16	<5	9	14	25
Nb	10	6	6	9	<5	6	7	5
Th	1.3	4.4	2.6	6.9	3	2.5	0.7	3.9
RARE EARTH (ppm)								
Ce	29	53	26	89	27	62	30	28
Dy	5	5	4	7	3	6	7	6
Er	<100	<100	<100	<100	<100	<100	<100	<100
Eu	1	2	<1	1	1	2	2	<1
Gd	<200	<200	<200	<200	<200	<200	<200	<200
Ho	1	1	<1	2	<1	<1	1	2
La	13	25	12	34	12	28	12	11
Lu	0.4	0.4	0.5	0.7	0.3	0.4	0.6	0.7
Nd	15	25	15	36	16	29	19	14
Pr	<50	<50	<50	<50	<50	<50	<50	<50
Sc	34	42	61.7	24.3	26.7	10.6	41.2	28.8
Sm	4	6.2	3.3	7.7	3.2	6.6	5.1	3.6
Tb	<1	<1	<1	<1	<1	<1	<1	<1
Tm	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Yb	2.4	2.2	2.5	4.3	2.1	2.5	4.1	4.3

SAMPLE #	85WG261d	85WG262	85WG264	85WG273a	87WG11	87WG62	88WG109	85WG193
ROCK UNIT	MB	MB	MA	MB	MB	MB	MB	MC
MAJOR OXIDES (%)								
SiO2	48.27	53.19	62.27	49.47	43.7	44.93	44.7	92.66
TiO2	1.93	0.6	0.78	1.33	1.35	1.15	2.59	0.16
Al2O3	11.84	16.95	16.39	15.33	16.14	11.7	13.57	2.59
FeO	9.04	4.01	5.43	4.99	4.99	9.04	12.65	0.49
Fe2O3	3.9	8.45	1.45	6.25	7.8	4.35	2	0.75
MnO	0.23	0.24	0.12	0.15	0.17	0.26	0.19	0.01
MgO	3.99	5.09	2.93	7.64	7.41	11.63	6.44	0.31
CaO	7.71	8.12	1.45	9.62	9.47	13.09	7.71	0.4
Na2O	2.63	4.92	5.08	2.33	2.08	0.61	3.06	0.11
K2O	1.67	0.65	1.36	1.12	2.21	0.34	0.07	0.68
P2O5	0.35	0.09	0.14	0.57	0.37	0.19	0.35	0.04
LOI	6.65	1.39	2.01	0.67	1.93	1.29	4.42	0.63
TOTALS	98.58	99.9	99.41	99.54	99.52	98.78	97.65	98.83
H2O+	1.32	1.22	1.88	0.62	1.4	0.85	2.48	0.58
H2O-	0.1	0.11	0.14	0.09	0.14	0.08	0.02	0.09
CO2	5.84	0.05	<0.01	<0.01	<0.01	<0.01	1.94	<0.01
TRACE ELEMENTS (ppm)								
Au	0.004	0.004	0.005	0.003	0.006	0.005	<0.005	0.005
Ag	<0.1	0.3	0.2	0.2	<0.1	<0.1	<0.1	0.1
Ba	480	390	210	420	210	<20	20	9000
Cu	19	83	22	51	99	11	33	13
Pb	5	<2	2	<2	<2	<2	<2	3
Zn	118	34	52	30	70	20	104	10
Rb	39	5	27	12	31	6	8	19
Sr	215	300	95	345	310	175	200	82
Co	24	14	10	9	25	6	28	1
Cr	29	32	20	31	38	68		84
Ni	12	12	8	19	43	13		5
Zr	195	59	200	105	100	70	170	75
U	<1	<1	3	<1	1	<1	<0.6	<1
Y	34	<5	18	18	13	<5	43	<5
Nb	17	5	10	13	22	8	15	13
Th	4.3	1.3	6.8	3.9	5.3	1.8	0.7	1.4
RARE EARTH (ppm)								
Ce	51	14	20	78	78	24	3.6	13
Dy	8	4	5	5	5	4	8.7	1
Er	<100	<100	<100	<100	<100	<100	<50	<100
Eu	2	<1	<1	2	2	1	2.8	<1
Gd	<200	<200	<200	<200	<200	<200	<100	<200
Ho	2	<1	2	2	1	<1	2.1	<1
La	23	5.5	7	39	38	9.3	13.5	6.4
Lu	0.9	0.3	0.7	0.5	0.5	0.2	0.6	0.1
Nd	27	<10	13	35	32	15	28	<10
Pr	<50	<50	<50	<50	<50	<50	<25	<50
Sc	30	42	22.2	31.8	39.2	72.7	41.2	4.9
Sm	6.6	2.2	4	7.6	6.5	4.2	6.97	1.3
Tb	1	<1	<1	<1	<1	<1	1.3	<1
Tm	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5
Yb	5.6	1.9	4	3.1	2.7	1.4	4.8	0.8

SAMPLE #	85WG273b	85WG221	85WG219
ROCK UNIT	MC	MB	MA
MAJOR OXIDES (%)			
SiO2	88.3	71.19	70.68
TiO2	0.03	0.36	0.61
Al2O3	0.1	11.72	10.84
FeO	3.14	3.64	3.14
Fe2O3	3.2	1.8	3.85
MnO	0.03	0.08	0.07
MgO	0.1	3.23	2.88
CaO	1.48	0.68	1.78
Na2O	0.01	3.72	2.71
K2O	0.03	0.45	0.36
P2O5	0.03	0.08	0.11
LOI	1.11	2.34	2.72
TOTALS	97.56	99.5	99.74
H2O+	0.02	2.13	2.47
H2O-	0.11	0.26	0.27
CO2	0.48	<0.01	0.01
TRACE ELEMENTS (ppm)			
Au	0.269	0.008	0.004
Ag	0.3	0.1	0.1
Ba	<20	80	80
Cu	12	11	32
Pb	<2	2	2
Zn	3	48	30
Rb	<6	10	5
Sr	5	130	165
Co	1	8	4
Cr	121	68	126
Ni	3	21	13
Zr	48	110	125
U	<1	<1	2
Y	<5	<5	5
Nb	8	8	13
Th	0.7	3.8	6.4
RARE EARTH (ppm)			
Ce	<5	33	39
Dy	<1	3	2
Er	<100	<100	100
Eu	<1	<1	1
Gd	<200	<200	200
Ho	<1	<1	1
La	1.1	14	17
Lu	<0.1	0.4	0.3
Nd	<10	16	14
Pr	<50	<50	50
Sc	0.56	13	14.1
Sm	0.3	3.2	2.6
Tb	<1	<1	1
Tm	<0.5	<0.5	0.5
Yb	<0.5	2.3	1.7

