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Mineral Investigations in the Admiralty Island Mining District Southeast Alaska 2005-2006

Peter E. Bittenbender

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Cover

BLM Geoloist examing the Alaska Empire Mine on northern Admiralty Island, Southeast Alaska.

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Mineral Investigations in the Admiralty Island Mining District, Southeast Alaska 2005-2006

By
Peter E. Bittenbender

Open File Report 118
June 2007

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Bureau of Land Management
Alaska State Office
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ABSTRACT

In 2005 and 2006 Bureau of Land Management (BLM) investigators surveyed, mapped, or sampled 24 mineral occurrences in the Admiralty Island Mining District in Southeast Alaska. The BLM collected and analyzed 109 rock chip, pan concentrate, and stream sediment samples during the investigation.

This report comprises mainly the results of geochemical analysis of samples collected by the BLM during the mineral assessment of the Admiralty Island district. The results represent an abbreviated mineral assessment of the district due to the elimination of the Alaska Minerals Program.

BLM investigators concentrated their investigation on the Triassic belt of rocks on the eastern side of Admiralty Island, which holds the potential for hosting VHMS-type occurrences similar to the Kennecott Greens Creek Mine. The most prospective parts of the Triassic belt, as suggested by geochemical studies by the USGS and State of Alaska, are the upper Seymore Canal area and Gambier Bay. Most of the BLM sampling was focused on these areas.

Introduction

In 2005 and 2006 Bureau of Land Management (BLM) investigators surveyed, mapped, or sampled 24 mineral occurrences in the Admiralty Island Mining District, which comprises Admiralty Island, in Southeast Alaska (Plate 1). The BLM collected and analyzed 109 rock chip, pan concentrate, and stream sediment samples during the investigation.

The BLM began the mineral assessment of the Admiralty Island district at the behest of the U.S. Department of Agriculture, Forest Service. Assessment of the Admiralty Island Mining District would complete the mineral assessments of all mining districts in Southeast Alaska. The assessments were completed either by the former U.S. Bureau of Mines or the BLM. These assessments include the Juneau Mining District (___), Ketchikan Mining District (Maas and others, 1995), Chichagof-Baranof islands area (Bittenbender and others, 1999), and the Stikine area (Still and others, 2002).

This report presents the results of an abbreviated mineral assessment of the Admiralty Island Mining District. The assessment was cut short due to the termination of the Alaska Minerals Program.

Most of Admiralty Island is managed as a National Monument by the Forest Service and is closed to mineral entry. Only the northern part of the island, the Mansfield Peninsula area is open to claim staking and mineral development.

Table 1 presents analytical results from a commercial laboratory for samples collected during the course of the BLM's mineral assessment of the district in 2005 and 2006.

Acknowledgments

The author would like to thank the U.S. Department of Agriculture, Forest Service for their help in permitting access to the national monument parts of the Admiralty Island Mining District. Thanks in particular go to Cathy Rodriquez, Jeff DeFreest, and John Kato.

I would also like to thank Buddy Dore, captain of the motor vessel Shenandoah for his able seamanship. Buddy transported and lodged BLM field crews in 2005 and 2006 with great accommodation and high spirits.

Thanks are also extended to Soapy Lingle of Juneau, who loaned BLM investigators his uncle Stan Price's prospecting notes from 1958 to 1959. These notes provided unique insight to mineral occurrences in the Pack Creek area.

The author thanks Jerry Kouzes, BLM- State Office, for producing of Plate 1.

Bureau Investigations

BLM investigators spent approximately 16 days in the field in 2005 and 10 days in 2006. Most of this time was supported by a charter boat contract that allowed investigators access to properties along, and close to, the shoreline. Much of the charter boat time was spent in the Seymore Canal area, particularly along the eastern shore, from Windfall Harbor southward to Pleasant Bay. Additional investigations were concentrated around Gambier Bay.

BLM investigators concentrated their mineral assessment on the Triassic belt of rocks on the eastern side of Admiralty Island. This belt holds the potential for hosting VHMS-type occurrences similar to the Kennecott Greens Creek Mine on the northwest side of the island. The most prospective parts of the Triassic belt are suggested by anomalous geochemical samples that USGS and State of Alaska investigators delineated in prior geochemical evaluations on the island (e.g., Kelly, 1990; Taylor and others, 1992; Herbert and Race, 1964, 1965; Race and Rose, 1967).

In addition, the BLM examined parts of the Triassic belt on the northeast side of the island following up on field notes from a prospector who worked from a homesite on Pack Creek during the 1950's to 1980's. The notes available to the BLM are from 1958 and 1959. The 'discovery' of one mineral occurrence is attributed to follow-up of these notes, that of the "1/2 mile SE Staunch Point" occurrence.

BLM investigators located the Murder Cove coal prospect. This site was located by following up coal float in the creek that empties into the head of Murder Cove. Prior to the BLM's investigation, the prospect was apparently last visited in 1905 (Wright, 1906). An attempt to locate the site in the 1950's failed (Williams, 1951).

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Analytical Results

Sampling and analytical procedures

Sampling methods

BLM personnel collected rock chip and stream sediment samples to evaluate mineral occurrences and to conduct reconnaissance investigations in the Admiralty Island Mining District. Several types of rock chip samples were collected. **Continuous chip** samples are chips of rock taken in a continuous line across an exposure. **Representative chip** samples are discontinuous chips of rock taken across an exposure. **Spaced chip** samples are chips of rock taken at a specified interval across an exposure. **Grab** samples are rock chips or fragments taken more or less at random from an outcrop, float, or mine dump. **Select** samples are rock chips collected from the highest-grade parts of a mineralized zone.

Stream sediment samples were collected to detect anomalous metal values that may indicate the presence of mineralized rock in an area. **Stream sediment** samples are collections of silt and clay-sized particles taken from a stream bed.

Analytical and sample data are presented in Table 1. In addition to the analytical results, the following information is listed in the table: map number, sample number, sample site, sample type, sampling method, and sample size. The results are organized in the tables by map number, as presented on plate 1.

Abbreviations used in Table 1

Sample types:

R	rock chip
SS	stream sediment

***Sampling method (Rock Chip)*:**

C	continuous chip
G	grab
Rep	representative chip
S	select
SC	spaced chip

Sample size: Sample sizes are given in feet. The sizes of spaced chip samples (SC) are given by the overall size of the sample followed by the sample spacing or interval (e.g., "10 @ 0.5" means rock chips were collected every 0.5 feet over a 10-foot length).

Sample sites:

FL	float (original source of rock unknown)
MD	mine dump
OC	outcrop
RC	rubblecrop (source of rock known)
TP	trench, pit, or cut

Analytical methods

All analyses were conducted by a commercial laboratory. Rock samples were dried, crushed to a minus 10 mesh, split and pulverized to minus 200 mesh. Stream sediment samples were dried and sieved to a minus 80 mesh. Pan concentrate samples were pulverized to minus 200 mesh. The magnetic and non-magnetic fractions from placer and sluice concentrate samples are treated by the laboratory like rock samples and are pulverized to minus 200 mesh.

For samples analyzed by inductively coupled argon plasma (ICP) and atomic absorption spectroscopy (AA), a 0.5-gram sample was dissolved in aqua regia for measurement.

Samples were analyzed for gold, platinum and palladium by fire assay pre-concentration of a 30-gram sample followed by an ICP-atomic emission spectroscopy (AES) finish with results reported in parts per billion.

