MINERAL INVESTIGATIONS IN THE KETCHIKAN MINING DISTRICT SOUTHEASTERN ALASKA

By: Kenneth M. Maas, Peter E. Bittenbender, and Jan C. Still

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Bureau of Mines

KETCHIKAN MINING DISTRICT

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ILLUSTRATIONS

UNIT OF MEASURE ABBREVIATIONS USED IN THIS REPORT

°	degree
a	year
ft	foot
g	gram
g/mt	gram per metric ton
ha	hectare
kg	kilogram
km	kilometer
m	meter
M	million
mg	milligram
mm	millimeter
mtpd	metric ton per day
m3	cubic meter
mt	metric ton
nm	nanometers
ppm	part per million
ppb	part per billion

METRIC TO ENGLISH CONVERSIONS

From	Multiply by	To
g/mt (= ppm)	0.02917	ounces/short ton
kg	2.2046	pounds
mt	1.1023	short tons
m	3.2808	feet
km	0.6214	miles
m3	1.3080	cubic yards
°C	1.8 and add 32°	°F
ha	2.47	acres

MINERAL INVESTIGATIONS IN THE KETCHIKAN MINING DISTRICT SOUTHEASTERN ALASKA 1990-1994

By Kenneth M. Maas[1], Peter E. Bittenbender[1], and Jan C. Still[2]

ABSTRACT

The U.S. Bureau of Mines conducted a mineral resource assessment of the Ketchikan Mining District from 1990-1993. Over 440 mines, prospects, and occurrences were examined in the 2.83-million- hectare district. More than 25 of these are discoveries or newly described. Land status, history, geology, and land use issues are discussed for 26 areas.

The district has potential for hosting deposits containing gold, silver, copper, lead, zinc, molybdenum, tungsten, uranium, rare-earth elements, platinum group metals, and carbonates. Deposit types include volcanogenic massive sulfide, skarn, magmatic segregation, low-sulfide vein gold, polymetallic vein, porphyry, and pegmatite dike. Principal production includes 18,200 mt of copper and 2.6 mt gold. The greatest potential for additional discoveries lies in Wales Group rocks on Prince of Wales Island that host volcanogenic massive sulfide deposits. Hazelton Group rocks near Hyder have potential for hosting large tonnage, low-grade gold deposits. Several hundred million mt of high-purity limestone are present including high-purity, high-brightness carbonates in the Calder area.

Prefeasibility studies for a massive sulfide model indicate that a 32 M mt deposit containing metals worth $137/mt would produce a 15% DCFROR, whereas a low-sulfide gold deposit would require 16 M mt of ore valued at $54/mt to produce a similar 15% return.

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EXECUTIVE SUMMARY

OVERVIEW

U. S. Bureau of Mines (Bureau) personnel examined mines, prospects, and mineral occurrences in the 2.83-million ha Ketchikan Mining District (KMD) between 1990-1993. The study was initiated to provide minerals data to support the USDA Forest Service in their revision of the Tongass Land Management Plan. Work was performed at 446 mineral locations containing copper, silver, gold, uranium, lead, zinc, tungsten, molybdenum, chromite, iron, platinum group elements, rare-earth elements, building stone and limestone. Over 4,800 samples were taken for geochemical analyses and several kilometers of underground and surface workings were mapped. More than 25 locations were either newly discovered or incorporated into the literature for the first time. Many other properties were found and examined for the first time since being abandoned by the original workers. Several other areas with favorable geology were examined in search of new mineral occurrences. The main focus of the study was to examine as many known mineral locations as possible rather than to discover new deposits.

The objectives of the study were to identify the type, amount, and distribution of mineral deposits in the district; validate established ore reserve estimates; study beneficiation technologies for representative ore types; perform feasibility studies to determine gross revenue per ton of ore necessary to produce a 15% discounted-cash-flow-rate-of-return (149)[3]; and address many of the resource and land use issues related to potential mineral development. A comprehensive bibliography was compiled from an exhaustive literature search and is included in this report.

More than 16 publications and presentations were prepared during this study. Separate open-file reports were published by the Bureau after the first three years of fieldwork. These reports provided preliminary descriptions of several of the mineral locations investigated by Bureau geologists as well as analytical results from geochemical sampling (48, 331, 333). The State of Alaska Division of Geological and Geophysical Surveys contributed to the study by producing 1:63,360-scale geologic maps of the Hyder and Helm Bay areas (4,131). H. H. Murray and Associates was subcontracted to perform a market survey of high-calcium limestone in selected Pacific Rim countries. Their report is still in the publication process, but preliminary conclusions are presented in this report. An exhaustive search through several Ketchikan-area newspapers published between 1901 and 1936 will result in a soon-to-be-completed index of mining-related articles for the district. This compilation will be valuable from a historical perspective.

The KMD includes the historic Hyder Mining District for purposes of this study. The KMD includes an area bounded by Prince of Wales Island (POWI) and adjacent islands to the west extending east to the Canadian border at Hyder. The district extends south from Bradfield Canal and Sumner Strait (not to include Etolin and Zarembo Islands) and north from the disputed International Boundary with Canada in Dixon Entrance. The district occupies the southern portion of the Alexander Archipelago and is dominated by islands and interconnected waterways. This area is part of the "Inside Passage", a protected waterway adjacent to the Pacific Ocean.

Ketchikan is the largest population center in the district and provides a hub from which supplies and transportation can be obtained and distributed. Commercial airlines, floatplanes, helicopter services, Alaska State Ferries, and boat charters can be obtained in Ketchikan. Hyder, Alaska is linked to the North American road network via the Cassiar Highway in British Columbia, Canada. An extensive logging road network exists on POWI. Vehicles can be ferried to Hollis via Ketchikan.

[3]Underlined numbers in parentheses refer to items in the bibliography at the end of this report.

Topography is varied within the KMD, ranging from the precipitous, mountainous terrain present in Misty Fjords National Monument Wilderness and in the Hyder area (peaks to 2,000 m elevation) to the gentle relief present on Duke Island. The district is located within a temperate rainforest containing several varieties of commercially harvested conifers as well as several species of hardwoods and small shrubs.

Average annual temperature is 8.6°C (47.5°F) and annual precipitation rate is 277 cm as measured at Annette Island (8). The majority of the district is amenable to year-round mining operations except for the Hyder area where winters are more extreme.

Outcrops are mainly found along beaches, in stream drainages and on alpine ridges. Wildlife is plentiful throughout the district, but there are no species on the endangered list under the Endangered Species Act (590). Black bears are present throughout the district, while brown bears are found primarily on the mainland.

Land ownership within the KMD is dominated by the USDA, Forest Service. Sealaska Native Regional Corporation manages the mineral estate for both regional and village corporation lands throughout the district. The State of Alaska, Bureau of Indian Affairs, U.S. Fish and Wildlife Service, U.S. Navy, U.S. Coast Guard, and private individuals own or manage the remaining acreage. Misty Fjords National Monument Wilderness comprises over 900,000 hectares and is the largest single parcel of land closed to mineral entry in the district. Much of the district remains open to mineral entry and location.

Known mineral deposit areas (KMDA) were established throughout the Tongass National Forest during the revision of the Tongass Land Management Plan completed in 1991. The KMDA's are management tools that were initially defined by a high concentration of historic mines and prospects or the presence of a significant deposit. These areas were further refined after interpreting the geologic environment and determining the likelihood for finding additional deposits in any particular area. There are 26 of these areas within the district. This report present historical, geological, and analytical information on mines, prospects, and mineral occurrences in the district using these KMDAs.

Resource and land use issues associated with potential mining-related activities have also been identified for each KMDA. These land uses may actually conflict with mining related activities or the issues may simply arise during the public scoping process if mining were to occur in selected parts of the district. The data were derived from management alternatives and resource mapping data (GIS products) generated during the Tongass Land Management Plan Revision, prepared by the USDA Forest Service in 1991 (590). Fifteen relevant resource data mappings were selected for this examination to represent the variety of concerns present throughout the forest. Subjective criteria were established to rank the significance of each issue by KMDA, as any mineral development is site-specific and therefore transcends the level of detail used in this analysis. Criteria rankings for any issue vary from no issue to significant potential impact. The most common issues district-wide include subsistence deer hunting, the presence of anadromous streams, recreational developments, important tourism areas, wilderness areas, and timber harvest options.

GENERAL PRODUCTION HISTORY, GEOLOGY, AND MINERAL DEPOSIT TYPES

Copper was the principal commodity recovered from mines in the KMD. Several thousand metric tons were produced from skarn deposits on Jumbo Mountain and Kasaan Peninsula. Lesser amounts were recovered from volcanogenic massive sulfide deposits hosted in Wales Group rocks on POWI. Several thousand metric tons were also produced from a magmatic segregation deposit at the Salt Chuck Mine along with several hundred kilograms of byproduct palladium. A total of 18,200 mt of copper was produced. Nearly 2.6 mt of lode gold was produced from several small mines near Hollis, Dolomi and Helm Bay, the three largest gold-producing areas in the district. Uranium was produced from a peralkaline granite ring-dike complex at Bokan Mountain. Tungsten was produced from quartz veins at the Riverside Mine in the Hyder area. Nearly $3 million worth of building stone was produced from marble quarries located at Calder and Tokeen. Over 1.4 million mt of cement-grade limestone was produced from a quarry at View Cove on Dall Island, and several hundred million mt of high purity Heceta limestone remain in the district. High-purity, high-brightness carbonates suitable for chemical applications have recently been identified in the Calder area.

There are five lithotectonic terranes present in the district. These include the Alexander terrane, Gravina belt, Taku terrane, Coast Mountains Batholith, and Stikinia terrane. The most productive rock packages within these terranes have been the pre-Ordovician Wales Group, Silurian-Ordovician Descon Formation, Jurassic-Triassic Hazelton Group, Triassic Texas Creek Granodiorite, Cretaceous-Jurassic metasedimentary/metavolcanic rocks of the Gravina overlap assemblage, and Tertiary granitoids associated with the Coast Mountains Batholith. Several mineral deposit types are hosted in these assemblages; the most important varieties being skarn, volcanogenic massive sulfide, polymetallic vein, low-sulfide vein gold, and primary magmatic (including porphyry copper-molybdenum, magmatic segregation, and uranium/rare earth element deposits).

Copper-iron skarn deposits with appreciable gold and silver are found along the contact of Wales Group calc-silicate rocks with the Cretaceous Jumbo Mountain granodiorite. Equally productive copper-iron skarn deposits are found on Kasaan Peninsula where alkalic dike swarms have intruded calcium-rich volcaniclastic rocks and marble of the Descon Formation. Smaller copper-molybdenum skarn showings occur in the Shakan/El Capitan area where a Cretaceous granite has intruded Silurian limestone. Bureau geologists discovered molybdenum-copper skarn mineralization near the head of Gold Harbor on Dall Island. Several million mt of additional magnetite-chalcopyrite ore have been identified in the Kasaan skarns, some of which contain anomalous quantities of precious metals. Smaller pods of magnetite-copper ore have been identified on Jumbo Mountain. Total copper production from these skarns is large when compared to the rest of Southeast Alaska, but represents about one week of production from a contemporary porphyry copper mine.