SAMPLE #	86WG54	86WG69	86WG218	86WG198a	AJ5SV334X	85AFSHC2	AJ5SV320X	85AFSHC4A
ROCK UNIT	MB	MB	MB	MB	MB	MB	MB	MA
MAJOR OXIDES (%)								
MAJOR OXIDES (%)								
SiO2	49.41	50.44	48.13	45.54	39.81	49.6	50.46	56.38
TiO2	1.00	1.17	0.95	0.76	1.15	1.12	1.19	1.26
Al2O3	13.75	13.73	16.26	14.91	15.95	12.05	17.64	13.55
FeO	9.27	9.69	9.17	10.64	11.1	7.7	5.15	8.4
Fe2O3	2.4	3.1	2.45	2.9	3.38	4.95	6.91	2.9
MnO	0.22	0.23	0.17	0.22	0.18	0.26	0.06	0.03
MgO	6.85	6.61	6.35	9.92	8.17	5.86	3.14	7.11
CaO	11.23	10.14	12.2	10.65	8.38	8.72	4.97	1.31
Na2O	1.95	1.76	2.06	1.38	3.63	3.02	5.11	0.46
K2O	0.35	0.68	0.2	0.8	0.29	0.37	2.24	2.98
P2O5	0.12	0.14	0.13	0.06	0.38	0.36	0.4	0.11
LOI	2.17	0.9	0.58	1.84	–	–	–	–
TOTAL	96.7	97.75	98.10	98.08	–	–	–	–
H2O+	0.79	0.75	0.32	1.39	3.44	3.4	0.84	4.06
H2O-	0.27	0.09	0.04	0.08	0.12	0.09	0.07	0.07
CO2	0.96	<0.01	0.19	0.09	5.4	3.95	0.3	<0.05
S	n.a.	n.a.	n.a.	n.a.	0.08	0.02	<0.02	<0.02
SO4	n.a.	n.a.	n.a.	n.a.	<0.05	<0.05	<0.05	<0.05
TOTAL	–	–	–	–	99.46	99.47	100.48	98.62
TRACE ELEMENTS (ppb)								
Au	0.004	0.005	0.006	0.003	1	2	1	0
Ag	<0.1	<0.1	<0.1	<0.1	0.3	<0.2	<0.2	<0.2
Ba	<20	100	150	570	0.019	0.015	0.014	0.072
Cu	67	56	77	6	66	7	10	22
Pb	2	<2	<2	2	11	3	17	9
Zn	22	16	8	34	234	192	105	215
Rb	<5	7	<5	<5	n.a.	n.a.	n.a.	n.a.
Sr	125	150	275	250	n.a.	n.a.	n.a.	n.a.
Co	14	12	7	10	31	22	22	18
Cr	15	33	29	49	84	3	15.6	16
Ni	16	16	36	48	36	10	44	14
Zr	81	95	51	56	63	150	100	n.a.
U	<1	<1	<1	<1	n.a.	n.a.	n.a.	n.a.
Y	7	13	<5	<5	<5	14	30	n.a.
Nb	5	5	<5	<5	8	12	7	n.a.
Th	0.7	0.8	0.5	<0.5	n.a.	n.a.	n.a.	n.a.
As	n.a.	n.a.	n.a.	n.a.	0	4	2	2
Sb	n.a.	n.a.	n.a.	n.a.	<2	<2	3	<2
RARE EARTHS (ppm)								
Ce	14	15	13	8	20	29	28	98
Dy	4	5	8	3	6	6	7	19
Er	<100	<100	<100	<100	<100	<100	<100	<100
Eu	<1	1	1	<1	1	<1	1	2
Gd	<200	<200	<200	<200	<250	<240	<270	<220
Ho	1	2	<1	1	<1	<1	<1	2
La	5.4	6.4	5.3	3.5	11.8	12.7	15.7	39.1
Lu	0.5	0.6	0.5	0.4	0.6	0.6	0.9	1.4
Nd	<10	<10	10	<10	11	12	17	45
Pr	<50	<50	<50	<50	<91	<91	<110	<75
Sc	46.8	46.8	54.5	54.2	n.a.	n.a.	n.a.	n.a.
Sm	2.4	2.9	2.6	1.8	2.9	3.7	4.3	14.1
Tb	<1	<1	<1	<1	<0.6	0.7	0.9	2.4
Th	n.a.	n.a.	n.a.	n.a.	<0.5	1.8	<0.5	12.7
Tm	<0.5	<0.5	<0.5	<0.5	0.5	0.5	0.6	1.3
Yb	2.8	3.3	3.5	2	3	3.5	4.6	10.3

Table 2: Major oxide analyses from Nataga and Glacier Creek metabasalts (MB), meta-andesite (MA), and others page

SAMPLE #	85AFSHC6	85AFSLJT2	85AFSLJT1	85LJT20	85AFSSJ13A	85WG148	85AFSJR1	85AFSSJ6
ROCK UNIT	MA	MB	MB	MB	MB	MB	MB	MB
MAJOR OXIDES (%)								
MAJOR OXIDES (%)								
SiO2	58.33	43.88	44.05	44.39	45.32	45.67	46.32	46.75
TiO2	0.45	0.26	0.7	1.78	1.14	1.58	0.6	1.33
Al2O3	18.15	10	14.01	15.37	12.86	14.54	12.32	13.79
FeO	2.95	6.5	9.13	11.45	7.2	9.84	7.17	8.17
Fe2O3	2.33	2.7	1.03	1.65	2.08	2.06	1.42	4.55
MnO	0.06	0.17	0.16	0.15	0.17	0.3	0.26	0.11
MgO	2.22	9.18	7.48	6.6	5.01	6.91	9.02	4.99
CaO	4.61	7.96	8.58	4.95	12.09	7.97	8.33	6.38
Na2O	5.29	0.19	2.72	4.08	4.55	4.27	4.99	4.16
K2O	2.11	0.26	0.14	0.1	0.63	0.32	0.25	0.81
P2O5	0.3	0.18	0.07	0.33	0.19	0.1	0.15	0.26
LOI	–	–	–	–	–	–	–	–
TOTAL	–	–	–	–	–	–	–	–
H2O+	1.75	5.18	3.82	2.7	1.55	2.57	3.33	4.28
H2O-	0.08	0.22	0.06	0.07	<0.01	0.06	0.07	<0.01
CO2	1.25	11.41	6.42	4.57	6.38	0.17	3.73	2.62
S	0.02	<0.02	0.06	0.22	<0.02	0.03	<0.02	<0.02
SO4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TOTAL	99.90	98.09	98.43	98.39	99.17	96.39	97.96	98.2
TRACE ELEMENTS (ppb								
Au	13	<1	3	4	1	3	<1	2
Ag	<0.2	<0.2	<0.2	0.2	0.3	0.3	<0.2	<0.2
Ba	0.21	<0.002	<0.002	<0.002	0.004	0.075	0.056	0.021
Cu	35	4	62	122	69	139	10	49
Pb	4	4	4	2	2	<2	3	2
Zn	42	110	71	117	52	80	69	102
Rb	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sr	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Co	8	49	37	43	26	32	20	48
Cr	<2	775	77	66	66	67	455	49
Ni	2	234	44	75	42	97	113	54
Zr	125	n.a.	58	110	82	61	85	91
U	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Y	8	n.a.	<5	<5	<5	<5	<5	<5
Nb	12	n.a.	<6	9	15	7	<5	16
Th	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
As	2	<2	2	3	<2	2	2	2
Sb	<2	<2	<2	<2	<2	<2	<2	<2
RARE EARTHS (ppm)								
Ce	52	17	11	21	15	11	27	24
Dy	4	4	4	5	4	5	3	7
Er	<100	<100	<100	<100	<100	<100	<100	<100
Eu	2	<1	<1	1	<1	1	<1	1
Gd	<200	<260	<320	<360	<300	<310	<270	<280
Ho	<1	<1	<1	<1	<1	<1	<1	<1
La	23.9	8.2	4.7	12.3	6.5	4.6	12.6	9.5
Lu	0.5	0.3	0.5	0.7	0.4	0.3	0.3	0.4
Nd	20	<10	<10	10	<10	<10	10	11
Pr	<89	<74	<110	<120	<110	<110	<100	<100
Sc	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sm	4.5	2.3	1.8	3.4	2.3	2.5	2.7	3.3
Tb	0.6	<0.5	<0.7	<0.7	<0.6	0.9	0.9	0.8
Th	4.3	1.4	<0.5	0.9	<0.5	<0.5	2.2	1.2
Tm	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Yb	2.4	1	2.4	3.3	1.8	1.9	1.4	2.3