The remaining elements were analyzed by ICP with results reported as either parts per million or percent. In most instances, when the results of samples analyzed by this method exceeded the upper detection limits, the samples were not reanalyzed, but results were reported as being greater than the corresponding upper detection limit.

DETECTION LIMITS BY ANALYTICAL TECHNIQUE

Fire assay methods

Element	Range, ppb	Finish method
Au	5-10,000	AA
Au	1-10,000	ICP-AES
Au	***10-100,000***	Ore grade, AA
Pd	1-10,000	ICP-AES
Pt	5-10,000	ICP-AES

Atomic Absorption Spectroscopy (AA)

Element	Range, ppm
Cu	***0.01-50***%
Zn	***0.01-30***%

Ore grade samples presented in ***bold italics*** in Table 1.

Inductively coupled argon plasma (ICP) spectroscopy

Element	Range, ppm partial digestion	Element	Range, ppm partial digestion
Ag	0.2-100	Mg	0.01-15%
Al	0.01-15%	Mn	5-10,000
As	2-10,000	Mo	1-10,000
B	10-10,000	Na	0.01-15%
Ba	10-10,000	Ni	1-10,000
Be	0.5-100	P	10-10,000
Bi	2-10,000	Pb	2-10,000
Ca	0.01-15%	S	0.01-10%
Cd	0.5-500	Sb	2-10,000
Co	1-10,000	Sc	1-10,000
Cr	1-10,000	Sr	1-10,000
Cu	1-10,000	Ti	0.01-10%
Fe	0.01-15%	Tl	10-10,000
Ga	10-10,000	U	10-10,000
Hg*	0.01-100	V	1-10,000
K	0.01-10%	W	10-10,000
La	10-10,000	Zn	2-10,000

* analyzed by cold vapor AA

Analytical results for samples from mines, prospects, mineral occurrences, and reconnaissance investigations Table 1

Table 1. Analytical results for samples from mines, prospects, occurrences, and reconnaissance investigations.

Map No.	Sample No.	Field Location	Sample Type	Site	Method	Size	Specific Rock Type Sampled	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
1	13048	Barron (?)	R	RC	S		Fest qz w/ minor cg euhedral py	5	<0.2	9	6	15	1
1	13049	Barron	R	RC	S		Graphitic qz-sc w/ minor euhedral py	<5	0.2	30	3	26	1
2	13033	Alaska Empire	R	O	G		Crushed qz w/ graphitic phyllite	***18.2***	9.5	210	498	200	3
2	13034	Alaska Empire	R	UW	SC	9 @ 0.5	Qz vein w/ selvages of graphitic phyllite, minor py	***10.1***	5.8	26	524	118	1
2	13035	Alaska Empire	R	UW	C	4.7	Qz vein, friable, fest + graphitic sc partings	211	2.8	7	482	27	1
3	13109	Young's Bay	R	OC	G		Qz vein in carbon-rich, foliated marble	25	<0.2	19	8	13	<1
3	13110	Young's Bay	R	OC	G		Carbon-rich marble w/ thin layers of mariposite	<5	<0.2	19	6	25	1
3	13111	Young's Bay	R	OC	G		Folded marble to calc sc w/ mariposite & py	<5	<0.2	21	4	28	1
4	13000	Copper Chief	R	TP	SC	20 @ 1	Fg, sil, alt felsic volc w/ dissem & lenses of py +/- cpy	5	<0.2	613	2	5	2
4	13001	Copper Chief	R	TP	C	6.3	Alt felsic volc w/ dissem & lenses of py +/- cpy	40	1.9	***1.63***	6	5	2
4	13002	Copper Chief	R	UW	C	6	Sil felsic volc(?) w/ dissem & lenses of py +/- cpy	42	0.6	1570	4	4	3
4	13003	Copper Chief	R	UW	C	8.6	Py-rich sil felsic volc(?) w/ minor Cu sulfs, + cpy?	49	1.2	5390	4	<2	3
4	13004	Copper Chief	R	MD	S		Py in qz gangue	83	1.5	3520	9	2	2
4	13050	Copper Chief	R	TP	SC	20 @ 1	Fg, sil, alt felsic volc w/ dissem & lenses of py +/- cpy	50	0.4	1060	6	2	2
4	13051	Copper Chief	R	TP	Rep	25	Fg, sil, alt felsic volc	41	0.3	2820	3	2	1
4	13052	Copper Chief	R	TP	Rep	20	Fg, sil, alt felsic volc	9	0.2	2710	<2	4	<1
4	13053	Copper Chief	R	TP	Rep	20	Fg, sil, alt felsic volc	<5	<0.2	1040	<2	4	<1
5	13005	Pack Creek area	R	OC	S		Alt volc(?) w/ seams & dissem py +/- cpy	66	2.8	1345	19	50	5
5	13006	Pack Creek area	R	OC	G		Alt gs w/ seams & patches of py +/- cpy	23	1	377	13	30	2
5	13054	Pack Creek area	R	OC	Rep		Fractured, alt volc(?) w/ seams & dissem py +/- cpy	10	0.3	116	3	17	2
6	13007	Pack Creek area	R	OC	G		Lgt grn, msv gs w/ minor py & cpy	5	<0.2	53	3	12	<1
6	13008	Pack Creek area	R	RC	Rep	30x20	Dk grn, msv, fg gs w/ patchy py +/- cpy	<5	0.4	442	8	16	1
6	13009	Pack Creek area	R	OC	Rep	25	Sil tuff above fault, gs under fault; w/ py	<5	0.2	134	12	23	5
6	13010	Pack Creek area	R	OC	S		Alt tuff(?); qz & cc w/ 30% py	<5	0.8	263	30	9	19
7	13011	Seymore Sulfide area	R	OC	G		Sil arg w/ qz veinlets & very minor sulf	<5	0.2	24	6	63	1
8	13126	Shelter vein Creek	R	OC	G		Graphitic arg w/ seams of py to 1-2%	<5	0.3	69	6	79	3
8	13127	Shelter vein Creek	R	FL	G		Qz veins w/ po cutting metased (arg?)	6	0.2	72	17	55	1
9	13012	Little Bear area	R	OC	G		Gs w/ py lenses & dissem py & cpy	<5	1.1	1805	21	10	1
9	13055	Brown Bear	R	OC	Rep	5	Cherty lenses in arg w/ py & cpy	11	9.8	5100	45	60	1
9	13056	Brown Bear	R	OC	Rep	100	Sed & volc rx w/ minor py & cpy	<5	1.7	794	14	205	7
10	13121	Little Bear	R	OC	S		Chert w/ msv cpy	428	4.1	***14.2***	8	24	35
10	13122	Little Bear	R	OC	S		Dark gray chert w/ fg dissem py/cpy & sulf in seams	<5	<0.2	264	2	4	2
10	13200	Little Bear	R	RC	SC		Mixture of sil sed rx, br & meta-volc	26	0.2	5080	2	23	1
11	13116	Staunch Point SE Creek	SS				Volc & chert - close to contact	<5	<0.2	47	5	89	1
12	13013	Staunch Pt, SE of	R	OC	Rep	11.5	Sil arg w/ finely dissem sulf	5	0.3	62	7	31	1
12	13112	1/2 mile SE Staunch Point	R	OC	G		Lgt gray, fg, calc gw, w/ 2-5% py dissem	<5	1.4	98	10	62	2
13	13113	1/2 mile SE Staunch Point	R	OC	S		Jasper vein @ ls/volc contact w/ Cu-sulf minerals	95	4.2	9710	11	232	3
13	13114	1/2 mile SE Staunch Point	R	RC	S		Jasper w/ Cu-sulf	122	5.4	***1.81***	11	377	2

Bold italics indicate ore-grade analyses expressed in ppm for Au and in percent for Cu and Zn

Table 1. Analytical results for samples from mines, prospects, occurrences, and reconnaissance investigations.