Wales Group rocks have hosted the most productive Cu-Zn-Pb-Ag-Au volcanogenic massive sulfide (VMS) deposits in the district. These deposits are located mainly on Southern POWI. The most productive mines have been the Niblack, Khayyam, and Copper City. The Copper City Mine contained the highest grade of byproduct precious metals of this deposit type. Currently, industry exploration efforts are most promising at the Niblack property, the Ruby Tuesday prospect, the Stumble-On south of McKenzie Inlet, and at the Corbin Mine on Hetta Inlet. A VMS deposit at Moth Bay on Revillagigedo Island occurs in a roof pendant of Taku terrane volcanic rocks within Cretaceous granodiorite.

Polymetallic vein deposits are widespread throughout the district and occur in a variety of host rocks. The shear vein at the Rush and Brown Mine contained high-grade copper ore with byproduct gold and silver and was mined continuously for over 20 years. Several of the other deposits contain high-grade silver, lead, and zinc ore, but none were large enough to support long-term mining operations. Production of copper, tungsten, lead and zinc occurred at the Cymru, Riverside and Mahoney mines, respectively. The greatest density of polymetallic veins in the district occurs in the Hyder area in the Jurassic Texas Creek granodiorite, Eocene Hyder quartz monzonite and in Hazelton Group rocks.

Low-sulfide vein gold deposits were historically mined near Dolomi, Hollis, Helm Bay, and at the Sealevel Mine on Thorne Arm. These deposits are hosted in Wales Group and Descon Formation rocks of the Alexander terrane, Gravina overlap assemblage rocks and in Taku terrane rocks, respectively. No individual deposit produced more than 350 kg gold, and therefore all are considered small by current industry standards. A recent discovery of a stratabound, quartz-carbonate breccia vein in the Kael-7 Mile area of Dolomi Peninsula has generated industry interest. The Gold Standard Mine in Helm Bay and an exhalative gold horizon located along the north shore of Smugglers Cove are also promising exploration targets for gold mineralization. Gold mineralization occurs in free-milling and refractory ores in nearly a 1:1 ratio in the Helm Bay and Thorne Arm deposits.

Primary magmatic deposits of several varieties are found in various types and ages of igneous rocks. Deposit types include copper +/- molybdenum porphyries; copper, chromite and iron segregations; and uranium and rare-earth element dike swarms. These deposits are found in rocks ranging in age from Silurian-Ordovician to Oligocene. The copper/palladium deposit at Salt Chuck and the uranium deposit at Bokan Mountain were the only producing mines of this deposit type in the district. The world-class Quartz Hill molybdenum deposit was recently discovered in a Tertiary, aplitic quartz monzonite stock. This deposit contains proven resources of 1.36 billion mt of molybdenite ore grading 0.2% MoS^2. Quartz Hill was thoroughly evaluated in the 1970s-1980s when U.S. Borax was attempting to develop it. The property is currently owned by Cominco, Inc. and development plans are on hold awaiting a significant rise in the price of molybdenum. An ultramafic intrusion at Union Bay hosts iron, chromite and platinum-group metals (PGM) mineralization. Bureau geologists recently discovered significant quantities of PGM from geochemical samples in drainages flowing from the core of this intrusion. This anomaly provides a practical exploration target.

Bureau engineers performed preliminary feasibility studies of VMS and low sulfide vein gold deposits to explore gross metal value per ton of ore necessary to achieve a 15% discounted-cash-flow-rate-of-return for various mine models in the KMD. These models were based on several tonnage options and both on-site and off-site milling scenarios for mines located in the Hyder area and on Southeastern POWI. The off-site mill considered in this evaluation is located at the Westmin Premier Mine in British Columbia. VMS deposits would require gross metal values of $137/mt for a 32 million mt deposit using an on-site mill to $526/mt for a 1 million mt deposit using an off-site mill. Low sulfide vein gold deposits would require gross metal values ranging from $54/mt for a 16 million mt deposit using an off-site mill to $100/mt for a 1 million mt deposit using an on-site mill (149).

KNOWN MINERAL DEPOSIT AREAS

Bureau personnel present mineral deposit information using the 26 known mineral deposit areas (KMDA) listed in table 1. Mineral development potential for these locations is based on the following two criteria: 1) anomalously high-grade analytical results and/or 2) continuity of mineralization. The following list identifies those properties with medium or high mineral development potential. A more detailed description of these properties can be found in the main body of the report. It should be pointed out that these determinations are not definitive; rather they represent a comparative analysis of the known prospects based on limited data coupled with the expertise and experience of the examiners.

Table 1.-- Mineral locations with medium or high mineral development potential listed by KMDA.

KMDA	Mine, prospect, or occurrence
Shakan/El Capitan	El Cap Gold, Shakan (AK Chief)
Salt Chuck	Salt Chuck, Rush & Brown
Kasaan Peninsula	Poorman, Iron King, Mamie, Mount Andrew
Hollis	Puyallup, Crackerjack, Dawson, Harris River
Big Harbor	Big Harbor
Khayyam	Khayyam, Stumble-On
Jumbo	Corbin, Magnetite Cliff
South Arm Cholmondeley	Ruby Tuesday
Dolomi	Kael Pit, 7 Mile Gold, Kael-7 Mile Trend, Valparaiso, Paul Lake
Niblack	Niblack, Mammoth, Lindsey, Lookout, Trio, Copper Cliff
Hetta Inlet	Copper City
Bokan Mountain	None individually, several taken as a package
McLean Arm	Apex
Nichols Bay	None
McLeod Bay	None
Mount Burnett	Mount Burnett Drainages
Helm Bay	Gold Standard, Annie, Blue Bucket (Smugglers Cove trend)
Ketchikan	Carlanna Creek Quarry
George Inlet	None
Sealevel	None
Moth Bay	Moth Bay
South Gravina	Seal Cove, Dall Bay area, Dall
West Hyder	Solo, Solo Pecos, Double Anchor
East Hyder	Velikanje Placer, Top, Daly Alaska, Alaska Premier, Iron Nos. 2-4, Shaft Creek Copper, Riverside
Quartz Hill	Quartz Hill
Roe Point	None

INTRODUCTION

U.S. Bureau of Mines (Bureau) geologists examined mines, prospects, and mineral occurrences in the 2.83-million ha Ketchikan Mining District (KMD) from 1990-1993 (fig. 1). Bureau work focussed on known mineral deposit locations as gleaned from numerous literature sources and on contemporary deposits currently explored by private industry. Most properties were evaluated by a combination of geologic mapping, sampling and site surveying. Limited reconnaissance investigations were conducted peripheral to known mineralized areas. Metallurgical samples were taken from nine representative deposits for beneficiation testing at the Bureau's Salt Lake City Research Center. These properties were chosen to represent the variety of significant deposit types within the district and then provide a baseline level of information on metals recovery. Mineral characterization studies of these samples were performed by personnel from the Salt Lake City and Albany Research Centers. In all, Bureau geologists visited 446 properties, mapped several kilometers of underground and surface mine workings, and took over 4,850 samples for geochemical analysis. Over 25 new mineral occurrences were discovered during the study.

The objectives of this mining district study were to determine the type, amount, and distribution of mineral deposits in the area, determine ore resources when possible, study beneficiation technologies for the ore, and perform feasibility studies on selected deposit types. Individual reports containing brief deposit descriptions and analytical results specific to the annual program of work were published after the first three years of the study (48, 331, 333). This final report presents data for the entire district. The discussion is organized geographically using known mineral deposit areas (KMDA) as a tool to convey mine, prospect, and mineral occurrence information.

KMDA's depict areas with favorable mineral development potential based on density or value of known mineral deposits and favorable geologic terranes which may contain additional deposits. There are 26 KMDA's within the Ketchikan Mining District containing a wide variety of deposit types. Several mineralized localities lie outside an established KMDA. Noteworthy locations are summarized in a separate chapter following the KMDA writeups. Mine, prospect, and occurrence information is conveyed using text, tables, graphs, and maps. Information concerning industrial minerals such as carbonates, crushed stone, sand and gravel, and clay is also presented for the district. Several appendices were prepared to convey analytical results from sampling (Appendices A, C) and tabular information for all mineral deposits in the district (Appendices B, D).

LOCATION AND ACCESS

The Ketchikan Mining District is located in the southern-most part of Southeast Alaska and from west-to-east includes Prince of Wales and surrounding islands, Gravina, Revillagigedo and proximal islands, Cleveland Peninsula, and the mainland east to the U.S.-Canadian border (fig.1). The City of Ketchikan is the largest population center in the district with over 8,500 residents (14,110 within the Ketchikan Gateway Borough). Ketchikan is also the major transportation and supply center for the district. Commercial airline, floatplane, helicopter, ferry, and charter boat services can be obtained there.

There is a limited road network emanating from Ketchikan that serves the west-southwest part of Revillagigedo Island. Hyder is connected by road through Stewart, British Columbia to the North-America road network. An extensive logging road network exists on Prince of Wales Island (POWI), as well as on some of the smaller islands west of POWI. Four-wheel drive trucks and all-terrain vehicles are recommended to negotiate the logging roads, although any high-ground-clearance vehicle can be safely used with care. Shoreline and low-elevation properties are accessible by floatplane and boat. Helicopters are the most practical method of accessing high-elevation mineral occurrences.

PHYSIOGRAPHY AND CLIMATE

Physiography within the district varies from lowlands dominated by thick brush, muskeg, and forests to rugged, glacially-carved peaks in the Hyder area which approach 2,000 m in elevation. Treeline occurs at various elevations throughout the district, but is generally around 750 m above sea level.

Conifers present include the commercially harvested Sitka spruce, red and yellow cedar, and western hemlock. Also present are hardwoods such as alder, willows and cottonwood; various berry bushes; and other shrubs and forbs including the formidable devil's club. Muskeg openings provide relatively easy cross-country access and contain a unique blend of stunted growth foliage quite different than that of the forest.

Wildlife in the district is plentiful and there are no species on the endangered list under the Endangered Species Act (590). Land mammals include the Sitka black-tail deer, black bear, brown bear on the mainland, furbearers such as wolf, beaver, land otter, mink, marten and many species of small rodentia. Marine mammals, such as whales, porpoise, seals, sea lions and sea otters inhabit the inland and coastal waterways. Birdlife consists of bald eagles, crows, ravens, and many seabird and waterfowl species. There are numerous anadromous fish streams within the district.

Climatological data is recorded at Annette Island (south of Ketchikan) by the National Oceanic and Atmospheric Administration (8). The mean annual precipitation rate at Annette averaged from 1963-1992 is 277 cm with extremes of 335 cm measured in 1991 and 216 cm measured in 1985. September through January are the wettest months, with October consistently being 33% wetter than any other month. The average annual temperature over the same period is 7.6°C (45.7°F) with an average maximum temperature of 10.6°C (51.1°F) and an average minimum of 4.6°C (40.3°F). July and August are usually the warmest months with high temperature averages reaching 18.1°C (64.6°F). January is typically the coldest month with average low temperatures dropping to -1.3°C (29.7°F). The majority of the district is subjected to typical southeast Alaska maritime weather characterized by mild daily variations in temperature and frequent storms emanating from the Gulf of Alaska. Topography has a marked influence on temperature and precipitation patterns. For example, the precipitous terrain surrounding Hyder produces more extreme cold temperatures and snow than other areas in the district.