SAMPLE #	85AFSSJ10A	85WG146	85WG151	85AFSLJT15	85AFSLJ10D	84ER30	85AFSSJ10C	84ER39
ROCK UNIT	MB	MB	MB	MB	MB	MB	MB	MR
MAJOR OXIDES (%)								
MAJOR OXIDES (%)								
SiO2	48.39	49.49	50.65	51.19	54.46	54.73	55.86	57.03
TiO2	0.87	1.23	1.16	1.44	0.45	1.62	1.12	1.51
Al2O3	17.4	17.48	17.21	15.4	18.4	10.7	19.22	12.98
FeO	6.37	8.75	8.56	8.68	6.18	5.66	3.86	5.53
Fe2O3	1.32	2.32	2.28	2.24	1.34	6.26	0.47	6.59
MnO	0.11	0.17	0.14	0.16	0.05	0.2	0.03	0.14
MgO	5.32	6.27	5.78	6.57	6.59	5	3.94	2.65
CaO	6.19	2.64	3.19	2.3	0.49	4.23	2.38	5.07
Na2O	3.64	4.87	4.42	5.41	1.2	3.4	6.03	4.93
K2O	1.06	0.53	0.26	0.2	4.18	0.87	1.35	0.39
P2O5	0.17	0.36	0.34	0.27	0.09	0.42	0.67	0.38
LOI	–	–	–	–	–	–	–	–
TOTAL	–	–	–	–	–	–	–	–
H2O+	3.84	2.84	3.4	3.67	4.46	1.97	2.28	0.22
H2O-	<0.01	0.07	0.08	0.17	0.08	0.08	<0.01	0.06
CO2	2.64	1.43	<0.07	0.56	0.1	1.88	0.63	0.07
S	<0.02	0.45	0.39	<0.02	<0.02	0.21	<0.02	0.07
SO4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TOTAL	97.32	98.2	97.66	98.26	98.07	97.23	97.84	97.62
TRACE ELEMENTS (ppb								
Au	<1	2	5	1	<1	2	<1	<1
Ag	<0.2	<0.2	>0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Ba	0.016	0.007	<0.002	<0.002	0.105	<0.002	0.026	0.005
Cu	23	22	65	69	9	22	5	43
Pb	2	<2	<2	3	<2	34	10	4
Zn	63	142	109	96	191	590	105	52
Rb	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sr	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Co	26	45	66	35	7	37	10	16
Cr	132	384	38	20	7	6	2	13
Ni	45	130	29	28	10	12	10	6
Zr	110	105	140	100	n.a.	190	410	100
U	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Y	8	11	23	18	n.a.	38	142	23
Nb	18	7	5	8	n.a.	13	72	6
Th	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
As	2	2	6	2	<2	7	2	3
Sb	<2	2	<2	4	<2	<2	<2	<2
RARE EARTHS (ppm)								
Ce	36	26	32	23	225	41	194	26
Dy	5	5	7	5	23	13	29	10
Er	<100	<100	<100	<100	<100	<100	<100	<100
Eu	1	<1	1	1	2	2	3	2
Gd	<270	<350	<360	<350	250	<320	<280	<380
Ho	<1	<1	<1	<1	3	1	5	<1
La	15.3	10.8	13	10.3	123	16.1	80.9	10.8
Lu	0.6	0.8	0.7	0.7	2.3	0.9	2.5	0.9
Nd	13	11	15	11	83	19	98	11
Pr	<100	<130	<130	<120	<100	<100	<130	<130
Sc	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sm	3.9	3.7	5.2	3.6	17.3	6.4	23.9	4.6
Tb	0.7	0.8	0.9	0.8	3	1.5	4.6	1.1
Th	3.4	1.6	2.5	1	22.3	2.5	7	<0.5
Tm	0.5	0.6	0.7	0.5	1.4	0.8	1.7	<0.5
Yb	3.2	3.4	4.5	3.5	15.1	5.4	16.9	5.1

SAMPLE #	85AFSMD2	85AFSHC5A	85AFSMD3	85WG278	85AFSSJ41	84ER29
ROCK UNIT	Chert	Chert	Rhy?	Tuff	Tuff	MB
MAJOR OXIDES (%)						
MAJOR OXIDES (%)						
SiO2	61.33	74.95	80.81	65.88	72.33	79.28
TiO2	0.43	0.75	0.28	1	0.23	0.08
Al2O3	11.47	7.53	8.1	15.38	5.46	9.74
FeO	0.4	0.6	0.65	0.39	1.22	0.39
Fe2O3	12.51	8	1.85	5.15	1.37	1.13
MnO	0.01	0.01	0.01	<0.01	0.06	0.02
MgO	1.03	0.59	0.56	0.54	1.49	0.46
CaO	0.13	0.24	0.08	0.66	6.92	0.36
Na2O	0.59	0.17	0.13	5.61	0.34	4.1
K2O	4.04	3.26	3.22	0.99	1.53	1.32
P2O5	0.06	0.19	0.08	0.06	0.08	0.05
LOI	–	–	–	–	–	–
TOTAL	–	–	–	–	–	–
H2O+	0.01	0.62	0.97	<0.01	1.38	1.07
H2O-	0.11	0.2	0.08	0.1	<0.01	0.08
CO2	0.05	0.05	0.05	<0.07	5.61	0.07
S	7.85	3.39	1.68	3.83	0.04	<0.02
SO4	0.06	0.32	<0.05	0.13	<0.05	<0.05
TOTAL	100.08	98.76	98.55	99.72	98.06	98.15
TRACE ELEMENTS (ppb						
Au	26	0	27	1	2	<1
Ag	0.2	1.3	0.8	0.5	0.2	<0.2
Ba	0.46	0.205	0.25	0.01	0.056	0.034
Cu	37	39	10	21	20	1
Pb	16	28	5	5	6	<2
Zn	20	11	11	9	51	85
Rb	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sr	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Co	32	18	6	16	5	1
Cr	8	<2	<2	11	8	9
Ni	43	8	4	7	12	4
Zr	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
U	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Y	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Nb	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Th	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
As	58	11	30	10	3	2
Sb	<2	<2	4	3	2	8
RARE EARTHS (ppm)						
Ce	<5	<5	<5	60	11	303
Dy	<1	1	<1	8	2	25
Er	<100	<100	<100	<110	<100	<100
Eu	<1	<1	<1	2	<1	3
Gd	<260	<200	<200	<330	<200	<240
Ho	<1	<1	<1	1	<1	3
La	1	0.9	<0.5	29.9	11.4	156
Lu	0.2	0.3	<0.1	1.4	0.3	2.5
Nd	<10	<10	<10	26	12	116
Pr	<74	<54	<59	<130	<50	<150
Sc	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sm	<0.1	0.3	<0.1	6.7	2.7	22.2
Tb	<0.5	<0.5	<0.5	1.6	<0.5	3.3
Th	<0.5	1.6	<0.5	9.1	1.1	9.7
Tm	<0.5	<0.5	<0.5	1	<0.5	1.7
Yb	<0.5	1.1	<0.6	8.4	1.5	17.3