Ni ppm	Co ppm	Cr ppm ppm	Al %	As ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Na %	Sb ppm	Sc ppm	Sr ppm	Ti %	V ppm	W ppm	Pd ppb	Pt ppb
7	8	69	0.12	13	30	<2	0.01	<0.5	1.53	<10	0.01	0.05	<10	0.02	66	0.01	<2	1	<1	<0.01	2	<10		
9	2	40	0.42	6	770	<2	0.28	<0.5	1.6	<10	0.01	0.15	10	0.17	51	<0.01	<2	1	49	<0.01	13	<10		
9	1	86	0.13	101	250	2	0.08	1.4	2.66	<10	1.6	0.07	<10	0.06	64	0.02	8	<1	15	<0.01	12	<10		
4	<1	91	0.02	8	50	5	0.05	1.1	0.72	<10	0.06	0.01	<10	0.02	42	<0.01	<2	<1	3	<0.01	2	<10		
3	<1	70	0.06	11	60	3	0.05	<0.5	0.49	<10	0.02	0.02	<10	0.02	29	<0.01	<2	<1	3	<0.01	3	<10		
20	1	19	0.27	<2	240	<2	9.16	<0.5	1.14	<10	0.01	0.05	<10	1.57	594	0.02	<2	2	91	<0.01	7	<10		
138	19	535	0.27	60	200	<2	14.4	<0.5	2.46	<10	0.04	0.04	<10	2.09	595	0.02	4	3	127	<0.01	21	<10		
51	9	100	0.23	58	120	<2	16.1	<0.5	1.13	<10	0.02	0.15	<10	3.96	424	0.03	<2	3	108	<0.01	9	<10		
12	345	102	0.22	9	10	2	0.11	<0.5	7.53	<10	0.12	0.04	<10	0.16	70	0.08	<2	3	13	<0.01	17	<10		
21	422	72	0.25	26	10	6	0.31	<0.5	15.1	<10	0.32	0.02	<10	0.1	54	0.11	<2	3	21	<0.01	9	<10		
9	110	93	0.3	16	<10	3	0.03	<0.5	9.28	<10	0.35	0.04	<10	0.01	28	0.16	<2	1	12	<0.01	11	<10		
11	371	84	0.29	28	<10	7	0.04	<0.5	11.35	<10	0.25	0.04	<10	0.02	27	0.16	<2	1	15	<0.01	7	<10		
29	549	54	0.25	52	<10	6	<0.01	<0.5	23.1	<10	0.41	0.02	<10	<0.01	9	0.08	<2	1	3	<0.01	5	<10		
18	488	40	0.14	25	10	6	0.22	<0.5	15.5	<10	0.18	0.03	<10	0.1	31	0.06	<2	4	17	<0.01	22	<10		
17	386	45	0.14	16	10	2	0.36	<0.5	9.69	<10	0.08	0.03	<10	0.29	97	0.06	<2	4	25	<0.01	10	<10		
11	73	48	0.19	50	10	2	0.28	<0.5	5.42	<10	0.1	0.03	<10	0.49	138	0.06	<2	6	21	<0.01	14	<10		
11	45	52	0.19	31	10	<2	0.3	<0.5	4.33	<10	0.06	0.02	<10	0.69	153	0.07	<2	6	20	<0.01	11	<10		
136	1425	24	1.38	851	10	13	0.19	<0.5	31.4	10	1.58	0.01	<10	0.12	20	0.04	15	3	3	0.01	37	<10		
47	395	23	1.6	358	30	4	0.54	<0.5	13.9	10	0.19	0.02	10	0.37	103	0.13	<2	7	9	0.04	124	<10		
31	96	17	1.24	75	10	<2	0.84	<0.5	5.81	10	0.18	0.01	20	0.76	121	0.1	<2	6	15	0.2	158	<10		
19	88	34	0.87	20	120	<2	0.89	<0.5	3.03	<10	0.05	0.02	20	0.61	185	0.23	<2	2	18	0.02	17	<10		
111	401	260	1.68	6	40	<2	2.26	<0.5	15	10	0.19	0.21	10	0.96	293	0.11	<2	15	34	0.23	79	<10		
47	28	47	1.03	26	20	<2	5.34	<0.5	4.42	<10	0.95	0.19	10	1.9	603	0.12	52	8	131	<0.01	29	<10		
166	276	56	0.87	40	10	2	10.1	<0.5	18	<10	0.64	0.17	10	1.97	1310	0.04	37	3	232	<0.01	72	<10		
25	2	88	0.29	18	2090	<2	1.13	<0.5	1.38	<10	0.64	0.16	<10	0.44	239	<0.01	4	2	50	<0.01	10	<10		
12	11	7	1.96	32	100	<2	0.33	<0.5	4.32	10	0.03	0.21	10	0.87	704	0.03	<2	6	10	0.02	42	<10		
26	13	35	1.45	6	50	<2	1.97	<0.5	3.31	<10	0.03	0.12	<10	1.06	675	0.03	<2	3	39	0.08	32	<10		
52	597	45	0.83	33	10	3	1	<0.5	27.1	<10	1.69	0.01	<10	1.12	414	0.08	49	8	10	0.01	115	<10		
23	473	25	0.99	39	<10	7	0.54	<0.5	30.1	<10	0.23	0.01	<10	0.73	144	0.01	<2	4	11	<0.01	44	<10		
16	63	58	0.83	51	30	<2	0.35	0.7	6.78	<10	0.27	0.04	<10	0.73	148	0.02	3	3	12	<0.01	48	<10		
10	4	8	0.33	4	20	19	0.04	0.9	14.4	<10	<0.1	0.02	<10	0.12	40	0.01	<2	4	77	<0.01	25	<10		
6	4	32	0.26	4	40	<2	0.02	<0.5	2.79	<10	0.02	0.01	<10	0.14	53	0.01	<2	1	44	<0.01	9	<10		
24	12	78	1.25	5	50	<2	0.89	<0.5	4.35	<10	0.08	0.07	<10	0.91	349	0.05	<2	7	72	0.04	51	<10		
41	26	52	2.8	10	220	<2	1.18	<0.5	5.61	10	0.07	0.11	10	1.97	1720	0.12	2	7	38	0.26	128	<10		
22	28	53	2.52	8	100	<2	2.95	<0.5	6.5	10	0.28	0.17	10	3.63	770	0.07	<2	24	39	0.61	224	<10		
32	36	45	2.29	19	110	<2	1.29	<0.5	6.36	10	0.09	0.05	10	3.61	429	0.18	2	15	36	0.51	180	<10		
35	12	17	0.42	<2	50	4	5.24	6.4	12.9	<10	0.12	0.04	<10	1.51	1070	0.02	<2	7	78	0.01	158	<10		
41	16	21	0.71	<2	20	2	8.18	5.9	11	<10	0.09	0.03	<10	3.15	2320	0.02	<2	7	118	0.02	138	<10		

Bold italics indicate ore-grade analyses expressed in ppm for Au and in percent for Cu and Zn

Table 1. Analytical results for samples from mines, prospects, occurrences, and reconnaissance investigations.