LAND STATUS

The majority of land within the KMD is managed by the USDA, Forest Service but Native regional and village corporations also administer significant acreage. The State of Alaska, Bureau of Indian Affairs, U.S. Fish and Wildlife Service, U.S. Navy, U.S. Coast guard, and private individuals own or manage the remaining acreage. The availability of land for mineral exploration and development is generally depicted in figure 2.

Most Forest Service land is open to mineral exploration. Designated wilderness areas such as Misty Fjords, Southern POWI, Warren and Maurelle Islands, and Karta are closed to mineral location and motorized or significant earth-disturbing exploration activities. There is an administrative closure to mineral entry at the Uncle Tom Natural Area, but the Maybeso Experimental Forest is open to mineral entry.

Sealaska Regional Corporation manages the subsurface or mineral estate on native corporation lands throughout the study area obtained under the provisions of the Alaska Native Claims Settlement Act, 1971. Native holdings in the KMD include the Craig-Klawock, Kasaan, Hydaburg, Klukwan, Angoon, and Saxman village withdrawals. Sealaska has also received full title to certain lands on Dall Island. Sealaska has been actively exploring and promoting the mineral potential on these lands and welcomes proposals from the minerals industry for lease arrangements on their land.

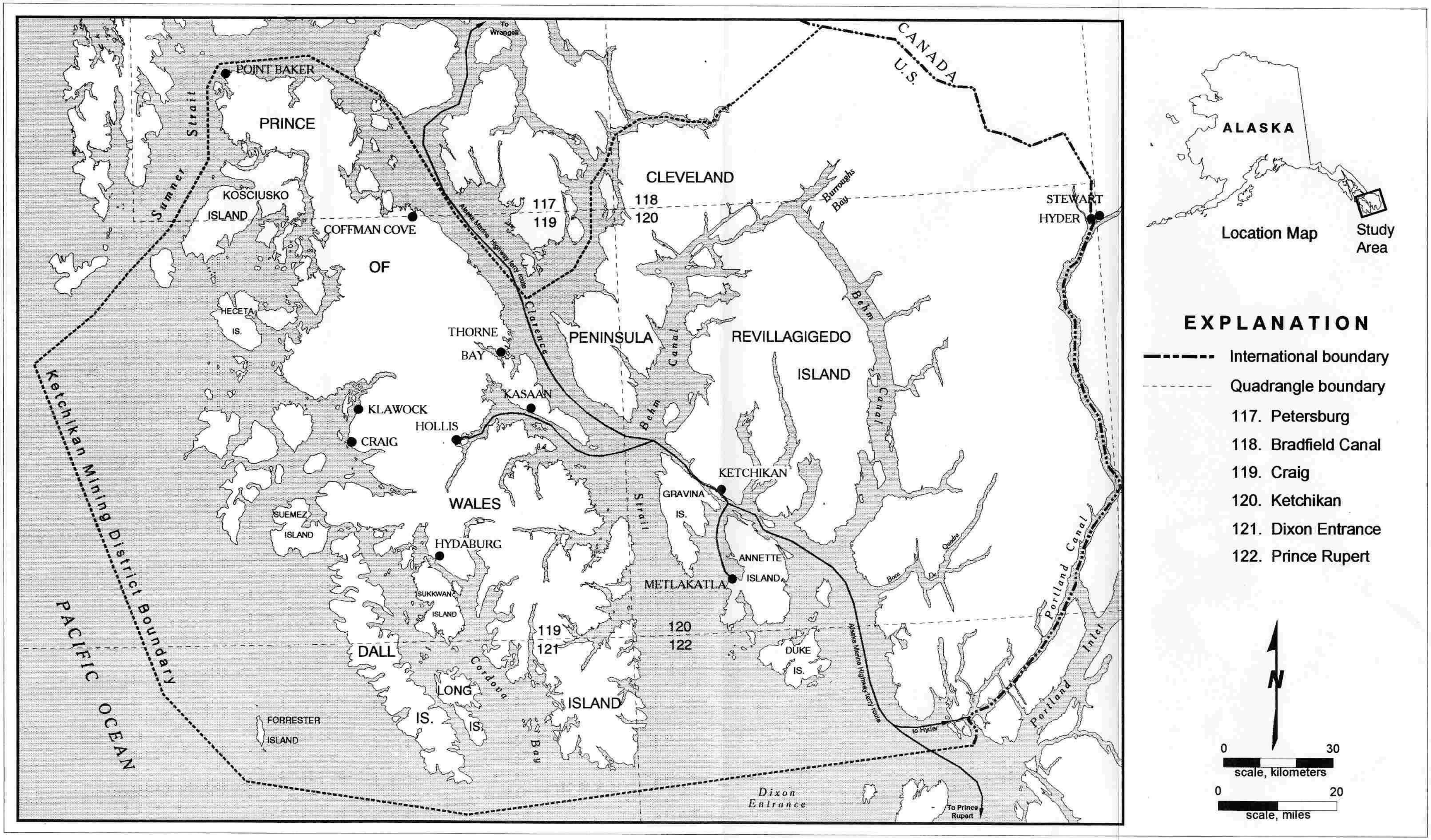

Figure 1. - General location map for the Ketchikan Mining District.

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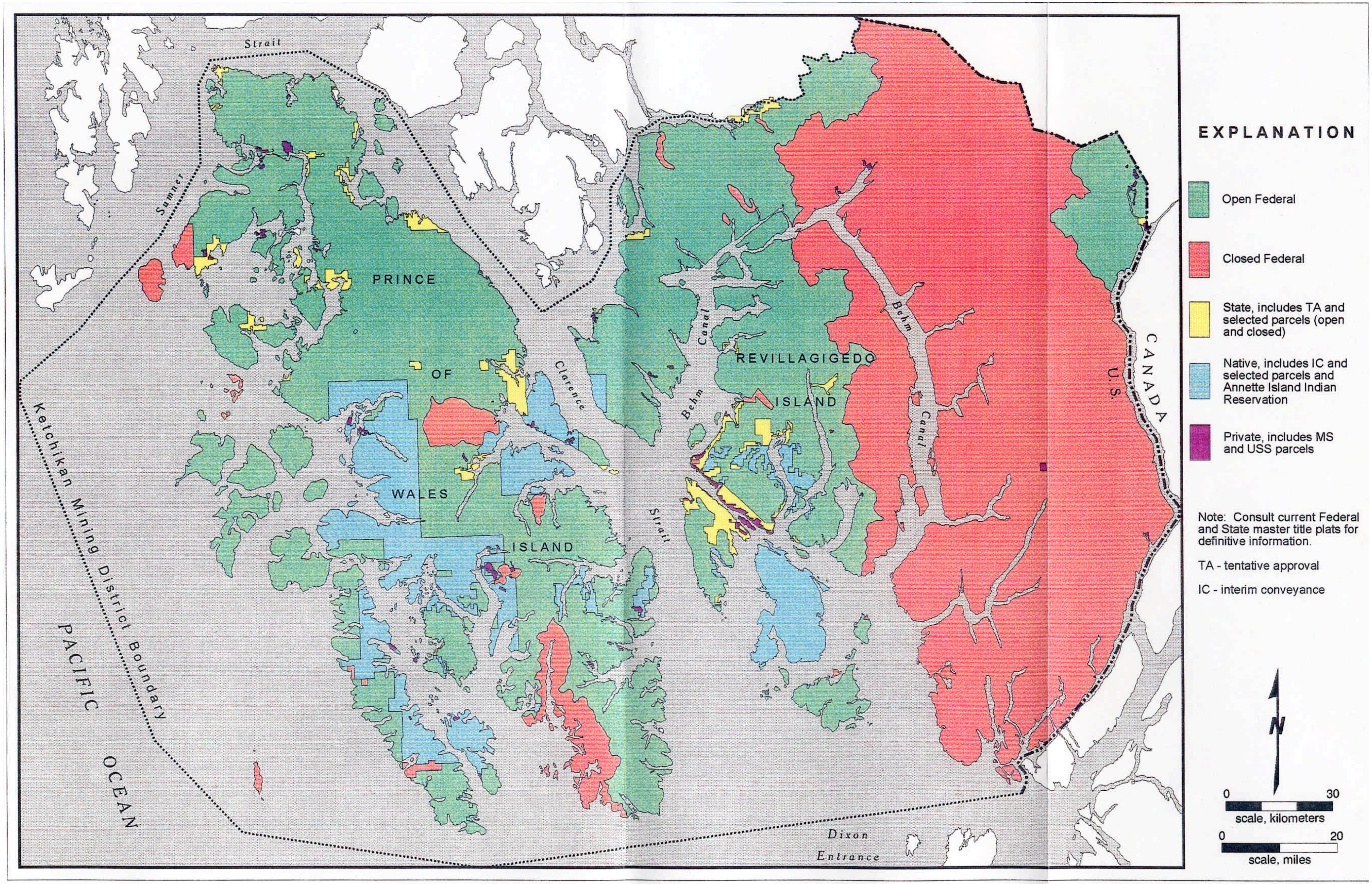

Figure 2 . - Generalized land status map.

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State of Alaska holdings in the KMD are sparse and can be found peripheral to several non-native communities in the study area. Most State land outside residential subdivisions, airport rights of way, mental health lands, and commercial centers is open to mineral entry and development. There are scattered State-selected parcels which are closed to Federal claim-staking. These parcels can be staked with State mining claims but no work can be performed on them until the lands are adjudicated to the State. The State's primary management role in this part of Alaska involves tidelands and submerged lands. The Department of Natural Resources has developed area management plans for Prince of Wales Island (2, 3). These plans also depict State parcels closed to mineral location by administrative mineral closing orders.

The Metlakatla Indian Community, in cooperation with the Bureau of Indian Affairs, manages Annette Island, the only remaining Indian Reservation in Alaska. Public prospecting and private mining ventures are not allowed without permission from the Metlakatla community. The Bureau did not receive permission to investigate and publish information on mineral occurrences on Annette Island during this study.

The U.S. Fish and Wildlife Service manages the Forrester Island National Wildlife Refuge, located in the southwest corner of the district. This area is closed to mineral exploration and development. U.S. Coast Guard and U.S. Naval stations are limited in size and are located in Ketchikan and on Back Island in Behm Canal, respectively.

Numerous unpatented and patented mining claims are present in the study area. Location information for the unpatented claims can be obtained from the State recorders offices in Ketchikan or Juneau. Patented claim locations are depicted on master title plats; details within the patent boundaries can be obtained from the mineral survey plats. Both of these entities are available from the Forest Service or Bureau of Land Management. It should be pointed out that determining ownership of patented claims outside of a taxing authority (e.g. Ketchikan Gateway Borough) is difficult without local knowledge or the help of a title search company. Mineral survey numbers are identified for specific properties and have been listed in table B-1.