Table 3: Major oxides of Cretaceous age plutonic rock - Porcupine block

page

Analysis no.	1	2	3	4	5	6	7	8
Quadrangle	B-4	B-4	B-4	B-4	B-4	B-3	B-3	B-3
Rock type	Dio/gab	Dio/gab	Dio/gab	Dio/gab	Dio/gab	Dio/gab	Dio/gab	Dio/gab
Sample No.	84ER11	84ER38A	84ER38B	84WG114	84WG113	85WG161	85WG138	85WG167
MAJOR OXIDES								
SiO2	42.30	52.40	49.60	52.10	56.30	43.40	51.50	49.40
Al2O3	18.80	19.80	15.50	15.40	18.50	18.00	18.30	19.90
Fe2O3*	14.20	6.70	9.40	7.00	7.52	–	–	–
Fe2O3	–	–	–	–	–	4.60	3.24	3.61
FeO	–	–	–	–	–	8.20	5.80	4.80
MgO	6.00	2.77	7.18	7.06	2.98	5.66	4.30	3.89
CaO	12.40	8.47	9.96	12.60	7.59	11.60	8.84	10.20
Na2O	1.92	5.22	3.08	2.35	3.42	2.04	3.15	2.75
K2O	0.29	1.05	1.40	0.68	0.87	0.50	1.09	1.32
TiO2	1.48	0.68	0.86	0.61	0.65	1.85	0.97	0.83
P2O5	0.41	0.33	0.21	0.07	0.21	0.29	0.28	0.16
MnO	0.19	0.11	0.17	0.14	0.16	0.22	0.19	0.17
LOI	0.62	1.54	1.93	1.54	1.39	0.93	0.70	1.54
SUM	98.61	99.07	99.29	99.55	99.59	97.49	98.36	98.67
CIPW NORMS								
QTZ	–	–	–	3.1	11.2	–	3.5	1.6
COR	–	–	–	–	–	–	–	–
OR	1.8	6.4	8.6	4.1	5.3	3.1	6.6	8.0
AB	14.1	43.2	27.0	20.4	29.6	17.9	27.3	24.0
AN	43.2	28.3	25.2	30.2	33.3	39.9	33.4	39.2
NE	1.5	1.2	–	–	–	–	–	–
DI	14.5	10.4	19.8	26.8	3.1	14.5	7.9	9.6
HY	–	–	3.1	11.0	12.5	4.2	14.0	10.1
OL	16.7	5.0	10.6	–	–	9.3	–	–
MT	4.5	3.3	3.5	3.1	3.2	6.9	4.8	5.4
ILM	2.9	1.3	1.7	1.2	1.3	3.6	1.9	1.8
AP	1.0	0.8	0.5	0.2	0.5	0.7	0.7	0.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
TRACE ELEMENTS								
CR	30	20	190	70	40	22	24	29
RB	10	30	40	10	40	19	38	45
SR	620	1490	670	370	730	423	610	730
Y	20	10	10	10	10	32	23	<10
ZR	10	250	50	30	180	<10	79	43
NB	10	30	30	20	10	25	16	13
BA	120	420	600	190	440	116	308	468

Table 3: Major oxides of Cretaceous age plutonic rock - Porcupine block

Analysis no.	9	10	11	12	13	14	15	16
Quadrangle	B-3	A-2	A-2	A-2	A-2	B-4	B-4	B-4
Rock type	Dio/gab	Dio/gab	Dio/gab	Dio/gab	Dio/gab	Qtz Dio	Tonalite	Granodio
Sample No.	85BU145	87WG65	87WG94	87WG106	86WG258b	84ER50	84ER40	84ER195
MAJOR OXIDES								
SiO2	50.50	45.90	50.80	45.80	53.20	56.10	64.40	63.00
Al2O3	17.80	15.80	14.60	21.30	19.70	20.20	16.80	17.30
Fe2O3*	9.97	–	–	–	–	6.38	3.92	4.96
Fe2O3	–	4.24	2.24	4.38	3.87	–	–	–
FeO	–	6.90	9.60	5.60	4.00	–	–	–
MgO	4.45	8.75	5.98	4.82	3.80	2.21	1.78	1.43
CaO	8.47	11.50	9.83	12.40	9.37	6.68	5.33	5.80
Na2O	3.38	1.96	2.57	2.24	3.11	4.41	4.21	4.07
K2O	0.81	0.74	0.44	0.43	0.79	1.38	1.60	1.44
TiO2	1.45	1.66	1.31	0.98	0.63	0.65	0.36	0.47
P2O5	0.19	0.15	0.12	0.24	0.26	0.25	0.10	0.18
MnO	0.15	0.18	0.20	0.18	0.15	0.13	0.11	0.16
LOI	1.47	0.93	0.70	0.62	0.70	1.23	0.85	0.93
SUM	98.64	98.71	98.39	98.99	99.58	99.80	99.46	99.74
CIPW NORMS								
QTZ	2.5	–	2.8	–	7.2	8.3	19.9	19.1
COR	–	–	–	–	–	–	–	–
OR	5.0	4.5	2.7	2.6	4.7	8.3	9.6	8.6
AB	29.7	17.0	22.3	19.3	26.6	38.0	36.2	35.0
AN	32.1	32.9	27.6	47.6	37.9	31.8	22.6	25.1
NE	–	–	–	–	–	–	–	–
DI	8.3	19.6	17.7	10.8	5.9	1.0	3.0	2.6
HY	14.8	7.2	20.8	8.7	10.1	9.6	5.8	5.9
OL	–	9.1	–	4.1	–	–	–	–
MT	4.4	6.9	3.3	6.5	5.7	3.2	2.0	2.8
ILM	2.9	3.2	2.5	1.9	1.2	1.3	0.7	0.9
AP	0.5	0.4	0.3	0.6	0.6	0.6	0.2	0.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
TRACE ELEMENTS								
CR	<10	14	n.a.	n.a.	n.a.	20	70	50
RB	30	17	16	14	37	50	50	30
SR	690	457	184	626	786	930	1150	700
Y	20	16	29	16	<10	20	10	30
ZR	60	27	76	<10	89	170	100	140
NB	20	26	26	20	20	10	10	20
BA	360	230	142	128	398	580	1030	540

Table 3: Major oxides of Cretaceous age plutonic rock - Porcupine block

Analysis no.	16	17	18	19	20	21	22	23
Quadrangle	B-4	B-4	B-4	B-4	B-4	A-3	A-3	A-2
Rock type	Granodio	Tonalite	Qtz Dio	Qtz Dio	Qtz Dio	Granodio	Qtmonzodio	Qtmonzodio
Sample No.	84ER195	84WG137	84WG94	84WG96	84ER85	85WG168	86WG261	87WG32
MAJOR OXIDES								
SiO2	63.00	65.10	56.70	59.10	60.20	63.30	59.70	64.00
Al2O3	17.30	16.20	17.30	17.90	17.10	16.60	19.10	17.00
Fe2O3*	4.96	4.40	7.78	5.44	5.62	–	–	–
Fe2O3	–	–	–	–	–	2.37	1.37	1.60
FeO	–	–	–	–	–	1.90	2.70	2.60
MgO	1.43	1.73	3.16	2.21	2.76	1.82	2.00	1.68
CaO	5.80	4.40	5.47	5.82	6.15	4.91	5.26	4.72
Na2O	4.07	3.68	4.56	5.16	3.73	3.87	4.40	4.58
K2O	1.44	1.56	1.80	1.48	1.70	2.31	2.72	2.11
TiO2	0.47	0.40	0.67	0.64	0.58	0.44	0.52	0.62
P2O5	0.18	0.11	0.21	0.25	0.13	0.13	0.11	0.20
MnO	0.16	0.12	0.14	0.14	0.12	0.12	0.11	0.09
LOI	0.93	1.70	1.93	0.70	1.31	0.85	0.62	0.47
SUM	99.74	99.40	99.72	98.86	99.40	98.62	98.61	99.67
CIPW NORMS								
QTZ	19.1	25.3	5.5	8.2	14.8	19.6	8.7	16.7
COR	–	0.7	–	–	–	–	–	–
OR	8.6	9.5	10.9	8.9	10.3	14.0	16.4	12.6
AB	35.0	32.0	39.7	44.8	32.3	33.5	38.0	39.1
AN	25.1	21.7	22.0	21.7	25.5	21.6	24.8	19.8
NE	–	–	–	–	–	–	–	–
DI	2.5	–	3.7	5.0	4.0	2.0	0.9	2.1
HY	5.9	7.5	13.1	6.7	8.9	4.8	7.9	5.8
OL	–	–	–	–	–	–	–	–
MT	2.6	2.3	3.2	2.8	2.9	3.5	2.0	2.3
ILM	0.9	0.8	1.3	1.2	1.1	0.9	1.0	1.2
AP	0.4	0.3	0.5	0.6	0.3	0.3	0.3	0.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
TRACE ELEMENTS								
CR	50	60	20	50	70	23	26	n.a.
RB	30	50	50	40	30	75	95	64
SR	700	570	470	1590	630	551	628	530
Y	30	10	20	11	30	10	28	23
ZR	140	120	100	120	130	114	77	564
NB	20	20	20	30	30	<10	<10	15
BA	540	720	450	910	710	744	1020	675