Map	Sample	Field			Sample		Specific Rock Type	Au	Ag	Cu	Pb	Zn	Mo
13	13115	1/2 mile SE Staunch Point	R	OC	C	2.6	Jasper vein @ contact of ls (hw) & volc (fw)	38	0.5	916	15	252	5
14	13123	Lake SE of Staunch Pt	R	OC	Rep		Calc cherty sed w/ dissem v fg py	<5	<0.2	336	4	177	<1
14	13124	Near lake SE of Staunch Pt	R	OC	G		Graphitic chert to sil arg	<5	0.3	46	6	26	1
14	13125	Near lake SE of Staunch Pt	R	OC	G		Blk, graphitic, cherty arg w/ vfg py in bands	10	0.5	86	9	76	1
14	13201	Near lake SE of Staunch Pt	R	OC	Rep	7	Structural br w/ dissem sulf to 3%, more sulf in mtx	<5	0.3	71	6	88	4
15	13117	SW side Seymour; Opp Tiedeman Is	R	OC	G		Calc sc w/ possible mariposite	<5	0.2	55	6	94	<1
16	13118	SW side Seymour; Opp Tiedeman Is	R	RC	S		Blk, fest, carbonaceous, sil arg w/ 5-10% py	<5	0.3	20	2	25	4
17	13119	SW side Seymour; Opp Tiedeman Is	R	OC	C	1.7	Carbonaceous arg w/ 1-2% dissem py, vfg	15	0.6	255	6	300	6
18	13120	SW side Seymour; Opp Tiedeman Is	R	OC	S		Metamorphosed, recrystalized sed, gw(?) w/ 1-2% py	<5	<0.2	67	<2	77	<1
19	13014	Winning Cove	SS				Slate, gw, & metavolc	5	0.2	65	6	84	1
20	13016	Winning Cove	SS				Arg, metavolc	27	0.3	147	4	82	2
21	13015	Winning Cove	SS				Slate, gw, metavolc (Douglas Volcanics)	5	0.3	74	11	99	2
21	13057	Winning Cove	R	OC	S		Arg w/ py dissem & in seams	13	0.5	93	28	142	6
22	13017	B1181-R, #41	R	OC	G		Gs w/ dissem & veined po +/- py	7	0.2	214	7	49	1
23	13108	Alexander Lake	R	RC	G		Fest qz	<5	0.4	43	14	5	1
24	13018	Mole Harbor	R	OC	G		Hbld'ite & hbld-gbo w/ very minor cpy, qz veinlets	2	<0.2	136	5	44	<1
25	13019	Mole Harbor	R	OC	G		Alt hbld-gbo w/ very minor po/py	<5	<0.2	46	2	43	<1
26	13100	Mole Harbor	R	OC	G		Hbld-gbo w/ seams & dissem po/py +/- cpy?	<5	<0.2	296	<2	45	<1
26	13101	Mole Harbor	R	OC	Rep		Dissem po/py +/- cpy in lgt colored sil intrusive	<5	<0.2	258	4	57	<1
26	13102	Mole Harbor	R	OC	Rep		Hbl-gbo & sil hbld-gbo w/ dissem & veinlets of py, po, cpy	<5	0.2	876	4	41	1
26	13103	Mole Harbor	R	OC	Rep		Fg to mg sil gbo w/ 3-5% sulf, py, po, +/- cpy	<5	<0.2	198	2	11	5
26	13104	Mole Harbor	R	OC	Rep		Thinly bedded chert w/ minor sulf	<5	<0.2	100	2	35	6
27	13058	Mole Harbor	R	OC	Rep		Sil gbo w/ patches & dissem py, po, +/- cpy	2	<0.2	124	3	24	3
27	13059	Mole Harbor	R	OC	G		Sil arg w/ py dissem & in seams	4	0.3	72	5	201	5
27	13105	Mole Harbor	R	OC	G		Sil arg or carbonaceous chert w/ vfg dissem sulf	<5	0.2	71	<2	160	35
27	13106	Mole Harbor	R	OC	G		Blk, bedded arg w/ seams & finely dissem sulf	<5	0.4	76	13	265	18
27	13107	Mole Harbor	R	OC	G		Felsic, porhyritic dike w/ fg dissem sulf	<5	<0.2	76	5	67	1
28	13020	Mole Harbor	R	OC	G		Di(?) w/ minor dissem sulf	<5	<0.2	76	<2	24	<1
28	13021	Mole Harbor, South side	R	OC	G		Sil gbo w/ 10% po + minor cpy	18	<0.2	349	6	55	5
29	13024	Pleasant Bay	R	OC	G		Sil gbo adj contact w/ meta sed; w/ 3-5% po/py + cpy	<5	<0.2	253	3	67	5
29	13025	Pleasant Bay	R	OC	G		Sil gbo w/ dissem & patchy po/py +/- cpy	1	0.2	63	5	24	<1
30	13061	Pleasant Bay	R	OC	S		Sil gbo w/ py/po 10-15%	3	<0.2	31	7	12	<1
31	13022	Pleasant Bay	R	OC	G		Hn arg/slate w/ minor po/py & cpy	3	<0.2	102	5	44	5
31	13023	Pleasant Bay	R	OC	G		Hbld-gbo to hbld'ite w/ po & cpy	1	0.2	126	6	42	1
31	13060	Pleasant Bay	R	OC	G		Qz di w/ py dissem & in veins, mostly along fractures	1	0.2	139	5	37	2
32	13026	Pt Hugh area	R	OC	S		Chl sc w/ layers of semi-msv & dissem py	217	0.9	248	17	8	93
33	13043	Yellow Bear Mtn	R	OC	G		Alt sill w/ dissem & seams of py, po, +/- cpy	11	0.4	118	6	137	1
34	13036	N Gambier area	SS				1 bag; from active channel, from under rocks	7	0.9	82	34	255	6
35	13037	N Gambier	R	OC	S		Sheared volc w/ secondary sulf, qz, ba?	28	46	***8.33***	30	168	11

Bold italics indicate ore-grade analyses expressed in ppm for Au and in percent for Cu and Zn

Table 1. Analytical results for samples from mines, prospects, occurrences, and reconnaissance investigations.