SCOPE AND METHODOLOGY

The Bureau initiated study in the KMD at the bequest of the USDA Forest Service who had given mineral assessment priority to this district during their current revision of the Tongass Land Management Plan. Bureau geologists initiated field studies of known mineral localities in 1990 after completing an extensive literature search. Reconnaissance studies were undertaken in areas with favorable geology or where USGS geochemical investigations identified anomalous areas. Geologists from the State of Alaska Division of Geological and Geophysical Surveys (DGGS) conducted site-specific geologic mapping in Helm Bay and at Hyder. Results from their mapping efforts have been incorporated into the individual area maps and geologic descriptions. Carbonate rocks throughout the district were sampled and analyzed for total CaO content. A report examining the marketability of high calcium limestone was prepared by an outside contractor and results are summarized in the carbonate section of this report.

The main body of this report describes metallic mineral localities organized geographically using KMDAs as a tool for discussion. These areas are shown on figure 5 (1:250,000-scale map of the Ketchikan Mining District) along with mineral localities and reconnaissance sample locations outside the KMDAs. The discussion progresses from west to east across the district starting on POWI and the outer islands to the west and continues with Cleveland Peninsula, Revillagigedo, Gravina and the smaller islands to the south. Finally, a description of the properties and mineralization in Hyder and throughout the Coast Mountains will be provided. Individual area writeups are broken into several subparts including: 1) location information, physiography and land status; 2) history, workings and production; 3) areawide and deposit geology, describing mineralization styles present in the area; 4) Bureau work efforts at individual localities; 5) significant sample results and mineral resource estimates, if available; 6) an overview of resource and land use issues related to potential mineral development; and 7) a tabular summary of information for individual mineral localities in the area. These writeups are intended to provide salient information for deposit types present in a given area, but not to provide an exhaustive recap of every mine, prospect or occurrence.

Individual deposit information and maps not provided in this report are available from the Bureau library in Juneau, Alaska.

Economic prefeasibility studies were completed for two deposit types in the district. These deposit types are Cu-Zn-Au-Ag volcanogenic massive sulfide and epithermal low sulfide vein gold. A brief summary from these studies (149) is provided in this report. A separate open-file report detailing the methodology and iterative process used to determine gross revenues per ton of ore and deposit size for both an on-site and off-site milling scenario is currently in the review process and will be published soon.

ACKNOWLEDGMENTS

Several individuals provided valuable contributions to this study and deserve recognition for their efforts. The authors were ably assisted in the field by a cadre of personnel including Earl Redman, Mitch McDonald, Bob Scoggins, Jim Bertolucci, Lynn Oliver, Kristen Bentz, Lars Borg, Mark Longtine, and Chris Rusanowski. Albert H. Clough was a team leader for the first year of this study before leaving the Bureau to become a minerals development specialist for the State of Alaska. Donald W. Baggs was the section chief overseeing the project for the first two years. John J. Kato assumed this supervisory role for the last years of the study.

Cartographic demands during a project of this scale are enormous and special thanks are warranted for the Bureau's drafting specialists. David Oliver coordinated this effort with help from Donald R. Johnson, Alea Schroth, Rebecca Smith, and Naomi Moeser. Shirley Mercer, staff secretary, provided valuable assistance by formatting analytical tables used in earlier KMD reports.

Several prospectors and private companies provided data and access to properties that helped make this study more comprehensive in scope. The authors gratefully acknowledge the cooperation of Sealaska Regional Corporation. Sealaska was evaluating the mineral potential on their patented lands simultaneous to this study. Bureau geologists gained much information from discussions with Sealaska geologists as well as from their published mineral reports. LAC Minerals USA, Kennecott Exploration Co., Cyprus Metals Co., Cominco Alaska Exploration, Orbex Minerals Inc., Noranda Inc., Mount Andrew Mining Co., Trillium Corp., and Pacific Northwest Resources, Inc. also shared geologic information about properties in which they hold or have held an interest. Skip Richter, Jim Sanders, C.C. Kane, John Peterson, Guy Comer, Bennie Purks, Ken Eichner, Red Dotson, Louis Thompson, Jim Fisher, George Moerlein, Bill Block, Eskil Anderson, June Allen, John Hite, David Jaworski, Paul Larkin, Terence Schorn, Jim Simpson, Keldon Adams, Eugene Romilly, and Larry Stensland provided valuable information to Bureau geologists.

PREVIOUS STUDIES

Various workers from the U.S. Geological Survey (USGS), Territorial Dept. of Mines (TDM), State of Alaska Division of Geological and Geophysical Surveys (DGGS), and the Bureau have studied the geology and mineral deposits in the KMD since the early 1900's. These studies have emphasized area-wide and site-specific geology, mineral resource summaries on a quadrangle and site-specific basis (to include geochemical and geophysical studies), commodity-specific war mineral studies, and selected studies. Private company reports summarizing site-specific and regional exploration programs have been prepared. Additionally, graduate students have written theses on several topics related to the geology and mineral resources of the area.

A compilation of selected references is provided in tabular fashion, organized by quadrangle, subject, and source agency as shown in table 2. Reports published by the USGS and TDM occasionally overlap quadrangle boundaries and thus are duplicated in the table. Recently published Bureau reports on the KMD contain expanded narrative on these studies and a comprehensive recap will not be included here (48, 331, 33). Several reports published by non-government sources are listed by quadrangle as 'other'.

Table 2.—Selected geologic references by quadrangle.

Quadrangle	Subject	Agency/Source	References
Petersburg (117)	Area geology	USGS	(27, 68)
	Mineral Resources	USGS	(62, 63, 137, 143, 236, 296, 297)
	Site-specific	TDM/DGGS	(98, 159, 220, 227, 252)
		USGS	(257, 276, 582)
		USBM	(567, 584, 598)
Bradfield Canal (118)	Area geology	USGS	(88, 179, 504, 506)
	Mineral resources	USGS	(102, 134, 140, 179, 309, 311, 312)
	Site-specific	USGS	(88, 348, 609)
		TDM/DGGS	(499, 536, 555, 556, 619, 629)
		USBM	(184, 301, 302, 303, 357, 584, 644, 645, 646)
Craig (119)	Area geology	USGS	(43, 54, 118, 150, 172, 174, 176, 377, 473, 591, 592, 593)
		DGGS	(251, 392)
	Mineral resources	USGS	(108, 109, 123, 124, 125, 126, 139, 141, 161, 345, 471, 606, 640)
		DGGS	(250, 254)
		Other	(239, 240, 241, 242, 244)
	Site-specific	USGS	(112, 201, 202, 299, 300, 328, 384, 385, 386, 459, 581, 596, 601, 602, 604, 639)
		USBM	(22,25, 186,192, 266,267,268,269, 270, 271, 388, 396, 569, 570, 575, 608, 647, 649

(Table 2 continued next page)

Quadrangle	Subject	Agency/Source	References
Craig (119, cont.)		TDM/DGGS	(129, 130, 181, 193, 196, 200, 221, 226, 248, 249, 253, 259, 277, 278, 368, 389, 401, 402, 404, 407, 409, 410, 411, 412, 413, 414, 416, 420, 421, 422, 423, 424, 425, 427, 428, 429, 430, 432, 436, 444, 615, 618, 620)
		Other	(29, 51, 69, 243, 306, 317, 319, 322, 327, 346, 352, 356, 359, 362, 366, 374, 380, 379, 383, 394, 469, 542)
Ketchikan (120)	Area geology	USGS	(32, 33, 42, 44, 45, 54, 65, 66, 88, 114, 180, 217, 310, 504, 506, 509, 540, 591, 592)
	Mineral resources	USGS	(34, 35, 37, 41, 108, 109, 136, 144, 161, 178, 314, 345, 505)
	Site specific	USGS	(300, 398, 399, 471)
		USBM	(21, 47, 183, 185, 597)
		TDM/DGGS	(129, 153, 272, 315, 318, 324, 350, 405, 406, 408, 415, 431, 433, 446, 460, 499, 573, 576, 594, 616, 617, 621, 624, 628)
		Other	(16, 17, 18, 110, 111, 116, 158, 210, 217, 256, 273, 274, 279, 280, 293, 294, 365, 383, 390, 391, 462, 541)
Dixon Entrance (121)	Area geology	USGS	(54, 174, 205, 212)
	Mineral Resources	USGS	(108, 109, 135, 142, 161, 345)
	Site specific	USGS	(122, 147, 208, 313, 337)
		USBM	(599)
		TDM/DGGS	(133, 166, 222, 225, 400, 439, 579, 612, 613, 615, 625, 626, 627)
		Other	(14, 23, 160, 204, 243, 321, 334, 336, 364, 474, 538, 543, 564, 565, 566)
Prince Rupert (122)	Area geology	USGS	(42, 44, 54, 310, 540, 591, 592)
	Mineral resources	USGS	(34, 35, 41, 44, 45, 108, 109, 138, 144, 161, 178, 314, 345, 505, 506)
	Site specific	USGS	(289, 472)
		USBM	(572, 583)
		TDM/DGGS	(223,224, 417)
		Other	(217, 288, 289, 476)

MINING HISTORY/PRODUCTION

Significant mineral exploration and development activities have occurred in the KMD since the Copper Queen claim was staked near the present village of Kasaan by Charles Baranovich in 1867 (458). This claim is acknowledged as the first lode claim staked in Alaska (601). Gold was discovered on the Unuk River in the 1870's and early 1880's, but most activity occurred on the Canadian side of the border (348, 643). Fishermen in the Ketchikan area are reported to have located many quartz veins and copper deposits prior to the 1890's.

James Bawden reported discovery of a gold deposit on the eastern side of Annette Island in 1892.

In 1897, gold discoveries were made on Gravina Island, at Thorne Arm (70), and at Helm Bay (416). Several gold deposits were discovered in the Dolomi area in 1899; among them were the Valparaiso and Golden Fleece. The first gold discoveries in the Hollis area occurred in 1900. Many of the properties became small, producing mines; among these are the Crackerjack, Harris River, Lucky Nell, Flagstaff, and Puyallup mines. The Dawson Mine was discovered in 1908.

In 1898, copper deposits near Dall Bay on Gravina Island were discovered (643). Nearly a dozen noteworthy copper discoveries were made on the Kasaan Peninsula and at Jumbo Mountain by 1907 (458). During the same time period, marble deposits at Tokeen, Calder, and El Capitan were explored and developed as dimension stone sources.

A shaft and other minor workings on a mineral prospect in the Hyder area indicate mineral exploration activity prior to 1898, but no known details are available. In 1898, a shipload of prospectors were brought to the area in search of placer deposits in the Salmon River valley and Bear River valley in British Columbia, Canada. Only minor amounts of gold were discovered (286). The discovery of the Silbak-Premier orebody adjacent to the international border in Canada in 1910 sparked a renewed interest in the mineral potential of the Hyder area. The major discovery on the United States side of the border was at the Riverside Mine in 1915 (112). Prospectors discovered, staked, and explored numerous claims in the area between 1910 and 1930. Mineral exploration and development on both sides of the international border have continued sporadically through the years to the present.

This brief overview illustrates that most productive mining areas in the KMD were discovered around the turn of the century. An exception to this was the discovery of the Ross-Adams Mine at Bokan Mountain during the uranium rush of the 1950's. Mines in the district have produced more than 18,200 mt copper, 1,040 mt lead, 41 mt zinc, 32 mt tungsten trioxide (WO_3), 13 mt silver, 2,569 kg gold, 639 kg palladium, and considerable uranium pentoxide (U_3O_8) (see table 3).