Table 3: Major oxides of Cretaceous age plutonic rock - Porcupine block

Analysis no.	24	25	26
Quadrangle	A-2	A-2	A-2
Rock type	Tonalite	Qtzdio	Qtmonzodio
Sample No.	87WG67	87WG64	87WG22
MAJOR OXIDES			
SiO2	67.40	57.60	56.30
Al2O3	16.00	18.90	17.60
Fe2O3*	–	–	–
Fe2O3	1.30	2.91	2.62
FeO	2.10	3.40	4.50
MgO	1.28	2.49	3.22
CaO	3.76	8.07	5.96
Na2O	5.05	3.73	3.76
K2O	1.75	0.90	2.29
TiO2	0.44	0.67	0.85
P2O5	0.16	0.22	0.23
MnO	0.08	0.16	0.16
LOI	0.39	0.62	1.62
SUM	99.71	99.67	99.03
CIPW NORMS			
QTZ	21.3	12.2	7.3
COR	–	–	–
OR	10.4	5.4	13.9
AB	43.0	31.9	32.8
AN	15.9	32.5	24.9
NE	–	–	–
DI	1.5	5.3	3.2
HY	4.7	6.8	11.9
OL	–	–	–
MT	1.9	4.3	3.8
ILM	0.8	1.3	1.7
AP	0.4	0.5	0.5
TOTAL	100.0	100.0	100.0
TRACE ELEMENTS			
CR	n.a.	n.a.	n.a.
RB	61	28	57
SR	402	789	577
Y	14	17	23
ZR	197	81	127
NB	26	<10	17
BA	605	332	705

Table 4: Major oxide analyses of Tertiary age plutonic rock - Porcupine area

Quadrangle	A-2	A-2	B-3	B-3	B-3
Pluton	Mt. Emerick		Takhin Ridge	Takhin Ridge	Chilkat River
Rock type	Granite	Granite	Tonalite	Tonalite	Tonalite
Sample No.	87WG19	86WG260	85WG169	85WG54	85WG282A
MAJOR OXIDES					
SiO2	76.70	76.50	66.00	67.30	66.20
Al2O3	12.40	12.90	16.60	15.80	16.40
Fe2O3	0.60	0.39	1.31	1.08	1.35
FeO	0.30	0.50	2.10	2.10	2.50
MgO	0.07	0.07	1.54	1.16	1.85
CaO	0.55	0.48	4.46	3.80	5.04
Na2O	4.43	4.73	4.76	4.57	4.40
K2O	3.88	4.18	1.56	2.20	1.20
TiO2	0.07	0.06	0.55	0.47	0.56
P2O5	0.02	0.02	0.16	0.13	0.18
MnO	0.03	0.04	0.08	0.08	0.08
LOI	0.23	0.23	0.77	0.39	0.47
SUM	99.28	100.10	99.89	99.08	100.23
CIPW NORMS					
QTZ	35.2	31.8	20.6	22.44	22.31
OR	23.2	24.7	9.3	13.17	7.11
AB	37.8	40.1	40.6	39.18	37.32
AN	2.5	1.6	19.5	16.31	21.51
DI	0.1	0.5	1.4	1.58	1.94
HY	0.1	0.5	5.2	4.52	6.38
MT	0.9	0.6	1.9	1.59	1.96
HEM	0.0	--	--	--	--
ILM	0.1	0.1	1.1	0.90	1.07
AP	0.1	0.0	0.4	0.31	0.42
TOTAL	100.0	100.0	100.0	100.0	100.0
TRACE ELEMENT					
CR	13	0.01 %	17	<100	<100
RB	125	222	54	78	41
SR	22	<10	603	491	451
Y	23	29	26	<10	<10
ZR	69	133	93	134	208
NB	22	31	12	19	24
BA	998	88	577	698	416
F	n.a.	270	n.a.	n.a.	n.a.

Table 5: Major oxide analyses of Hiteshitak metavolcanic rocks

SAMPLE #	86WG141	86WG185	88WG130	85WG86	SHR008
TiO2	1.38	1.18	2.02	1.61	0.95
Al2O3	13.1	10.88	13.49	16.19	14.2
FeO	6.32	7.21	8.74	7.53	4.82
Fe2O3	6.01	3.72	4.9	4.06	3.32
MnO	0.19	0.08	0.22	0.17	0.14
MgO	5.53	5.11	6.71	6.76	9.28
CaO	10.9	3.02	9.62	9.2	6.24
Na2O	2.23	4.17	3.04	4.02	2.69
K2O	0.02	0.05	0.33	0.24	1.34
P2O5	0.2	0.14	0.19	0.05	0.22
LOI	1.95	1.83	0.35	0.42	1.4
TOTALS	97.38	97.24	98.77	98.64	99.67
H2O+	1.76	1.71	0.14	0.18	0.13
H2O-	0.01	0.02	0.01	0.01	-
CO2	0.02	0.02	0.02	0.07	-
TRACE ELEMENTS (ppb)					
Au	0.005	<.005	<.005	0.37	n.a.
Ag	0.1	0.2	0.1	0.4	n.a.
Ba	<20	<20	<20	<20	n.a.
Cu	133	29	63	502	n.a.
Pb	<2	<2	<2	<2	n.a.
Zn	54	55	11	13	n.a.
Rb	14	<5	<5	<5	n.a.
Sr	170	32	125	175	n.a.
Co	17	8	3	4	n.a.
Zr	135	115	140	110	n.a.
U	<0.6	0.7	<0.6	<0.7	n.a.
Y	37	29	30	22	n.a.
Nb	17	10	17	<5	n.a.
Th	0.5	0.6	0.8	0.4	n.a.
RARE EARTH (ppm)					
Ce	24	19	26	18	n.a.
Dy	6.3	5.6	8.2	4.9	n.a.
Er	<50	<50	<51	<50	n.a.
Eu	1.4	1	1.6	1.5	n.a.
Gd	<100	<100	<100	<100	n.a.
Ho	1.4	1.2	1.5	1.1	n.a.
La	9.6	8.5	11.3	7	n.a.
Lu	0.43	0.37	0.39	0.29	n.a.
Nd	17	14	18	15	n.a.
Pr	<25	<25	<25	<25	n.a.
Sc	39.2	33.5	49.1	41.3	n.a.
Sm	4.52	3.55	5.06	4.03	n.a.
Tb	1	0.7	0.9	0.8	n.a.
Tm	<1.0	<1.0	<1.0	<0.7	n.a.
Yb	3.8	3.5	3.6	2.7	n.a.

Table 6: Major oxide compositions of Chilkat metavolcanic rocks

MAJOR OXIDES (%)	88WG115	85BU131a	85BU131b	SHE041
SiO2	47.73	43.9	52.5	47.35
TiO2	2.6	1.4	1.39	3.01
Al2O3	13.02	9.23	12.5	13.88
FeO	6.9	-	-	8.75
Fe2O3	7.24	-	-	4.52
Fe2O3*	-	14.3	13	-
MnO	0.2	0.27	0.23	0.23
MgO	6.63	1.33	2.45	6.71
CaO	9.81	15.5	7.51	10.57
Na2O	2.69	0.88	2.05	2.18
K2O	0.71	0.8	0.59	0.35
P2O5	0.23	0.32	0.26	0.37
LOI	1.15	10.4	7.93	0.89
TOTALS	98.91	98.33	100.41	98.88
H2O+	0.59	n.a.	n.a.	0.07
H2O-	0.02	n.a.	n.a.	n.a.
CO2	0.3	n.a.	n.a.	n.a.
TRACE ELEMENT S (ppb)				
Au	<.009	n.a.	n.a.	n.a.
Ag	0.1	n.a.	n.a.	n.a.
Ba	110	n.a.	n.a.	n.a.
Cu	104	n.a.	n.a.	n.a.
Pb	<2	n.a.	n.a.	n.a.
Zn	40	n.a.	n.a.	n.a.
Rb	32	n.a.	n.a.	n.a.
Sr	115	n.a.	n.a.	n.a.
Co	11	n.a.	n.a.	n.a.
Zr	170	n.a.	n.a.	n.a.
U	<0.6	n.a.	n.a.	n.a.
Y	42	n.a.	n.a.	n.a.
Nb	25	n.a.	n.a.	n.a.
Th	1	n.a.	n.a.	n.a.
RARE EARTHS (p pm)				
Ce	36	n.a.	n.a.	n.a.
Dy	8.4	n.a.	n.a.	n.a.
Er	<50	n.a.	n.a.	n.a.
Eu	2.2	n.a.	n.a.	n.a.
Gd	<100	n.a.	n.a.	n.a.
Ho	1.5	n.a.	n.a.	n.a.
La	15.1	n.a.	n.a.	n.a.
Lu	0.43	n.a.	n.a.	n.a.
Nd	26	n.a.	n.a.	n.a.
Pr	<25	n.a.	n.a.	n.a.
Sc	47.9	n.a.	n.a.	n.a.
Sm	6.66	n.a.	n.a.	n.a.
Tb	1.2	n.a.	n.a.	n.a.
Tm	<0.8	n.a.	n.a.	n.a.
Yb	3.9	n.a.	n.a.	n.a.