Ni	Co	Cr ppm	Al %	As	Ba	Bi	Ca %	Cd	Fe %	Ga	Hg	K %	La	Mg %	Mn	Na %	Sb	Sc	Sr	Ti %	V	W	Pd	Pt
24	10	26	0.32	<2	250	<2	5.69	7.3	19.3	<10	0.08	0.02	<10	1.41	1180	0.02	<2	5	104	0.01	114	<10		
45	27	89	2.01	13	80	<2	10.45	<0.5	5.07	10	0.09	0.27	10	1.76	895	0.02	<2	10	145	<0.01	83	<10		
30	13	20	0.98	6	160	<2	1.24	<0.5	2.25	<10	0.1	0.12	<10	0.91	328	0.01	<2	2	18	0.05	25	<10		
37	7	15	0.91	3	100	<2	0.1	0.5	2.71	<10	0.55	0.17	10	1.24	133	0.02	<2	2	9	<0.01	22	<10		
57	22	171	2.22	16	50	<2	1.81	0.6	4.69	10	0.25	0.03	10	3.74	479	0.06	<2	13	56	0.18	196	<10		
354	55	626	1.38	10	180	<2	5.74	<0.5	6.73	<10	0.34	0.04	10	7.83	1350	0.05	<2	14	275	<0.01	91	<10		
16	2	26	0.22	7	30	<2	0.95	<0.5	3.11	<10	1.26	0.02	<10	0.39	194	0.01	2	3	17	<0.01	9	<10		
73	12	34	0.51	28	140	<2	9.72	1.6	5.42	<10	2.11	0.07	10	4.07	1230	0.04	<2	12	102	<0.01	72	<10		
59	36	88	3.4	11	30	<2	4.21	<0.5	7.65	10	0.27	0.16	<10	3.03	977	0.06	<2	28	68	<0.01	131	<10		
34	20	72	2.69	17	150	<2	1.26	<0.5	4.45	10	0.26	0.4	10	1.26	1165	0.07	3	7	124	0.17	110	<10		
29	31	111	2.58	12	150	<2	1.88	0.5	4.2	10	0.22	0.23	10	0.83	3350	0.04	<2	6	142	0.14	118	<10		
34	20	78	2.7	8	150	<2	1.23	<0.5	4.47	10	0.12	0.34	10	1.11	1455	0.07	<2	6	133	0.18	114	<10		
56	29	53	1.46	30	90	2	0.42	<0.5	6.55	<10	0.32	0.08	10	0.84	10350	0.05	<2	5	35	0.05	97	<10		
7	19	27	2.64	2	50	<2	2.25	<0.5	5.08	10	0.03	0.13	<10	1.07	627	0.14	<2	4	62	0.27	88	<10		
6	10	79	0.06	2	30	<2	0.02	<0.5	1.33	<10	0.01	0.02	<10	0.03	64	0.01	2	<1	3	<0.01	5	<10		
4	19	10	3.53	6	100	<2	4.38	<0.5	5.8	10	0.01	0.45	10	1.89	598	0.33	<2	22	322	0.32	321	<10	17	14
4	12	14	2.15	<2	50	<2	2.39	<0.5	3.96	10	0.01	0.28	10	1.05	647	0.17	<2	11	192	0.29	224	<10	5	11
14	22	10	2.2	2	90	<2	3.43	<0.5	5.07	10	0.08	0.22	<10	2.02	628	0.18	<2	22	120	0.37	218	<10		
3	19	5	1.96	3	20	<2	4.05	<0.5	5.18	10	0.24	0.11	10	1.57	852	0.11	<2	15	168	0.18	209	<10		
13	18	21	2.38	4	30	<2	2.79	<0.5	4.1	<10	0.1	0.18	<10	1.31	321	0.15	<2	16	116	0.25	165	<10		
4	8	18	0.92	<2	40	<2	1.18	<0.5	2.25	<10	0.02	0.12	10	0.19	171	0.09	<2	2	93	0.11	49	<10		
26	6	53	1.3	5	110	<2	0.76	<0.5	1.92	<10	0.04	0.42	10	0.97	253	0.13	<2	9	43	0.14	115	<10		
10	15	22	1.92	7	40	<2	2.46	<0.5	3.59	10	0.04	0.22	10	0.44	324	0.18	<2	5	99	0.26	86	<10	2	<5
38	17	72	3.14	5	180	2	1.37	1.6	4.98	10	0.08	1.21	10	1.67	442	0.2	<2	16	77	0.29	202	<10	3	10
44	5	65	1.76	7	160	2	0.95	2.3	2.26	10	0.11	0.34	<10	1.07	301	0.13	<2	9	55	0.12	266	<10		
54	7	77	1.32	9	40	<2	1.03	3.4	3.16	<10	0.07	0.3	<10	0.82	380	0.08	<2	10	24	0.14	244	<10		
5	13	14	3.01	3	100	<2	4.13	<0.5	4.45	10	0.02	0.29	10	1.22	884	0.28	<2	10	265	0.25	198	<10		
2	4	18	1.14	<2	80	<2	1.54	<0.5	2.66	<10	4.19	0.26	20	0.4	521	0.22	<2	4	150	0.15	116	<10	4	5
67	48	79	2.12	8	90	<2	1.22	<0.5	5.59	10	0.01	0.19	<10	1.15	315	0.14	<2	7	74	0.14	104	<10	2	<5
14	18	24	1.83	2	60	<2	1.29	<0.5	4.37	10	0.04	0.24	10	0.94	492	0.2	<2	8	106	0.25	116	<10	2	<5
5	14	20	1.34	<2	40	<2	1.63	<0.5	3.63	<10	0.02	0.27	10	0.44	266	0.13	<2	4	93	0.21	71	<10	3	<5
8	25	15	1.2	7	20	<2	2.02	<0.5	7.82	<10	0.09	0.15	10	0.21	186	0.06	<2	2	162	0.16	65	<10	3	<5
15	13	46	1.87	<2	30	<2	1.23	<0.5	3.56	10	0.02	0.1	10	0.92	466	0.17	<2	8	35	0.27	128	<10	<1	<5
13	30	20	3.26	4	30	<2	3.58	<0.5	5.67	10	0.02	0.27	<10	2.62	638	0.3	<2	45	288	0.52	257	<10	40	45
4	11	20	2.07	6	20	<2	2.77	<0.5	3.77	10	0.04	0.1	10	0.72	433	0.07	<2	4	65	0.16	105	<10	1	<5
21	112	55	0.61	7	10	<2	0.94	<0.5	19.7	<10	0.84	0.09	<10	0.08	136	0.11	<2	2	218	0.23	44	<10		
323	33	573	3.22	102	40	<2	5.57	<0.5	7.57	10	0.06	0.14	<10	4.78	1270	0.02	41	17	154	0.01	149	<10		
86	26	126	2.1	54	1360	<2	1.01	1.8	5.47	10	1	0.3	10	1.04	1250	0.05	3	9	51	0.08	102	<10		
67	35	66	2.62	<2	30	5	4.76	4.9	11.9	10	1.35	0.03	<10	1.73	3540	0.01	19	35	144	0.01	176	10		

Bold italics indicate ore-grade analyses expressed in ppm for Au and in percent for Cu and Zn

Table 1. Analytical results for samples from mines, prospects, occurrences, and reconnaissance investigations.