Historical summaries for these significant deposits are provided in the known mineral deposit area writeups.

Table 3. - Summary of mine production4 for the Ketchikan Mining District.

Mine	Activity years	Gold, kg	Silver, kg	Copper, kg	Lead, kg	Zinc, kg	Palladium kg	Tungsten (WO_3), kg
Annie	1900-01	7.9						
Big Harbor	1913, 16			8,567				

[4] Production figures derived mainly from Bureau and USGS production records.

Mine	Activity years	Gold, kg	Silver, kg	Copper, kg	Lead, kg	Zinc, kg	Palladium kg	Tungsten (WO_3), kg
Copper Mountain	1902-06	4.5	321.3	101,734				
Copper City (Red Wing)	1906-08	10.5	146.5	76,746				
Corbin	1906	0.47	142.9	9,697				
Cymru	1906,15	0.88	46.2	68,615				
Flagstaff	1937-41	8.0	61.6	1,299	2,688			
Gold Banner	1939-40	0.3	0.2					
Gold Standard	1899-1907, 1915, 1922-42	310+	33+					
Goldstream	1906, 08	8.1	15					
Goo Goo	1915, 35	1.4						
Green Monster	?-present	Unspecified quantity of museum-quality epidote crystals produced.						
Harris River (includes Dawson Mine)	1909-10, 1914-21, 1923-25, 1927-29, 1935-42, 1946-51	204	162	103	894			
Houghton	1917	0.1	1.3	2,180				
It	1908-12, 1914-18	111.8	714.6	1.83 M				
Jumbo	1907-18, 1923	220	2,730	4.63 M				
Khayyam	1906-1909	4.0	53.2	80,635				
Lucky Nell	1905,12,14	$1,062 combined value gold, silver, lead.						
Mahoney	1947-49	0.25	11.6	1,270	18,053	33,112		
Mamie	1905-08, 1915-18	107.2	659.2	2.826 M				
Marion (Nutkwa)	1938	0.16	0.09		16.3			
McCullough	1905,06			181				
Moonshine	?	Limited tonnage of high-grade lead-silver ore sacked.						
Mount Andrew	1906-11, 1916-17	58	697	1.973 M				
Nelson and Tift	1936-40, 1942	108.3	19.8	32,335	315			

Mine	Activity years	Gold, kg	Silver, kg	Copper, kg	Lead, kg	Zinc, kg	Palladium kg	Tungsten (WO_3), kg
Niblack	1905-08	41.7	622.1	889,040				
Old Glory	1908	0.3	0.8					
Portland	1923, 25, 1939-41	2.5	1.2	11				
Puyallup (includes Crackerjack)	pre-1915(?), 1915-16, 1934,45, 46	20.2	14.7					
Rich Hill	1917-18, 1928	1.98	13.2	42,793				
Riverside	1925-50	76	2,700	34,300	1.024M	8,100		32,000
Ronan	1920-present	<15						
Ross-Adams	1957-71	79,392 mt produced @ 0.76% U3O8.						
Rush & Brown	1905-08, 1910, 1912-23, 1929	209.4	1,262.4	1.96 M				
Salt Chuck	1916-24, 1934-41, 1943	365	1,728.9	2.81 M			639	
Solo	1930-50	12						
Stevenstown	1906-08	50.6	383.5	929,864				
Uncle Sam	1907			11,975				
Valparaiso	1913,33	22.7	16.2					
Total		1,983.2	12,558	18.3 M	1.046 M	41,100	638.8	32,000

CURRENT ACTIVITY

The majority of recent exploration activity in the KMD has occurred on POWI and in Hyder. Cominco Alaska Exploration evaluated the skarn deposits at Mount Jumbo and Copper Mountain in 1989, and subsequently dropped the properties. They also evaluated the Khayyam-Stumble-On massive sulfide trend above McKenzie Arm in 1990. Kennecott is currently evaluating this property. Cominco also evaluated the Big Harbor massive sulfide deposit on the north shores of Trocadero Bay. LAC Minerals USA, Inc. in conjunction with Noranda, Inc., is in the midst of an extensive drilling program at the Niblack copper-silver-gold massive sulfide deposit. LAC is working in conjunction with Kennecott at the Ruby Tuesday zinc-lead-copper massive sulfide deposit along South Arm Cholmondeley Sound.

Sealaska Corporation has been evaluating native land holdings in the study area since 1987. Their geologists discovered the 7-Mile Gold and Kael Pit prospects five miles north of the Dolomi area in 1988. These two occurrences were drilled in 1990. Exhalative massive sulfide deposits on Sealaska land are being evaluated by American Copper and Nickel Corporation (ACNC) at Deer Bay. ACNC is also evaluating the east shores of Hetta Inlet for other massive sulfide deposits.

Cominco Alaska is the current owner of the world-class Quartz Hill molybdenum deposit located in Misty Fjords National Monument. The company has been performing annual labor requirements to preserve their unpatented claims until a development decision can be made.

Exploration continues in the Hyder area. During the 1970's, El Paso Natural Gas Company explored and carried out a limited exploration drilling program at the Greenpoint, Heckla, and Solo prospects (45, 584). During the 1980's, Pulsar Resources Limited explored the area southeast of Fish Creek and in the vicinity of Mineral Hill with limited diamond drilling. From 1989 to 1991, Hyder Gold Incorporated optioned or staked over 500 mining claims north of Hyder, in the Mineral Hill-Fish Creek area, and explored the area with geologic mapping, rock and soil sampling, and shallow diamond drilling.

Private industry has recently explored the Sealevel area. From 1984 until 1988, Villebon Resources Limited held a block of 170 claims that covered the northeast Thorne Arm area. Pacific Northwest Resources Company held claims in the Sealevel area in 1993, as well as on South Gravina, Dall, and Long Islands.

There are numerous unpatented and patented mining claims scattered throughout the Ketchikan Mining District. These claims appear on BLM or State of Alaska records and are of less significance than those listed above. These claims will be described and ownership information provided (when available) in each area (KMDA) analysis.

TECTONIC/GEOLOGIC SETTING AND MINERAL DEPOSIT TYPES

There are five lithotectonic assemblages/terranes identified in the KMD, although definitive boundaries are still being debated. From west to east across the district these are: 1) Alexander terrane, 2) Gravina belt, 3) Taku terrane, 4) Coast Mountains Batholith with tonalite sill, and 5) Stikinia terrane (fig. 3). The tectonic framework in Southeast Alaska has been discussed by many USGS workers. The review presented here generally follows the work of Gehrels and Berg (206). A general overview of the geology, rock units and mineral deposits present in the district accompanies this tectonic overview. A generalized geologic map is presented as figure 4.

Alexander terrane rocks are found on POWI and the smaller islands to the west (Baker, Suemez, Noyes, etc.). There is a sliver of Alexander terrane rocks exposed east of Clarence Strait on the west half of Gravina Island, the southern part of Annette Island, Duke Island and the western edge of Peninsula Ridge on the mainland south of Boca De Quadra. This terrane contains Proterozoic to Upper-Paleozoic arc-related metavolcanic and metasedimentary rocks that have been intruded by Paleozoic to Tertiary igneous rocks of varying compositions. The main rock assemblage in this terrane with potentially economic concentrations of minerals is the pre-Ordovician Wales Group Metamorphic Complex. Wales Group rocks include thick sequences of volcanic and sedimentary rocks which have generally been subjected to greenschist facies metamorphism, but locally exhibit mineralogy consistent with amphibolite facies pressure/temperature conditions. Wales Group rocks are found on southern POWI, Dall, and Long Islands. A suite of Cambrian plutonic rocks has intruded Wales Group rocks on southern Dall Island and provide a minimum age of 554 ma for the Wales Group protolith (205).

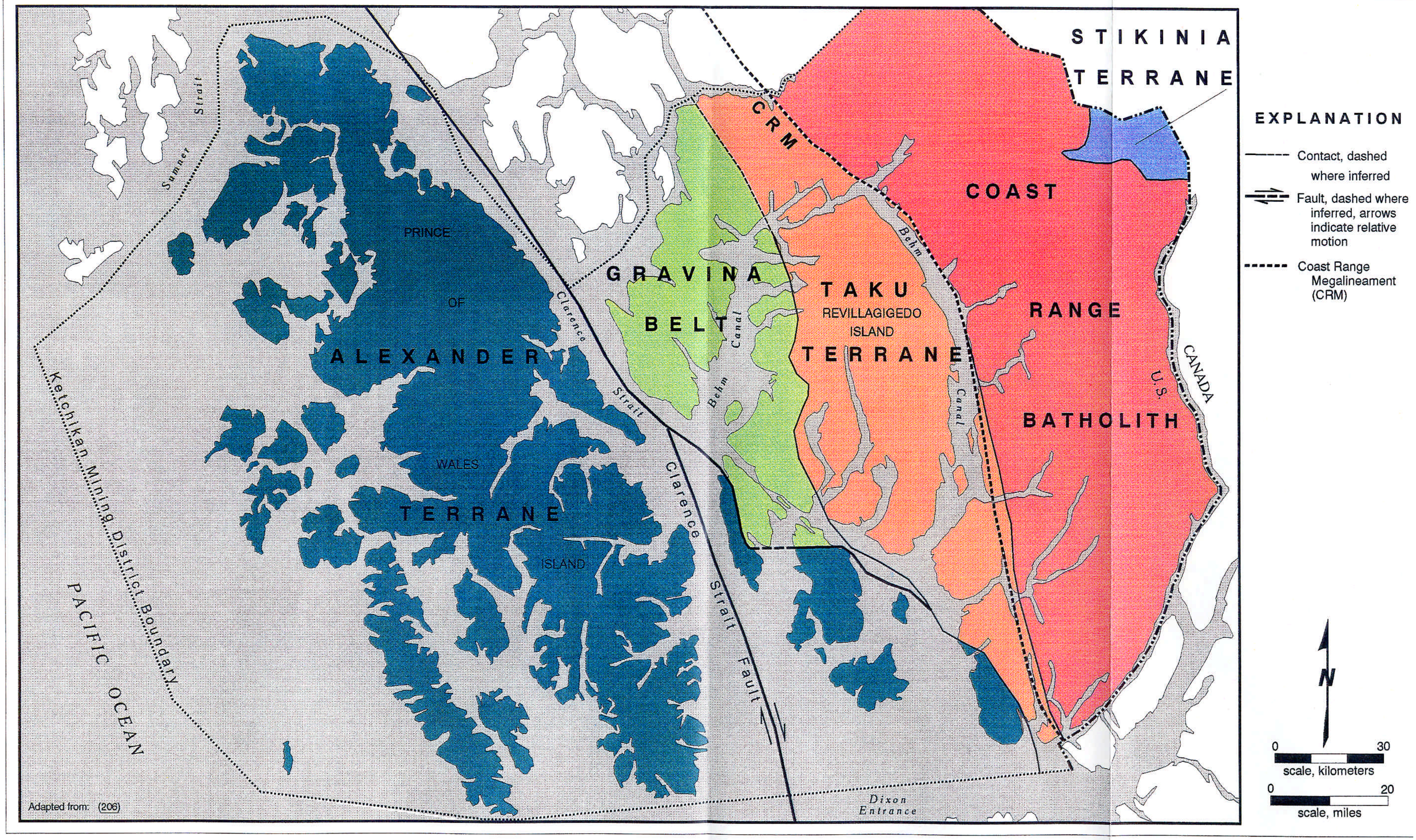

Figure 3. - Terranes, lithic assemblages and major faults in the Ketchikan Mining District.