Table 7: Major oxide analyses of the Klukwan - Haines mafic-ultramafic complexes

Pluton:	Haines Ultramafic					Klukwan Ultramafic			
Rock Type:	Bt cpxite	Hb Cpxite	Cpx hbite			Hb Cpxite	Mt Cpxite		Vein
Sample #:	CPBtO	CP11C	CP7	CP9	SHH138	85BU135	85BU147	85BU228B	85BU140
MAJOR OXIDES									
SiO2	40.7	45.4	40.3	39.9	38.18	37.3	37.2	39.1	38.9
Al2O3	7.18	12.2	5.98	9.69	10.15	8.87	4.03	4.3	10.8
Fe2O3*	19.10	13.30	20.90	17.30	--	23.90	28.90	29.60	19.30
Fe2O3	--	--	--	--	9.48	--	--	--	--
FeO	--	--	--	--	8.95	--	--	--	--
MgO	12.30	7.73	11.00	10.60	11.71	10.60	11.40	5.81	12.10
CaO	14.80	12.80	18.00	15.80	14.56	15.70	15.60	13.80	12.00
Na2O	0.47	1.88	0.43	1.10	1.13	0.55	0.18	1.07	1.55
K2O	1.80	2.72	0.26	1.23	0.71	0.32	0.10	0.45	0.76
TiO2	1.56	1.03	1.41	1.43	2.17	1.96	1.76	2.50	2.15
P2O5	0.04	0.43	0.31	0.59	0.07	0.04	0.02	0.80	0.02
MnO	0.15	0.19	0.20	0.23	0.17	0.20	0.15	0.98	0.17
LOI	0.47	1.08	0.23	0.31	0.93	0.39	0.62	-0.15	0.77
SUM	98.57	98.76	99.02	98.18	98.21	99.83	99.96	98.26	98.52
CIPW NORMS									
QTZ	--	--	--	--	--	--	--	--	--
OR	--	16.6	--	--	--	--	--	2.8	--
A	--	1.9	--	--	--	--	--	3.5	--
AN	12.6	17.4	14.0	18.5	21.1	21.4	10.2	5.8	21.0
LEUC	8.6	--	1.2	5.9	3.4	1.5	0.5	--	3.7
NE	2.2	7.9	2.0	5.2	5.3	2.6	0.9	3.2	7.4
DI	36.3	37.2	43.3	33.4	37.1	23.7	32.4	51.3	28.9
HY	--	--	--	--	--	--	--	--	--
OL	26.6	12.1	24.3	22.8	12.8	32.6	38.1	20.4	27.7
MT	4.6	3.8	4.4	4.4	14.1	5.2	4.9	6.1	5.5
HEM	--	--	--	--	--	--	--	--	--
ILM	3.1	2.0	2.8	2.8	4.2	3.8	3.5	5.0	4.2
AP	0.1	1.0	0.7	1.4	0.2	0.1	0.1	1.9	0.1
CA-ORTHOSI	5.8	--	7.3	5.6	1.8	9.2	9.5	--	1.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
TRACE ELEMEN									
CR	90	130	20	100	<10	<10	<10	10	<10
RB	60	40	10	10	n.a.	<10	<10	<10	10
SR	140	690	180	450	n.a.	170	50	140	230
Y	<10	20	10	10	n.a.	<10	<10	50	<10
ZR	<10	20	<10	30	n.a.	<10	<10	460	<10
NB	10	20	10	30	n.a.	40	20	70	20
BA	450	500	80	230	n.a.	80	50	80	100

Table 8: Major oxide of the Cretaceous Mount Kasahagnak pluton

Quadrangle:								
Pluton:				Mt. Kashagnak Pluton				
Rock Type:	Qtz Monz	Qtz Monz	Monzodio	Monzodio	Qtz monz	Monzodio	Monzodio	Monzodio
Sample #:	85BU191	85BU176	85BU172	85BU125	85BU182	85BU173	85WG227	SHE164-A
MAJOR OXIDES								
SiO2	62.00	62.40	53.80	59.20	64.30	60.40	58.70	60.25
Al2O3	19.20	19.20	19.80	19.80	18.80	19.70	19.80	20.94
Fe2O3*	2.86	2.98	6.41	4.29	2.35	3.49	3.90	--
Fe2O3	--	--	--	--	--	--	--	1.96
FeO	--	--	--	--	--	--	--	1.21
MgO	0.59	0.58	1.90	1.00	0.45	0.79	0.84	0.75
CaO	4.50	4.45	8.91	6.13	4.01	5.65	5.67	4.93
Na2O	6.96	7.02	5.14	6.48	6.87	6.20	5.78	6.68
K2O	1.85	1.96	1.22	1.63	2.51	2.42	3.12	1.99
TiO2	0.32	0.36	0.78	0.54	0.28	0.44	0.49	0.41
P2O5	0.11	0.12	0.40	0.19	0.09	0.17	0.17	0.22
MnO	0.14	0.15	0.19	0.18	0.12	0.15	0.16	0.14
LOI	1.16	0.31	0.31	0.43	0.31	0.31	0.16	0.30
SUM	99.69	99.53	98.86	99.87	100.09	99.72	98.79	99.78
CIPW NORMS								
QTZ	4.69	4.48	--	--	10.18	3.24	0.84	3.03
COR	--	--	--	--	--	--	--	--
OR	11.12	11.70	9.69	14.83	14.43	13.89	18.74	11.82
ALB	59.88	59.98	35.92	51.32	52.92	53.08	49.71	56.82
AN	16.95	15.24	20.25	15.77	16.46	19.12	19.18	21.39
NE	--	--	10.42	3.69	--	--	--	--
WO	--	--	--	0.24	--	--	--	--
DI	5.03	5.24	19.04	11.23	2.07	6.68	6.90	1.38
HY	0.98	0.87	--	--	1.50	0.92	1.27	1.42
OL	--	--	0.24	--	--	--	--	--
MT	1.48	1.53	2.98	2.18	1.21	1.79	2.02	2.86
ILM	0.62	0.69	1.03	0.53	0.84	0.90	0.95	0.78
AP	0.26	0.28	0.44	0.21	0.40	0.40	0.40	0.51
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
TRACE ELEMENT								
CR	<10	20	<10	<10	<10	<10	20	<10
RB	20	30	20	10	50	50	40	n.a.
SR	1720	1630	1860	1690	1490	1740	4990	n.a.
Y	<10	10	20	20	10	10	40	n.a.
ZR	80	90	20	120	90	100	80	n.a.
NB	20	10	20	10	20	10	20	n.a.
BA	980	970	390	540	750	830	1600	n.a.
TA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
YB	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Table 8: Major oxide of the Cretaceous Mount Kasahagnak pluton