Map	Sample	Field			Sample		Specific Rock Type	Au	Ag	Cu	Pb	Zn	Mo
35	13038	N Gambier	R	FL	G		Volc tuff(?) w/ patches & veinlets of jasper & py	<5	0.6	919	31	135	1
35	13081	N Gambier	R	OC	Rep		Volc br w/ dissem sulf & minor euhedral py	5	1.3	1875	28	244	1
36	13029	N Gambier Creek	R	RC	S		Sil arg w/ fg & cg py in bands	<5	0.2	126	11	10	4
37	13137	E Gambier	R	OC	G		Grn + lavender volc w/ veins of wht xtls (ba?)	<5	<0.2	39	<2	70	<1
38	13136	E Gambier	SS				Bedrock mainly gs, but ls also in area	<5	<0.2	200	176	1200	2
39	13031	Green Beach	R	OC	SC	7.5 @ 0.5	Sil dol w/ dissem & seams of cpy +/- gn & oth Cu-sulf(?)	<5	0.3	22	84	1715	1
39	13032	Green Beach	R		S		Sil dol br w/ dissem, seams & patches of gn w/ minor cpy	<5	3.5	82	7150	***1.48***	1
39	13064	Green Beach	R	OC	G	15	Structural br w/ trace cpy, gn	<5	<0.2	84	35	426	<1
40	13030	Green Beach area	R	FL			Dol br w/ minor patchy cpy & gn	<5	8.2	152	3560	8200	1
41	13039	Green Beach	R	OC	G		Fe-carb, green & gray qz w/ minor py, +/- cpy	<5	<0.2	37	234	502	<1
42	13135	N Side Cave Mtn	R	FL	S		Light gray msv metased w/ grn Cu-stain(?) & sulf	<5	0.2	52	4	41	<1
43	13134	N Side Cave Mtn	R	OC	Rep	30	Gs w/ mg to cg anhedral dissem sulf	<5	<0.2	120	3	80	1
44	13133	Cave Mtn (Brown Prospect area)	R	RC	G		Gs w/ tremolite asbestos veinlets + 1-2% py + cpy	<5	<0.2	188	6	112	<1
45	13027	Gambier Bay	R	OC	G		Calc dike w/ dissem cpy & po	10	0.2	1325	5	42	1
45	13028	Gambier Bay	R	OC	S		Ls br w/ about 10% cpy	261	3.9	***3.1***	3	16	2
45	13062	Gambier Bay	R	OC	S		Sil ls br w/ 5-8% cpy in veins & veinlets	963	4.3	***2.14***	4	10	2
45	13063	Gambier Bay	R	OC	Rep	5	Sil ls br w/ cpy in veins & veinlets	743	2.5	***1.26***	<2	10	2
46	13129	SW Gambier Bay	R	FL	G		Alt arg w/ seams, veinlets & patches of py	<5	<0.2	115	2	73	<1
46	13202	SW Gambier Bay	SS				Graphitic arg (Hyd Group?) in area	8	<0.2	59	34	143	<1
46	13203	SW Gambier Bay	SS				Phyllite/arg bedrock in area	11	<0.2	57	17	98	<1
47	13130	SW Gambier Bay	R	RC	G		Blk, graphitic arg w/ minor py	<5	<0.2	25	25	56	<1
48	13131	SW Gambier Bay	R	RC	G		Strongly alt arg w/ small sulf veinlets	<5	<0.2	32	<2	26	<1
48	13204	SW Gambier Bay	R	RC	S		Fest arg w/ trace dissem fg sulf & bright grn sil min	<5	<0.2	161	5	51	<1
49	13132	SW Gambier Bay	R	FL	G		Br arg w/ very minor py	<5	<0.2	11	4	17	<1
50	13044	HP Claims area	R	OC	G		Organic-rich fest ooze from Fe-seep	5	<0.2	177	131	505	11
50	13045	HP Claims area	R	OC	C	1.9	Blk shale w/ layers of msv vfg py	41	0.8	248	30	616	67
50	13046	HP Claims area	R	OC	G		Sil blk shale w/ vfg py + seams & patches of fg to mg py	11	0.3	128	11	561	19
51	13042	HP Claims area (HP1)	R	OC	S		Blk graphitic shale w/ layers of very fg py	52	1.2	363	22	322	65
52	13047	Babe area	R	OC	G		Heterolithic cgl w/ py in matrix + some clasts	9	0.2	64	3	94	1
53	13040	Babe area	R	OC	G		Cgl (volc cgl ?) fest	<5	0.2	6	26	420	<1
53	13041	Babe area	R	OC	G		Iron seep	21	0.2	228	48	118	91
54	13140	Murder Cove	R	OC	G		Rhyolite	7	<0.2	9	4	118	2

Bold italics indicate ore-grade analyses expressed in ppm for Au and in percent for Cu and Zn

Table 1. Analytical results for samples from mines, prospects, occurrences, and reconnaissance investigations.

Ni	Co	Cr ppm	Al %	As	Ba	Bi	Ca %	Cd	Fe %	Ga	Hg	K %	La	Mg %	Mn	Na %	Sb	Sc	Sr	Ti %	V	W	Pd	Pt
60	25	70	1.8	33	880	<2	6.6	<0.5	6.7	10	0.1	0.08	<10	1.99	2800	0.01	2	15	94	0.01	115	<10		
85	41	66	2.12	10	230	<2	6.7	<0.5	10.6	<10	0.24	0.17	<10	2.53	5400	0.02	5	31	186	0.01	142	<10		
10	6	16	0.32	78	40	<2	18.5	<0.5	15.6	<10	0.14	0.08	<10	0.2	1445	0.01	14	2	617	0.01	15	<10		
60	17	101	5.61	<2	20	<2	7.36	<0.5	4.56	10	<0.01	0.08	<10	1.32	250	0.04	2	17	170	0.44	66	<10		
89	57	109	5.65	19	150	2	0.74	8.3	6.74	10	0.23	0.13	10	2.47	2460	0.24	<2	20	17	0.03	159	<10		
926	52	460	0.18	79	360	<2	13.6	18.4	5.22	<10	1.55	0.06	<10	9.17	2360	0.03	<2	6	248	<0.01	21	<10		
532	45	466	0.2	97	140	<2	17.5	135	5.76	<10	9.67	0.1	<10	8.48	5190	0.04	7	5	162	<0.01	31	<10		
948	47	396	0.19	56	160	<2	7.42	1.2	4.49	<10	0.36	0.04	<10	11.15	1280	0.03	<2	5	120	<0.01	17	<10		
32	13	19	0.73	34	90	<2	8.98	309	3.95	<10	9.53	0.29	<10	4.24	2360	0.05	12	9	90	<0.01	54	<10		
345	25	217	0.14	62	2120	<2	7.39	5.8	2.82	<10	0.43	0.03	<10	3.43	1585	<0.01	<2	3	79	<0.01	9	<10		
217	36	310	1.14	129	260	<2	8.22	<0.5	5.53	<10	0.01	0.22	<10	5.14	1090	0.04	<2	27	221	<0.01	61	<10		
23	30	6	2.28	<2	100	<2	1.64	<0.5	6.55	10	0.01	0.13	10	1.14	749	0.1	<2	3	40	0.31	205	<10		
47	42	11	3.3	<2	60	<2	2.24	<0.5	6.23	10	0.03	0.02	<10	3.04	1000	0.04	3	10	33	0.41	175	<10		
278	29	572	4.07	8	90	<2	3.04	<0.5	7.47	10	0.02	0.27	<10	3.52	575	0.13	<2	26	39	0.01	216	<10		
9	1	102	0.14	10	10	3	2.33	<0.5	4.23	<10	0.17	0.03	<10	0.94	972	0.01	<2	4	17	<0.01	10	10		
9	3	47	0.11	12	10	<2	3.34	<0.5	3.71	<10	0.1	0.02	<10	1.38	1105	0.03	<2	6	22	<0.01	10	<10		
12	<1	88	0.22	12	10	<2	3.11	<0.5	2.7	<10	0.08	0.04	<10	1.38	726	0.05	<2	4	22	<0.01	15	<10		
129	36	91	0.73	114	240	<2	4.73	<0.5	5.78	<10	1.19	0.16	<10	2.87	768	0.02	<2	21	143	<0.01	121	<10		
81	20	87	1.42	41	860	<2	0.94	0.7	5.24	<10	0.29	0.18	10	0.87	1205	0.06	3	10	55	0.01	79	<10		
65	19	77	1.4	32	1240	<2	0.74	<0.5	4.73	<10	0.22	0.18	10	0.96	1195	0.07	2	9	43	0.01	64	<10		
39	5	34	0.28	12	410	<2	21.6	<0.5	4.74	<10	0.45	0.09	10	2.58	665	0.02	<2	5	603	<0.01	60	<10		
8	4	5	0.94	<2	720	<2	0.63	<0.5	2.06	<10	0.01	0.16	<10	0.89	401	0.02	<2	3	30	<0.01	13	<10		
454	42	301	0.21	9	170	<2	11.75	<0.5	3.08	<10	0.12	0.07	<10	7.26	1720	0.03	<2	4	200	<0.01	11	<10		
7	4	4	0.25	<2	2410	<2	9.23	<0.5	3.57	<10	0.01	0.05	<10	4.2	1860	0.02	<2	3	351	<0.01	21	<10		
34	1	159	0.63	781	30	<2	0.05	<0.5	35.5	<10	0.38	0.02	<10	0.22	91	<0.01	40	45	3	0.04	1935	<10		
595	15	27	0.43	300	10	<2	0.12	2.4	16.6	<10	3.55	0.12	<10	0.08	67	<0.01	9	3	3	<0.01	241	<10		
235	20	87	0.58	57	40	<2	2.59	4.5	8.46	<10	0.45	0.05	10	2.99	826	0.02	4	18	33	<0.01	262	<10		
518	12	20	0.37	323	<10	<2	0.02	2.4	19.1	<10	8.5	0.18	<10	0.08	54	<0.01	8	2	3	<0.01	180	<10		
67	10	57	0.79	3	10	<2	0.13	<0.5	6.71	<10	0.79	0.16	<10	0.07	75	<0.01	<2	14	84	<0.01	42	<10		
35	6	6	0.79	4	270	<2	1.71	2.5	3.77	<10	0.04	0.21	10	0.52	889	0.01	<2	7	56	<0.01	12	<10		
61	29	122	0.41	290	70	2	0.46	24.2	20.6	<10	1.68	0.11	<10	0.36	936	<0.01	23	23	93	<0.01	537	<10		
<1	6	1	0.61	3	30	<2	1.12	<0.5	5.62	<10	0.08	0.06	20	0.61	1130	0.08	<2	8	22	0.01	4	<10		