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Numerous Cretaceous and older plutons have intruded Wales Group rocks and several have produced economic mineral deposits (e.g. Salt Chuck ultramafic complex, Bokan Mountain peralkaline granite ring-dike complex).

Wales Group rocks are in fault contact with the Silurian-Ordovician Descon Formation to the north and east. The Descon Formation contains similar protolith rock types to those of the Wales Group but are differentiated by less pervasive penetrative deformation. Descon Formation rocks crop out on central to east-central POWI as well as on some of the smaller islands to the west. North and west of Descon Formation rocks are younger chemical and detrital sedimentary rocks which are largely Silurian-Devonian in age. These rocks display a minor degree of metamorphism except for contact aureoles surrounding large plutons (e.g. Shakan granodiorite). The predominance of shallow-marine limestone, the lack of regionally significant unconformities or thick sequences of conglomerate, and limited extent of volcanic members suggest a tectonically stable environment was present here in contrast to the early Paleozoic orogenic and magmatic activity found on southern POWI. This may help explain the disparity in mineral deposit concentrations found within Alexander terrane rocks in the KMD. The youngest rocks included in the Alexander terrane are Quaternary volcanics found near southern Suemez Island.

Mineral deposit types found in Alexander terrane rocks include volcanogenic massive sulfide (Niblack Anchorage, Cholmondeley Sound, Hetta Inlet, Trocadero Bay), polymetallic vein (Long Island, Paul Lake, Cholmondeley Sound), skarn (Copper Mountain, Jumbo Mountain, Kasaan Peninsula) low-sulfide and stratabound vein gold (Hollis, Dolomi), magmatic uranium-rare earth (Bokan Mountain-Stone Rock Bay), magmatic segregation (Salt Chuck), and porphyry copper/molybdenite (Black Bear Lake, Baker Island). The Wales Group metamorphic complex hosts the widest array of mineral deposits in the district and has the greatest potential for hosting potentially economic vms deposits in the entire district.

Gravina belt rocks are found predominantly on Cleveland Peninsula, the western part of Revillagigedo Island, and the eastern part of Gravina Island (type locality). These rocks represent the southern extension of the Gravina-Nutzotin belt of Berg et al. (46) and were deposited on the eastern margin of the Alexander and the western margin of the Taku terranes. The Gravina belt marks the juxtaposition of the Alexander and Taku terranes by at least Late Jurassic time (462). The Clarence Strait fault roughly separates Alexander terrane rocks from the Gravina assemblage, although depositional contacts between the two entities are preserved on central-Gravina Island (33). This strike-slip fault system coincides with a major topographic lineament but only displays 15 km of dextral displacement (206).

This overlap assemblage is primarily composed of Upper Jurassic to mid-Cretaceous marine argillite and graywacke, interbedded andesitic to basaltic volcanic and volcaniclastic rocks, and subordinate polymictic conglomerate. This sequence is believed to have formed in a submarine volcanic arc setting (46, 462). The rocks of the belt were metamorphosed and deformed during a mid-Cretaceous tectonic event (462). The metamorphic grade generally increases from greenschist facies on the west to amphibolite facies on the east. There are several plutons within the Gravina belt, most notably the Cretaceous Alaskan-Type ultramafic complex at Union Bay and the Oligocene Deer Mountain gabbroic stock northeast of the city of Ketchikan.

Mineral deposit types present in the Gravina belt include low-sulfide vein gold (Helm Bay, Tongass Narrows), polymetallic vein (South of Saxman), copper and molybdenum porphyry (Hump Island, Carlanna Creek Quarry), and volcanogenic massive sulfide (southern Gravina Island). The metamorphosed porphyry copper occurrence on Hump Island is unique to the district and will be

Figure 4 (explanation)

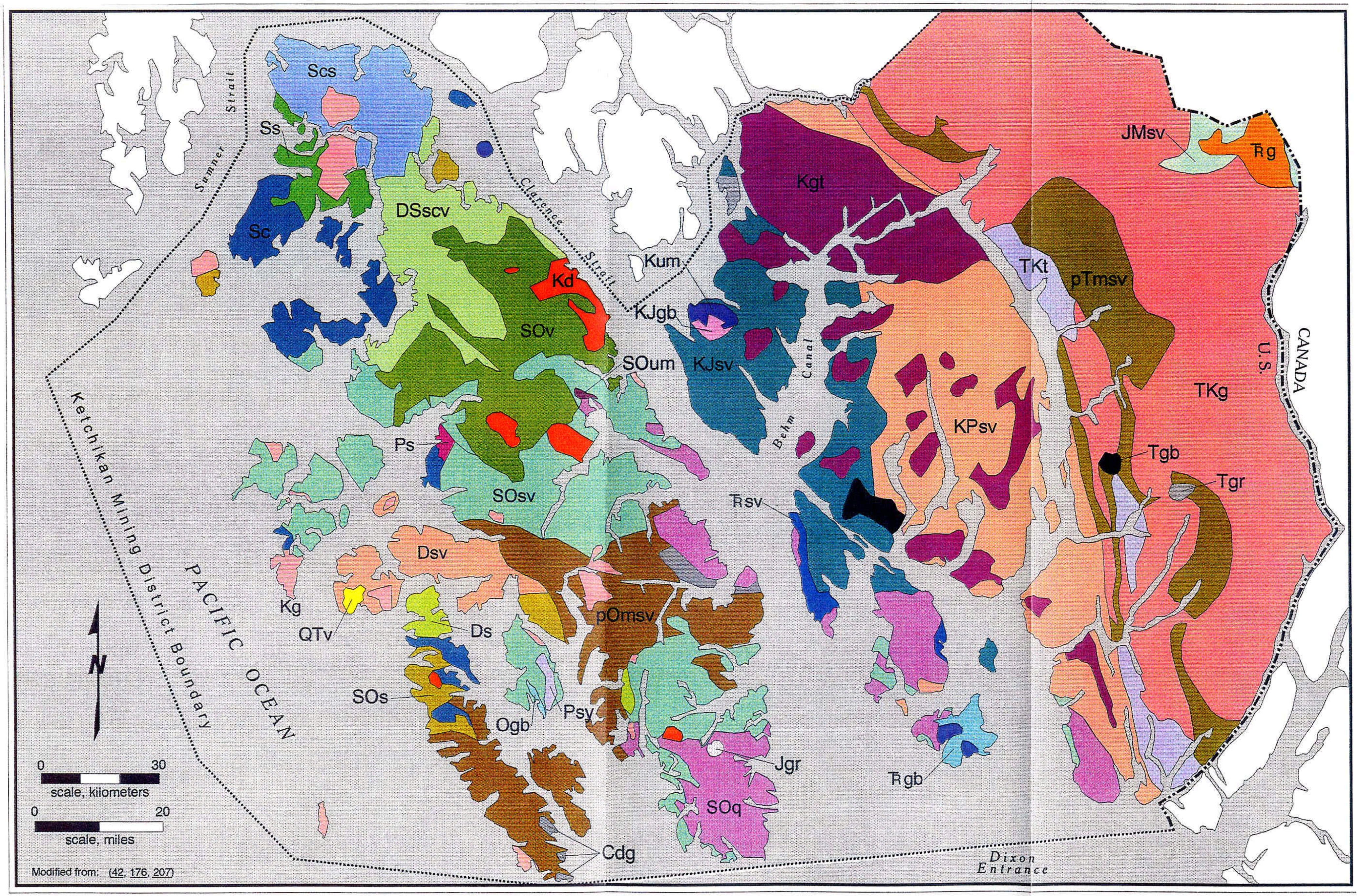

Figure 4. - Generalized geologic map.

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discussed later in the report.

Taku terrane rocks lie east of the Gravina belt and are separated from the Coast Mountain Batholith (plutonic-metamorphic complex) by the Coast Range Megalineament (CRM). The Taku terrane consists of Permian to Tertiary metavolcanic and metasedimentary rocks deposited in a submarine environment, possible adjacent to a rifted island arc or within a back-arc basin (466). These rocks are generally metamorphosed to a higher grade (mid-upper amphibolite) than the Gravina Belt rocks to the west. Roof pendants of metamorphic rocks within the Batholith may in fact be Taku terrane rocks (206). Mineral deposit types are relatively limited in Taku terrane rocks. Deposit types present include polymetallic vein (George Inlet), porphyry molybdenum (Burroughs Bay), low-sulfide vein gold (Sealevel area), and volcanogenic massive sulfide (Moth Bay, Roe Point).

The Coast Mountains Batholith was emplaced in late Cretaceous through Tertiary time and includes a wide variety of acidic/alkalic intrusives surrounding roof pendants and country rock of pre-Tertiary age. These roof pendants may be correlative to Taku terrane rocks (206), the Yukon-Tanana terrane (210) or another distinct terrane. The world-class Quartz Hill molybdenum deposit is located in an Oligocene- age composite felsic intrusive within the batholith. Several minor mineralized occurrences within the original host rocks for the batholith have also been prospected. The majority of the Coast Range Batholith is included within Misty Fjords National Monument Wilderness Area and is closed to mineral location and exploration.

A sliver of the Stikinia Terrane is located near Hyder in the easternmost portion of the study area. This terrane as exposed in Alaska contains Upper Triassic to Middle Jurassic arc-type volcanic, plutonic, and clastic sedimentary rocks of the Mesozoic Hazelton Group (11). Hazelton Group rocks have been extensively mapped on the Canadian side of the border because they host numerous base and precious metal deposits (e.g. British Columbia's Golden Triangle).

Hazelton Group rocks in the Hyder area have been intruded by the Jurassic Texas Creek Granodiorite and the Eocene Hyder Quartz Monzonite (88). Structural relations and lead isotope studies suggest two episodes of mineralization directly associated with these distinct intrusive bodies. There are several mineral deposit types present in the Stikinia terrane and among these are polymetallic vein (Riverside, Ronan, Solo, Double Anchor), porphyry molybdenum (Banded Mountain), skarn (Mount Dolly), and volcanogenic massive sulfide (Ibex Saddle). The highest concentration of mineralized occurrences in the KMD is found in this terrane, but despite its potential, no economic deposits have been found to date. Detailed mapping of the Hazelton Group rocks to differentiate individual units will aid future exploration efforts.

RESOURCE AND LAND USE ISSUES RELEVANT TO POTENTIAL MINING RELATED ACTIVITIES

The USDA Forest Service, along with other land management agencies, is currently in the process of instituting an ecosystem management approach to land use planning in Alaska. Ecosystem management emphasizes the interrelationship between biotic communities, their habitat, and other activities managed on the forest. This concept utilizes ecologic and socioeconomic principles to produce desired resource values, products, services, and environmental conditions from ecosystem units without rigorous adherence to jurisdictional boundaries and regulatory authority. These products must be attained while restoring, maintaining, or enhancing the diversity and productivity of the land's biological communities and their ecology over the long-term. Recognizing the significance of this shift in land management philosophy, the Bureau is according greater emphasis to the ecological aspects of natural resources and land use issues pertinent to mining-related activities.