Quadrangle:								
Pluton:								
Rock Type:	Diorite	Cpx Dio	Cpx Dio	Cpx Dio	Cpx Dio	Cpx Dio		
Sample #:	SHE167-A	85BU211	85WG229	WG300	WG302	WG303	87WG77*	K1
MAJOR OXIDES								
SiO2	57.35	54.60	55.50	54.40	52.90	54.80	55.10	48.50
Al2O3	21.51	18.10	18.50	18.80	18.50	18.60	18.40	20.00
Fe2O3*	--	7.26	7.06	--	--	--	--	--
Fe2O3	2.51	--	--	3.75	4.08	4.06	3.75	4.33
FeO	2.56	--	--	3.20	3.50	2.90	2.80	4.60
MgO	1.57	2.91	1.75	2.79	3.04	2.78	2.57	3.53
CaO	6.35	6.94	7.92	8.21	8.65	7.98	7.44	11.20
Na2O	6.71	4.87	5.73	4.95	4.80	4.93	5.14	3.67
K2O	0.49	2.18	0.72	1.37	1.30	1.67	1.34	1.00
TiO2	0.60	0.84	0.86	0.82	0.92	0.81	0.90	0.91
P2O5	0.36	0.38	0.33	0.43	0.46	0.43	0.39	0.50
MnO	0.17	0.16	0.25	0.17	0.19	0.17	0.20	0.24
LOI	0.21	0.47	0.31	0.54	0.31	0.31	0.54	0.47
SUM	100.39	98.71	98.93	99.43	98.65	99.44	98.57	98.95
CIPW NORMS								
QTZ	1.07	–	1.72	1.84	0.59	2.12	3.47	–
COR	--	--	--	--	--	--	--	–
OR	2.89	13.18	4.34	8.19	7.81	9.96	8.08	6.00
ALB	56.67	42.16	49.40	42.35	41.30	42.08	44.36	29.52
AN	27.08	21.58	23.06	25.31	25.52	23.90	23.64	35.69
NE	--	–	--	--	--	--	--	1.09
WO	--	–	–	--	--	--	--	--
DI	1.64	9.09	12.27	10.38	12.00	10.42	9.01	14.05
HY	5.06	7.50	3.29	3.85	3.91	3.04	3.23	--
OL	--	0.51	–	–	–	--	--	4.35
MT	3.63	3.47	3.49	5.50	6.02	5.94	5.55	6.38
ILM	1.14	1.63	1.66	1.58	1.78	1.55	1.74	1.76
AP	0.83	0.90	0.78	1.01	1.08	1.00	0.92	1.18
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.02
TRACE ELEMENT								
CR	n.a.	<10	<10	10	20	10	<100	<100
RB	n.a.	40	20	20	20	30	35	16
SR	n.a.	1460	1460	1600	1600	1600	1650	1350
Y	n.a.	20	20	20	10	10	21	24
ZR	n.a.	100	160	<10	<10	20	43	<10
NB	n.a.	30	30	11	10	11	24	<10
BA	n.a.	550	130	390	380	440	357	200
TA	n.a.	n.a.	n.a.	<0.5	<0.5	<0.5	n.a.	n.a.
YB	0.8	n.a.	n.a.	1.4	1.5	1.3	n.a.	n.a.

Table 8: Major oxide of the Cretaceous Mount Kasahagnak pluton

Quadrangle:		
Pluton:		Mt. Ripinski
Rock Type:		
Sample #:	K2	89BU-CPK
MAJOR OXIDES		
SiO2	49.80	68.60
Al2O3	20.00	16.60
Fe2O3*	--	--
Fe2O3	4.32	1.07
FeO	4.50	0.60
MgO	3.23	0.45
CaO	10.40	2.11
Na2O	4.03	6.53
K2O	0.59	3.02
TiO2	0.82	0.22
P2O5	0.44	0.05
MnO	0.27	0.09
LOI	0.85	0.16
SUM	99.25	99.50
CIPW NORMS		
QTZ	--	14.77
COR	--	--
OR	3.54	17.96
ALB	34.65	55.62
AN	35.30	7.11
NE	--	--
WO	--	--
DI	11.49	2.42
HY	4.74	0.03
OL	1.29	--
MT	6.47	1.56
ILM	1.58	0.42
AP	1.04	0.12
TOTAL	100.10	100.01
TRACE ELEMENT		
CR	<100	<100
RB	22	70
SR	1060	910
Y	12	<10
ZR	<10	129
NB	10	26
BA	159	859
TA	n.a.	n.a.
YB	n.a.	n.a.

Pluton:	Unnamed bodies and dikes in B-2 quadrangle				
Rock Type:	Qtmonzodio	Qtz Dio	Qtmonzodio	Qtz Dio	Qtmonzodio
Sample #:	SHR053	SHE164-B	SHR127	SHR038	SHE167-B
MAJOR OXIDES					
SiO2	65.06	65.40	64.25	57.31	65.90
Al2O3	17.66	18.20	18.57	20.11	17.30
Fe2O3	1.54	1.31	1.70	2.79	1.43
FeO	1.64	1.40	1.59	2.59	1.30
MgO	0.85	0.81	0.92	1.62	0.75
CaO	4.22	4.50	4.16	6.49	3.90
Na2O	5.03	6.08	5.47	4.45	5.73
K2O	2.80	1.60	2.34	1.97	2.58
TiO2	0.45	0.36	0.41	0.63	0.33
P2O5	0.19	0.12	0.23	0.40	0.12
MnO	0.13	0.13	0.14	0.21	0.13
LOI	0.35	0.62	0.12	1.36	0.23
SUM	99.92	100.53	99.90	99.93	99.70
CIPW NORMS					
QTZ	15.33	13.74	13.37	8.10	14.24
COR	--	--	0.03	--	--
OR	16.62	9.46	13.86	11.81	15.33
AB	42.74	51.49	46.38	38.20	48.74
AN	17.41	17.66	19.18	29.50	13.94
DI	1.92	3.17	--	0.41	3.82
HY	2.43	1.62	3.40	5.72	0.94
MT	2.24	1.90	2.47	4.10	2.08
HEM	--	--	--	--	--
ILM	0.86	0.68	0.78	1.21	0.63
AP	0.44	0.28	0.53	0.94	0.28
TOTAL	100.0	100.0	100.0	100.0	100.0
TRACE ELEMENT					
CR	n.a.	20	n.a.	n.a.	20
RB	n.a.	30	n.a.	n.a.	60
SR	n.a.	1300	n.a.	n.a.	1200
Y	n.a.	<10	n.a.	n.a.	10
ZR	n.a.	60	n.a.	n.a.	70
NB	n.a.	13	n.a.	n.a.	11
BA	n.a.	550	n.a.	n.a.	920
TA	n.a.	<0.5	n.a.	n.a.	<0.5
YB	n.a.	1.0	n.a.	n.a.	n.a.