Bold italics indicate ore-grade analyses expressed in ppm for Au and in percent for Cu and Zn

Table 2. Coordinates for Sample Locations.

Coordinates are expressed in decimal degrees using the North American Datum, 1927 (NAD27).

Sample no.	Latitude	Longitude
13000	57.943889	-134.301358
13001	57.944083	-134.301381
13002	57.944050	-134.301369
13003	57.944056	-134.301322
13004	57.944022	-134.301472
13005	57.925236	-134.287928
13006	57.925236	-134.287875
13007	57.922861	-134.284881
13008	57.922492	-134.285167
13009	57.921933	-134.284794
13010	57.921894	-134.284936
13011	57.882367	-134.288369
13012	57.857964	-134.278147
13013	57.868558	-134.238842
13014	57.867450	-134.106644
13015	57.863717	-134.097753
13016	57.871328	-134.087694
13017	57.820050	-134.073589
13018	57.664567	-134.088122
13019	57.673117	-134.075361
13020	57.658742	-134.028831
13021	57.657469	-134.027286
13022	57.637181	-133.987703
13023	57.637197	-133.989067
13024	57.641881	-134.001553
13025	57.641917	-134.002722
13026	57.597156	-133.804156
13027	57.479411	-134.058911
13028	57.479358	-134.059211
13029	57.503872	-134.006811
13030	57.480944	-133.975169
13031	57.478525	-133.972411
13032	57.478589	-133.972031
13033	58.184167	-134.786235
13034	58.183719	-134.786748
13035	58.183719	-134.786748
13036	57.528810	-134.016975
13037	57.515566	-134.009010
13038	57.515040	-134.008940
13039	57.486802	-133.983729
13040	57.376031	-134.222525
13041	57.376450	-134.221838
13042	57.399785	-134.255455
13043	57.572956	-134.237123
13044	57.402741	-134.256705
13045	57.402741	-134.256705
13046	57.402741	-134.256705
13047	57.380060	-134.231859
13048	58.196556	-134.820035
13049	58.195832	-134.819569
13050	57.943994	-134.301358
13051	57.944092	-134.301386
13052	57.944097	-134.301378
13053	57.944185	-134.301435
13054	57.925253	-134.287636
13055	57.858358	-134.275375
13056	57.858347	-134.275125
13057	57.863528	-134.094856
13058	57.673533	-134.056889
13059	57.673611	-134.056639
13060	57.637347	-133.988578
13061	57.637714	-133.993286
13062	57.479397	-134.058919
13063	57.479356	-134.058939
13064	57.478453	-133.971933
13081	57.515088	-134.008865
13100	57.673458	-134.063778
13101	57.673397	-134.063658
13102	57.673361	-134.061639
13103	57.673406	-134.061097
13104	57.673381	-134.060983
13105	57.673392	-134.059106
13106	57.673472	-134.057619
13107	57.673464	-134.057403
13108	57.670233	-134.183372
13109	58.166681	-134.701347
13110	58.166772	-134.701439
13111	58.166917	-134.701556
13112	57.870356	-134.238900
13113	57.866075	-134.234464
13114	57.866014	-134.234481
13115	57.866069	-134.234536
13116	57.865264	-134.241244
13117	57.851664	-134.222964

Sample no.	Latitude	Longitude
13118	57.849000	-134.218239
13119	57.845025	-134.216169
13120	57.838170	-134.213760
13121	57.856236	-134.269994
13122	57.856778	-134.269811
13123	57.855172	-134.237797
13124	57.855200	-134.238039
13125	57.855517	-134.237561
13126	57.852819	-134.315719
13127	57.850919	-134.314222
13129	57.462025	-134.083339
13130	57.464957	-134.083914
13131	57.464617	-134.092722
13132	57.462347	-134.102644

Sample no.	Latitude	Longitude
13133	57.484792	-134.074783
13134	57.492392	-134.087817
13135	57.492022	-134.077836
13136	57.482064	-133.966280
13137	57.487324	-133.966915
13140	57.076175	-134.540864
13200	57.856370	-134.270460
13201	57.855910	-134.237560
13202	57.461226	-134.082798
13203	57.462251	-134.083763
13204	57.464590	-134.092913

Table 3. Coordinates of Map numbers.

Coordinates are expressed in decimal degrees using the North American Datum, 1927 (NAD27).