This narrative examines, identifies, and ranks various resource and land use issues present within the

Ketchikan Mining District which may ultimately accompany future mining-related activities. The evaluation is organized geographically using the same KMDA's that facilitate the organization of the minerals sections of the report. This discussion is intended to assist proponents of mining projects and the Forest Service in their respective roles as preparers and reviewers of site-specific plans of operation. It also provides a guide for the interested public to identify potential concerns and scoping issues prior to or early in the site-specific NEPA process.

Information used in this examination was derived from management alternatives and resource mapping data utilized in the Tongass Land Management Plan Revision completed in 1991 (590). Bureau personnel evaluated this information and formulated the issue ranking criteria for each KMDA as presented in table 4. The authors related the resource and land use data to area geology, ore deposits and mineral potential; past mining history and production; and conceivable future mining operations. Many parameters were considered for these operations including potential mining methods, milling and tailings disposal options, likely access corridors (both land and tidewater) and potential size. While subjective judgements were made in these evaluations and in the establishment of ranking criteria, the investigators spent four seasons working in the district (1990-1993) and gained insight into local conditions. This experience and local knowledge helps establish a reasonable level of assurance that issues are treated consistently.

Fifteen relevant resource data mappings and land use designations were selected for this examination to represent the range of issues present in the mining district. The geographic influence of these issues were correlated with the twenty-six KMDA's and examined for the likely level of effects that might be expected should mining-related activities ensue. In the 'Resource and Land Use Issues' sections of each area analysis geographic details are provided to give the reader an idea where specific effects/conflicts might occur. The fifteen resource and land use issues are defined as follows:

A) Wilderness/Monument - This designation is characterized by extensive unmodified natural environments, and is withdrawn from all mineral entry[5].

B) Land Use Designation II - This designation is managed in a roadless state to preserve wildland character, and is open to locateable mineral entry with potentially significant restrictions.

C) Research Natural Area - This designation is managed for 'nonmanipulative' (hands off) ecological research, observation, and study, and is withdrawn from all mineral entry[6].

D) Special Interest Area - This designation is managed to provide for the inventory maintenance, interpritation, and protection of characteristics unique to a particular area, and is open to locateable mineral entry if compatible with the management objective(s)[6].

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[5] Valid existing rights for claims located prior to designation would allow for access and mining-related activity.

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Table 4. Summary of resource and land use issues for known mineral deposit areas.

	A[1]	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Shakan/El Capitan	-	2	-	1	-	-	-	2	2	-	-	-	1	-	1
Salt Chuck	-	-	-	-	-	-	-	2	2	2	-	-	1	-	-
Kasaan Peninsula	-	-	-	-	-	-	-	1	1	-	-	-	1	-	1
Hollis	2	-	-	-	3	-	2	2	2	-	1	2	-	-	1
Big Harbor	-	-	-	-	1	-	-	2	2	-	-	-	1	-	-
Khayyam/Stumble-On	-	-	1	-	-	-	-	1	2	-	-	-	1	-	-
Jumbo Mountain	-	1	-	-	1	-	-	1	2	-	1	-	1	-	-
South Arm Cholmondeley	-	2	-	-	1	-	-	-	1	-	-	-	1	-	-
Dolomi	-	-	-	-	-	-	-	1	2	-	-	-	1	3	-
Niblack	-	-	-	-	-	-	-	1	2	-	-	-	1	3	-
Hetta Inlet	-	1	-	-	-	-	-	2	2	-	-	-	1	-	-
Bokan Mountain	-	-	-	-	1	-	-	2	2	-	-	1	1	3	-
McLean Arm	-	-	-	-	-	-	-	2	2	-	1	-	-	-	-
Nichols Bay	2	-	-	-	-	-	-	2	2	-	1	2	-	-	-
McLeod Bay	-	-	-	-	-	-	-	1	2	-	1	-	-	-	-
Mount Burnett	-	-	-	-	-	-	-	1	2	-	-	1	1	3	-
Helm Bay	-	-	-	-	-	-	-	1	2	1	1	1	2	-	1
Ketchikan	-	-	-	-	-	2	-	1	1	-	-	-	-	-	1
George Inlet	-	-	-	-	-	-	-	1	2	-	1	-	2	-	-
Sealevel	1	-	-	-	2	-	-	2	3	2	1	1	-	-	-
Moth Bay	-	-	-	-	-	-	-	2	2	-	-	-	1	-	-
South Gravina	-	-	-	-	-	-	-	3	2	-	1	1	-	-	-
West Hyder	3	-	-	-	1	-	-	-	2	-	1	-	-	-	-
East Hyder	-	-	-	-	-	-	-	-	3	-	-	-	2	-	-
Quartz Hill	3	-	-	-	-	-	-	1	2	-	-	2	-	-	-
Roe Point	2	-	-	-	-	-	-	1	1	-	-	-	-	-	-

Ranking Criteria Issues

(-) None - No specific effect identified; potential impact deemed inconsequential.

(1) Minor - A slight effect identified which may be easily mitigated; potential impact deemed low.

(2) Moderate- Any effect may be mitigated by site-specific stipulations; average potential for impact.

(3) Major - A considerable effect is identified requiring extensive mitigation measures and/or relocation; potential impact deemed significant.

[1] Issues A-N defined as follows:

A-Wilderness / Monument
B-Land Use Designation II
C-Research Natural Area
D-Special Interest Area
E-Wild & Scenic River Candidate
F-Enacted Municipal Watershed
G-Experimental Forest
H-Subsistence Deer Hunting
I-Anadromous Streams
J-Recreation
K-Recreation Developments
L-Tourism Areas
M-Timber Harvest
N-Minerals Prescription Candidate
O-State Land

E)	Wild and Scenic River -	Wild, scenic, and recreational river classifications are three separate designations. Most candidates include at least two such designations. Wild rivers are withdrawn from all mineral entry 0.4 km from each bank (0.8 km or 0.5 mile total)[6]. Scenic and recreational designations are open to locateable mineral entry with variable restrictions.
F)	Enacted Municipal Watershed -	This designation is mandated for municipal water supply purposes. Municipal watersheds are closed to all mineral entry.
G)	Experimental Forest -	This designation is managed for a variety of 'manipulative' (e.g. cutting, altering, road-building) research activities. Experimental forests may be open to mineral entry if deemed compatible with research objective(s)[6].
H)	Subsistence Deer Hunting -	This resource mapping datum gauges the intensity of subsistence hunting based upon the number of households taking Sitka black-tail deer from specific areas.
I)	Anadromous Streams -	This resource mapping datum identifies all streams supporting any anadromous fish (Stream Class I).
J)	Recreation -	Includes both primitive and semi-primitive recreation designations. Managed for a wide range of recreational activities in a predominantly natural setting. Semi-primitive designation allows road-building. Recreation areas are open to mineral entry.
K)	Recreational Developments -	This resource mapping datum identifies Forest Service cabins and campgrounds which are withdrawn from all mineral entry.
L)	Important Tourism Areas -	This resource mapping datum identifies areas considered important to tourism activities.
M)	Timber Harvest -	There are three timber harvest designations: timber management, modified landscape, and scenic viewshed. These designations are open to mineral entry.
N)	Minerals -	This designation is managed to encourage and facilitate locateable mining-related activities in an environmentally sound manner.
N)	State Land -	State of Alaska lands and management objectives exist within and surrounding KMDA's. The State of Alaska Department of Natural Resources has developed the Prince of Wales Island Area Plan (2) and the Southwest Prince of Wales Island Area Plan (3) to document management objectives for several distinct areas on POWI.

The following criteria were established to rank the significance of each resource and land use issue (table 4):

(-)	No Issue -	No specific effect is identified, or the potential for impact is deemed inconsequential.
(1)	Minor Issue -	A slight effect is identified which may be easily mitigated, or the potential for impact is deemed low.
(2)	Moderate Issue -	An effect is identified which may be mitigated by site-specific stipulation, or the potential for impact is deemed average.
(3)	Major Issue -	A considerable effect is identified which requires extensive mitigation measures and/or relocation, or the potential for impact is deemed significant.

Other specific resource issues, notably bald eagle nest sites and habitat concerns of management indicator species6 were not addressed in these examinations primarily because of the widespread nature of their occurrence. Forest Service policy concerning habitat conservation areas (HCA) and their potential inclusion in the planning process have not been established at this time. These HCA's are an ecosystem management strategy proposed to maintain viable and well distributed populations of wildlife associated with old growth forests in southeast Alaska, and could develop into a significant issue if implemented. Proponents of mining projects drafting plans of operation would need to address these potential issues on a site-specific basis.

BUREAU INVESTIGATIONS

The following section provides information on the 26 known mineral deposit areas (KMDAs) identified in the Ketchikan Mining District. Information is organized similarly for each area and includes: 1) a general overview and depiction of land status, 2) history/production/workings, 3) geology of the area and deposit geology, 4) Bureau work, 5) significant samples/mineral resources, 6) a discussion of ecological and land use issues, and 7) a tabular summary of pertinent information for each mineral deposit in the area.

Following this discussion, a brief narrative will be given for 9 other significant mineral localities that were not included within a KMDA. The KMDA's are depicted on figure 5, as are map numbers for mineral localities and reconnaissance sample locations (R-numbers). Analyses from mineral locality and reconnaissance samples can be found in tables A-2 and A-3, respectively.

[6] Management indicator species identified in the Tongass Land Management Plan include mountain goat, Sitka black-tail deer, river otter, marten, brown and black bear, gray wolf, red squirrel, bald eagle, red-breasted sapsucker, hairy woodpecker, brown creeper, dolly varden, and coho and pink salmon.

KNOWN MINERAL DEPOSIT AREAS

The 26 KMDAs discussed in this section are organized geographically, starting with those on POWI, then moving east to Cleveland Peninsula, Revillagigedo and Gravina Islands, and finishing with the mainland (see fig. 5 for district-wide organization).

1) Shakan/El Capitan

2) Salt Chuck
3) Kasaan Peninsula
4) Hollis
5) Big Harbor
6) Khayyam
7) Jumbo Mountain
8) S. Arm Cholmondeley
9) Dolomi
10) Niblack
11) Hetta Inlet
12) Bokan Mountain
13) McLean Arm
14) Nichols Bay
15) McLeod Bay
16) Mount Burnett
17) Helm Bay
18) Ketchikan
19) George Inlet
20) Sealevel
21) Moth Bay
22) South Gravina
23) West Hyder
24) East Hyder
25) Quartz Hill
26) Roe Point

Shakan/El Capitan Area

General/Land Status

The Shakan/El Capitan area is located in the northeastern corner of Kosciusko Island and a small portion of Prince of Wales Island (POWI) along the western and southern shores of El Capitan Passage from Devilfish Bay to Shakan Strait. The area contains the Alaska Chief (Shakan) molybdenum deposit; the El Cap Gold prospect; and two areas of molybdenum/copper skarn mineralization, one at Devilfish Bay and the other near Dry Pass/Sutter Lakes.