Quadrangle:	B-3	B-3	C-3	C-3	C-3	C-3	B-2	B-2
Pluton:	Klutshah Mountain pluton:						Unnamed bodies:	
Rock Type:	qtz sy	qtz sy	qtz sy	qtz sy	qtz sy	qtz sy	syenogran	syenogran
Sample #:	85BU200	85BU165B	85BU174	85WG251	WG204	WG107	SHE015	SHE042
Unit:								
MAJOR OXIDES								
SiO2	70.60	69.50	71.50	70.00	69.50	68.20	73.04	71.98
Al2O3	16.60	17.00	16.00	16.80	17.10	17.30	15.82	15.67
Fe2O3*	0.63	0.90	0.61	0.82	--	--	--	--
Fe2O3	--	--	--	--	0.97	0.69	0.46	0.74
FeO	--	--	--	--	<.10	0.40	0.18	0.34
MgO	0.03	0.20	0.11	0.19	0.10	0.28	0.00	0.14
CaO	0.90	1.18	1.02	1.02	0.99	1.68	0.51	0.59
Na2O	7.61	8.18	7.34	7.74	7.77	8.51	7.36	6.88
K2O	2.81	2.36	2.84	2.91	2.89	2.13	2.02	2.47
TiO2	0.12	0.13	0.09	0.12	0.15	0.16	0.06	0.11
P2O5	0.03	0.04	0.02	0.04	0.04	0.05	0.06	0.06
MnO	0.01	0.03	0.02	0.03	0.03	0.05	0.02	0.04
LOI	0.47	0.39	0.31	0.47	0.77	0.23	0.12	0.36
SUM	99.81	99.91	99.86	100.14	100.31	99.68	99.73	99.47
CIPW NORMS								
QTZ	13.96	10.61	16.12	15.30	11.44	7.96	21.68	21.42
COR	--	--	--	0.26	--	--	0.75	0.76
OR	16.72	14.02	16.87	17.38	17.15	12.66	11.99	14.74
ALB	64.84	69.59	62.41	60.49	66.01	72.40	62.57	58.79
AN	2.86	2.71	2.34	4.85	3.26	--	2.15	2.56
LEUC	--	--	--	--	--	2.73	--	--
WO	0.24	0.15	0.45	--	0.23	1.41	--	--
DI	0.76	2.11	1.29	--	0.54	1.51	--	--
HY	--	--	--	0.98	--	--	--	0.35
MT	0.32	0.46	0.31	0.42	--	0.99	0.47	0.92
HEM	--	--	--	--	0.97	0.01	0.14	0.12
ILM	0.23	0.25	0.17	0.23	0.19	0.31	0.11	0.21
SPH	--	--	--	--	0.12	--	--	--
AP	0.07	0.09	0.05	0.09	0.09	0.12	0.14	0.14
TOTAL	100.00	99.99	100.01	100.00	100.00	100.10	100.00	100.00
TRACE ELEMENT								
CR	100	<10	<10	<10	20	20	n.a.	n.a.
RB	40	30	20	50	30	30	n.a.	n.a.
SR	2280	2200	2350	1670	2000	1900	n.a.	n.a.
Y	<10	<10	10	<10	<10	<10	n.a.	n.a.
ZR	40	30	<10	40	20	<10	n.a.	n.a.
NB	10	<10	20	10	7	11	n.a.	n.a.
BA	950	820	1140	820	860	480	n.a.	n.a.
TA	n.a.	n.a.	n.a.	n.a.	<0.5	<0.5	n.a.	n.a.

TABLE 11: LATITUDE AND LONGITUDE FOR SAMPLE LOCATIONS, AREA 36

SAMPLE NUMBER	LONGITUDE WEST	LATITUDE NORTH
86WG292MO	136.092	59.648
86WG129MO	136.151	59.646
86WG141MO	136.181	59.629
86WG101MO	136.061	59.608
86WG107MO	136.002	59.583
86WG185MO	136.088	59.557
86WG204MO	135.998	59.552
86WG69MO	136.183	59.573
86WG54MO	136.243	59.592
84WG96MO	136.246	59.509
84WG94MO	136.134	59.496
86WG303	135.877	59.535
86WG302MO	135.894	59.530
85WG251MO	135.924	59.525
85BU211MO	135.922	59.530
87WG77MO	135.869	59.520
85BU165bM	135.915	59.500
85WG229MO	135.819	59.480
85WG227MO	135.833	59.469
85BU125MO	135.853	59.457
85BU135MO	135.898	59.452
85BU173MO	135.882	59.465
85BU200MO	135.931	59.492
85WG86MO	135.935	59.441
SHE164aMO	135.727	59.418
SHE164bMO	135.728	59.418
85BU191MO	135.753	59.425
85BU176MO	135.771	59.427
85BU140MO	135.846	59.425
85BU147MO	135.879	59.425
85BU172MO	135.816	59.402
K1MO	135.914	59.410
K2MO	135.914	59.410
K3MO	135.914	59.410
85WG264MO	135.962	59.385
85WG262MO	135.958	59.377
85WG261cM	135.933	59.376
84ER174MO	136.167	59.408
85WG273MO	136.157	59.405
85WG193MO	136.170	59.397
84ER11MO	136.168	59.386
84ER195MO	136.449	59.450
85AFSJR1M	136.428	59.423
85WG278MO	136.409	59.419
84ER38aMO	136.391	59.418
84ER38bMO	136.391	59.418
85AFSJT15	136.403	59.417
85WG151MO	136.364	59.408

TABLE 3, CONT.

SAMPLE NUMBER	LONGITUDE WEST	LATITUDE NORTH
85WG148MO	136.381	59.405
85WG146MO	136.383	59.403
85AFSLJT1	136.400	59.403
85AFSLJT2	136.400	59.403
AJ5SV334X	136.392	59.393
AJ5SV320X	136.392	59.393
85AFSMD2M	136.392	59.393
85AFSMD3M	136.392	59.393
85AFSSJ41	136.447	59.409
85AFSSJ6M	136.449	59.411
85AFSSJ13	136.464	59.414
85AFSSJ10	136.452	59.411
85AFSSJ10	136.452	59.411
85AFSSJ10	136.452	59.411
84ER40MO	136.385	59.374
84ER39MO	136.407	59.360
84ER30MO	136.458	59.378
84ER29MO	136.457	59.379
85AFSHC2M	136.466	59.391
85AFSHC4a	136.466	59.391
85AFSHC6M	136.466	59.391
85AFSHC5a	136.466	59.391
SHE167aMO	135.686	59.392
85BU182MO	135.761	59.381
SHRO38MO	135.734	59.337
SHRO53MMO	135.686	59.336
85WG282aM	135.804	59.328
85WG221MO	135.912	59.355
85WG219MO	135.899	59.349
85WG223MO	135.897	59.343
85WG218MO	135.890	59.338
85WG158MO	135.945	59.333
85WG111MO	135.942	59.324
85WG170MO	135.943	59.320
85BU145MO	135.961	59.299
85WG167MO	135.961	59.297
85WG54MO	136.069	59.289
85WG169MO	136.034	59.287
85WG145MO	135.852	59.262
85WG161MO	135.812	59.271
85WG136MO	135.865	59.277
85WG138MO	135.861	59.282
85WG142MO	135.873	59.279
85WG95MO	135.925	59.294
85WG96MO	135.910	59.294
85WG141MO	135.907	59.299
85WG214MO	135.850	59.304
85BU131aM	135.764	59.346
SHBO41MO	135.633	59.293

TABLE 3, CONT.

SAMPLE NUMBER	LONGITUDE WEST	LATITUDE NORTH
88WG115MO	135.651	59.289
SHR008MO	135.664	59.325
SHE015MO	135.579	59.322
89WGSAWMO	135.522	59.301
88WG130MO	135.546	59.295
SHE177MO	135.595	59.289
89LBH1MO	135.467	59.283
89LBH2MO	135.453	59.280
SHH138MO	135.439	59.259
84WG168MO	136.273	59.353
84WG114MO	136.248	59.341
84WG113MO	136.257	59.332
84WG137MO	136.261	59.296
84ER50MO	136.430	59.288
84ER85MO	136.235	59.250
85WG168MO	136.052	59.247
86WG198aM	136.038	59.215
86WG218MO	136.061	59.216
87WG32MO	135.685	59.221
86WG260MO	135.750	59.201
86WG261MO	135.777	59.192
87WG19MO	135.694	59.189
87WG22MO	135.664	59.120
89BUCPKMO	135.455	59.245
CP1MO	135.461	59.225
CP7,9MO	135.456	59.223
CP11MO	135.455	59.223
CPB10MO	135.453	59.223
87WG106MO	135.528	59.184
87WG67MO	135.609	59.171
87WG62MO	135.517	59.170
87WG64MO	135.558	59.159
87WG65MO	135.596	59.135
87WG11MO	135.550	59.109
88WG109MO	135.481	59.104
88WG116MO	135.751	59.357
87WG94	135.715	59.083
85AFSLJT2	136.390	59.412
86WG300MO	135.897	59.546
85BU174MO	135.965	59.517
BU228BMO	135.872	59.421
AFSK11MO	135.955	59.408
85WG261DM	135.933	59.377
SHE167BMO	135.686	59.392
SHR127MO	135.739	59.382
85BU131BM	135.764	59.346
85WG110MO	135.950	59.324
86WG258BM	135.769	59.221