Map no.	Sample no.	Latitude	Longitude	Map no.	Sample no.	Latitude	Longitude
1	13048	58.196556	-134.820035	13	13115	57.866069	-134.234536
1	13049	58.195832	-134.819569	14	13123	57.855172	-134.237797
2	13033	58.184167	-134.786235	14	13124	57.855200	-134.238039
2	13034	58.183719	-134.786748	14	13125	57.855517	-134.237561
2	13035	58.183719	-134.786748	14	13201	57.855910	-134.237560
3	13109	58.166681	-134.701347	15	13117	57.851664	-134.222964
3	13110	58.166772	-134.701439	16	13118	57.849000	-134.218239
3	13111	58.166917	-134.701556	17	13119	57.845025	-134.216169
4	13000	57.943889	-134.301358	18	13120	57.838170	-134.213760
4	13001	57.944083	-134.301381	19	13014	57.867450	-134.106644
4	13002	57.944050	-134.301369	20	13016	57.871328	-134.087694
4	13003	57.944056	-134.301322	21	13015	57.863717	-134.097753
4	13004	57.944022	-134.301472	21	13057	57.863528	-134.094856
4	13050	57.943994	-134.301358	22	13017	57.820050	-134.073589
4	13051	57.944092	-134.301386	23	13108	57.670233	-134.183372
4	13052	57.944097	-134.301378	24	13018	57.664567	-134.088122
4	13053	57.944185	-134.301435	25	13019	57.673117	-134.075361
5	13005	57.925236	-134.287928	26	13100	57.673458	-134.063778
5	13006	57.925236	-134.287875	26	13101	57.673397	-134.063658
5	13054	57.925253	-134.287636	26	13102	57.673361	-134.061639
6	13007	57.922861	-134.284881	26	13103	57.673406	-134.061097
6	13008	57.922492	-134.285167	26	13104	57.673381	-134.060983
6	13009	57.921933	-134.284794	27	13058	57.673533	-134.056889
6	13010	57.921894	-134.284936	27	13059	57.673611	-134.056639
7	13011	57.882367	-134.288369	27	13105	57.673392	-134.059106
8	13126	57.852819	-134.315719	27	13106	57.673472	-134.057619
8	13127	57.850919	-134.314222	27	13107	57.673464	-134.057403
9	13012	57.857964	-134.278147	28	13020	57.658742	-134.028831
9	13055	57.858358	-134.275375	28	13021	57.657469	-134.027286
9	13056	57.858347	-134.275125	29	13024	57.641881	-134.001553
10	13121	57.856236	-134.269994	29	13025	57.641917	-134.002722
10	13122	57.856778	-134.269811	30	13061	57.637714	-133.993286
10	13200	57.856370	-134.270460	31	13022	57.637181	-133.987703
11	13116	57.865264	-134.241244	31	13023	57.637197	-133.989067
12	13013	57.868558	-134.238842	31	13060	57.637347	-133.988578
12	13112	57.870356	-134.238900	32	13026	57.597156	-133.804156
13	13113	57.866075	-134.234464	33	13043	57.572956	-134.237123
13	13114	57.866014	-134.234481	34	13036	57.528810	-134.016975

Map no.	Sample no.	Latitude	Longitude
35	13037	57.515566	-134.009010
35	13038	57.515040	-134.008940
35	13081	57.515088	-134.008865
36	13029	57.503872	-134.006811
37	13137	57.487324	-133.966915
38	13136	57.482064	-133.966280
39	13031	57.478525	-133.972411
39	13032	57.478589	-133.972031
39	13064	57.478453	-133.971933
40	13030	57.480944	-133.975169
41	13039	57.486802	-133.983729
42	13135	57.492022	-134.077836
43	13134	57.492392	-134.087817
44	13133	57.484792	-134.074783
45	13027	57.479411	-134.058911
45	13028	57.479358	-134.059211
45	13062	57.479397	-134.058919
45	13063	57.479356	-134.058939
46	13129	57.462025	-134.083339
46	13202	57.461226	-134.082798
46	13203	57.462251	-134.083763
47	13130	57.464957	-134.083914
48	13131	57.464617	-134.092722
48	13204	57.464590	-134.092913
49	13132	57.462347	-134.102644
50	13044	57.402741	-134.256705
50	13045	57.402741	-134.256705
50	13046	57.402741	-134.256705
51	13042	57.399785	-134.255455
52	13047	57.380060	-134.231859
53	13040	57.376031	-134.222525
53	13041	57.376450	-134.221838
54	13140	57.076175	-134.540864

Table 4. Alphabetical listing of sampled sites.

Coordinates are expressed in decimal degrees using the North American Datum, 1927 (NAD27).

	Map no.	Sample no.
Barron (?)	1	13048
Barron	1	13049
Alaska Empire	2	13033
Alaska Empire	2	13034
Alaska Empire	2	13035
Young's Bay	3	13109
Young's Bay	3	13110
Young's Bay	3	13111
Copper Chief	4	13000
Copper Chief	4	13001
Copper Chief	4	13002
Copper Chief	4	13003
Copper Chief	4	13004
Copper Chief	4	13050
Copper Chief	4	13051
Copper Chief	4	13052
Copper Chief	4	13053
Pack Creek area	5	13005
Pack Creek area	5	13006
Pack Creek area	5	13054
Pack Creek area	6	13007
Pack Creek area	6	13008
Pack Creek area	6	13009
Pack Creek area	6	13010
Seymore Sulfide area	7	13011
Shelter vein Creek	8	13126
Shelter vein Creek	8	13127
Little Bear area	9	13012
Brown Bear	9	13055
Brown Bear	9	13056
Little Bear	10	13121
Little Bear	10	13122
Little Bear	10	13200
Staunch Point SE Creek	11	13116
Staunch Pt, SE of	12	13013
1/2 mile SE Staunch Point	12	13112
1/2 mile SE Staunch Point	13	13113
1/2 mile SE Staunch Point	13	13114
1/2 mile SE Staunch Point	13	13115
Lake SE of Staunch Pt	14	13123
Near lake SE of Staunch Pt	14	13124
Near lake SE of Staunch Pt	14	13125
Near lake SE of Staunch Pt	14	13201
SW side Seymour; Opp Tiedeman Is	15	13117
SW side Seymour; Opp Tiedeman Is	16	13118
SW side Seymour; Opp Tiedeman Is	17	13119
SW side Seymour; Opp Tiedeman Is	18	13120
Winning Cove	19	13014
Winning Cove	20	13016
Winning Cove	21	13015
Winning Cove	21	13057
B1181-R, #41	22	13017
Alexander Lake	23	13108
Mole Harbor	24	13018
Mole Harbor	25	13019
Mole Harbor	26	13100
Mole Harbor	26	13101
Mole Harbor	26	13102
Mole Harbor	26	13103
Mole Harbor	26	13104
Mole Harbor	27	13058
Mole Harbor	27	13059
Mole Harbor	27	13105
Mole Harbor	27	13106
Mole Harbor	27	13107
Mole Harbor	28	13020
Mole Harbor, South side	28	13021
Pleasant Bay	29	13024
Pleasant Bay	29	13025
Pleasant Bay	30	13061
Pleasant Bay	31	13022
Pleasant Bay	31	13023

	Map no.	Sample no.
Pleasant Bay	31	13060
Pt Hugh area	32	13026
Yellow Bear Mtn	33	13043
N Gambier area	34	13036
N Gambier	35	13037
N Gambier	35	13038
N Gambier	35	13081
N Gambier Creek	36	13029
E Gambier	37	13137
E Gambier	38	13136
Green Beach	39	13031
Green Beach	39	13032
Green Beach	39	13064
Green Beach area	40	13030
Green Beach	41	13039
N Side Cave Mtn	42	13135
N Side Cave Mtn	43	13134
Cave Mtn (Brown Prospect area)	44	13133
Gambier Bay	45	13027
Gambier Bay	45	13028
Gambier Bay	45	13062
Gambier Bay	45	13063
SW Gambier Bay	46	13129
SW Gambier Bay	46	13202
SW Gambier Bay	46	13203
SW Gambier Bay	47	13130
SW Gambier Bay	48	13131
SW Gambier Bay	48	13204
SW Gambier Bay	49	13132
HP Claims area	50	13044
HP Claims area	50	13045
HP Claims area	50	13046
HP Claims area (HP1)	51	13042
Babe area	52	13047
Babe area	53	13040
Babe area	53	13041
Murder Cove	54	13140