The topography in this area is generally rugged and steep except for an area of low relief surrounding the El Cap Gold prospect. The steep topography is directly related to the underlying intrusive rocks, while areas of low relief are generally underlain by bedded volcanic and volcaniclastic rocks. The area is heavily wooded except around the El Cap Gold area where scrub and poorly vegetated glacial till are present. Logging slash around the Shakan deposit severely inhibits access to surface showings and trenches.

Land status in the area is mainly Federal land open to mineral location; however several patented mineral surveys are present. Ownership information from 1991 is provided for these patented parcels, however it should be noted that this is subject to change.

MS 541, 542, 701, 1050, 1051, 1052, 1053:	Sealaska Corporation (Juneau, AK)
MS1010, 1059:	Trillium Corporation (Bellingham, WA)
MS1450A/B:	Roger Schnabel (Haines, AK)

Claimants at the El Cap Gold prospect intend to initiate a patent application on this property. A mineral survey has been completed (MS 2526 filed by Eichner-Munoz-Lillie, Ketchikan, AK).

There are a few small parcels of native conveyed land near Calder. The State of Alaska has selected land along the east shore of El Capitan Passage, outside the boundaries of this area.

History/Workings/Production

During and after World War I, the Alaska Treadwell Gold Mining Co. developed the Shakan molybdenum deposit by driving a 174-m adit and excavating 14 surface cuts (582). The Alaska Juneau Gold Mining Co. picked up the property after World War II but no additional work was completed. The U.S. Geological Survey conducted a comprehensive study of the deposit in 1942 as part of a Southeast Alaska molybdenite investigation (567). The Bureau of Mines (Bureau) published a war minerals study that discussed reserves, described beneficiation tests, and suggested areas for additional work on the deposit (567). Herreid and Kaufman examined the Dry Pass area in 1963 as a result of a new molybdenite occurrence discovered by Angus Lillie (252). This discovery is known as the Angus Lillie or Hump deposit and is exposed in a 20-m trench located close to tidewater.

Several other molybdenum-copper showings occur east of the Angus-Lillie showing, but dense vegetation coupled with limited workings severely hampers examination. Herreid's report mentions the presence of a 30-m adit northeast of Sutter Lakes, but this working was caved in 1963 (252). Similarly, the Devilfish Bay showings were staked by Lillie in 1962 and are also referred to in Herreid's report. An open cut and surface showings expose mineralization at this prospect. El Paso Natural Gas worked this property in the late 1960's-early 1970's and again in the late 1970's, but dropped it after completing an extensive soil sampling and geologic mapping program (584). Eakins examined the Devilfish Bay area in 1970 as part of a Southeast Alaska study intended to encourage prospecting for radioactive deposits (167).

According to KARDEX records, the El Cap Gold prospect was initially discovered in 1962 by Theron and Ecker. The prospect was dropped and subsequently restaked in 1967 (584). Currently, Eichner, Munoz, and Lillie have completed a mineral survey on the property with the intent of going to patent (MS 2526). The property is developed by eight trenches and one short adit. There are two separate veins (153 m long, 51 m long) 38 m apart exposed by these workings. The main west trench is actually a 15-m-long open stope that at one time contained a 6-m shaft at the face. Ore from this trench was bagged but never shipped from the property.

Geology

The general geology in the Shakan/El Capitan area is depicted in a reconnaissance geologic map of the Petersburg Quadrangle compiled by Brew, Ovenshine, Karl and Hunt in USGS OF 84-405 (68). In addition, the USGS published a mineral resource map of the Petersburg Quadrangle in 1989 (63). Both of these maps depict a Cretaceous quartz monzodiorite complex that has intruded a series of Silurian volcanics, volcaniclastics, conglomerates, turbidites, and limestones (Heceta Limestone). Several sills/dikes are present in the map area including a feldspar porphyry near the Angus Lillie prospect, and diorite dikes, felsites, and lamprophyre dikes on the western edge of the main batholith (Kwqo) (fig. 6).

Regional structure in the area is dominated by north-northwest trending faults. These same fault orientations control mineralization at the El Cap Gold prospect, but an east-west fault localizes mineralization at the Shakan Molybdenite deposit. Buddington and Chapin suggest the presence of macroscopic northwest-trending folds (89) in this part of POWI, but on a larger-scale southwest-trending folds seem to dominate (252). Mapping along the shoreline of El Capitan Passage did not reveal microfolding to provide clues to smaller-scale folds. The shoreline exposes east-west-trending limestones, greenstone volcanics, volcanic conglomerates, and argillite (Scg on fig. 6).

A large contact aureole formed around the quartz monzonite intrusion. This aureole is characterized by the recrystallization of calcareous and calc-silicate rocks into marble/skarn and the metamorphism of volcanic/volcaniclastic rocks and banded argillites (turbidites) into well-indurated, fine-grained hornfels. Contacts between rock types are gradational in character and schistosity is largely absent. The skarn zones recognized during the current investigation were generally small, with thin zones of garnet, epidote, calcite, and occasionally sulfide mineralization present. This is in marked contrast with the thick zones of garnet-epidote skarn developed peripheral to the Jumbo Mountain intrusion near Hetta Inlet. The most extensive garnet-epidote skarn was observed at the Angus Lillie/Hump prospect. There are other small skarn occurrences reported east of the Angus Lillie prospect (252), but they were not examined during this study. The molybdenite-chalcopyrite breccia-vein at Shakan is hosted in a fault zone within hornblende diorite, unlike the other occurrences in the area. Sulfide mineralization is accompanied by intense potassic alteration within the fault zone, but this alteration does not pervade the diorite selvage. There is minimal pyritization of the diorite peripheral to this mineralized area.

The El Cap Gold veins are composed of quartz/calcite and lithic fragments hosted in faults within greenstone schists. The faults cut into the adjacent marble beds to the west, but mineralization

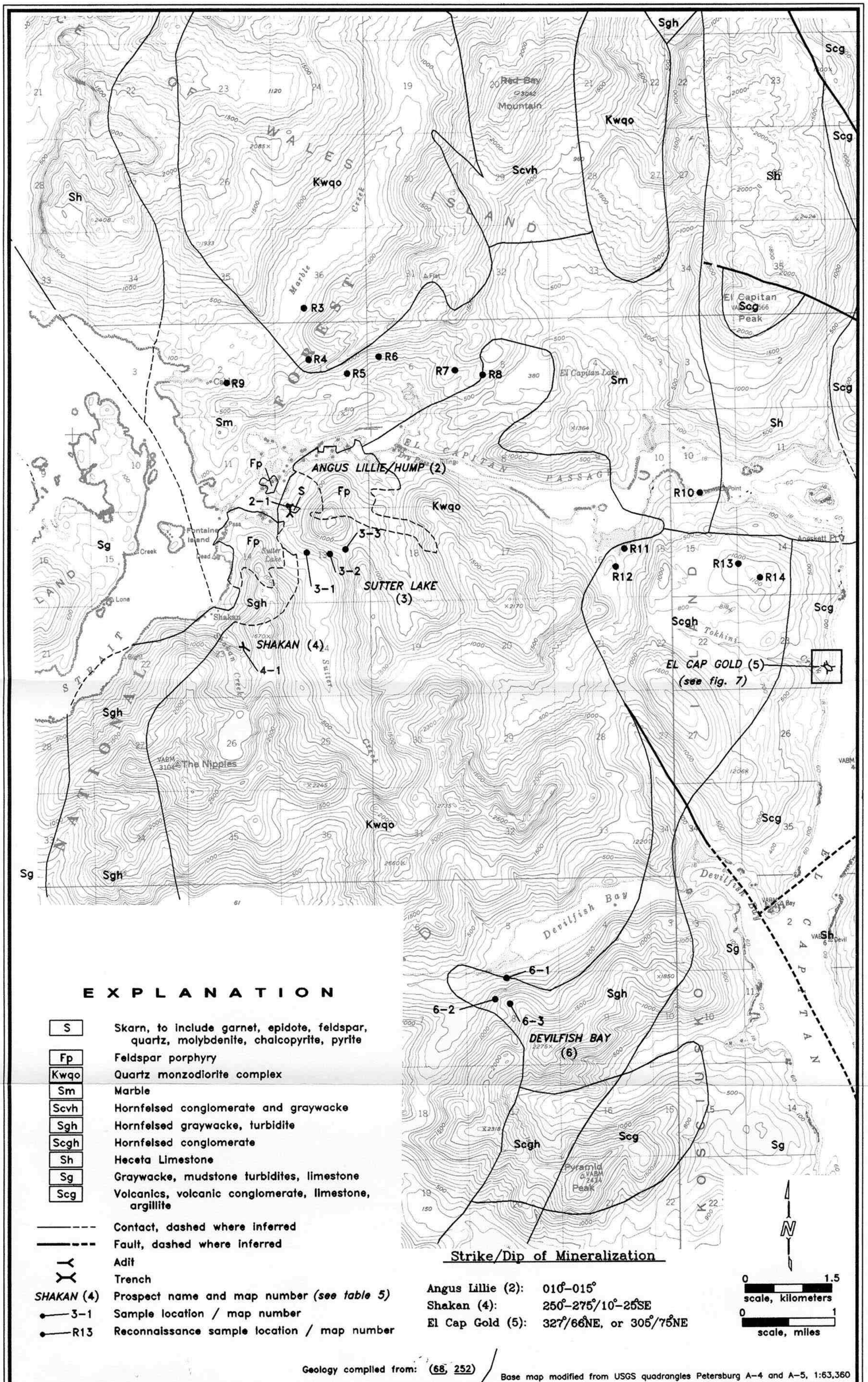

Figure 6. - Shakan/El Capitan area, showing geology, mineral localities, and sample locations.

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abruptly stops at the contact. There is no indication of gold mineralization in bedrock west of the veins; however, the mineralized veins probably extend eastward under the waters of El Capitan Passage.

The Silurian rocks in the Shakan/El Capitan area have been assigned to the Alexander terrane (213). Generally, the Silurian rocks underlying the northern third of POWI, excluding Kasaan Peninsula, are among the least mineralized Alexander Terrane rocks in the Ketchikan Mining District. In addition to the Shakan molybdenum-copper occurrences (fig. 6, map No. 4), Devilfish Bay magnetite (fig. 6, map No. 6), and El Cap Gold prospect (fig. 7), a minor copper occurrence is located near Lake Bay (McCullough prospect; fig. 5, map No. 8) and a rare-earth-element, thorium-columbium occurrence is located near Salmon Bay (fig. 5, map No. 1). Besides these few areas, the only remaining known mineral potential in this portion of POWI occurs in chemical-grade Silurian carbonate rocks.

Bureau Work

Bureau geologists reexamined the underground workings at the Shakan molybdenite deposit, confirming the geology as mapped by Robinson (582) and taking character samples in several places. The vein is exposed intermittently along a 150-m strike length with average widths of 1.25 m. Molybdenite mineralization is concentrated in two zones along this strike length; one zone about 50 m long with an average width of 1.37 m, and the other zone extending for 13 m across an average width of 1.3 m just in front of the incline at the face of the adit. A chip sample taken across 1.37 m of the highest grade molybdenum zone contained 3.9% molybdenum and 678 ppm copper (map No. 4-1, sample 4664). A 1.22-m-thick zone of silicified gouge sampled 18.3 m from the inclined raise near the face of the adit contained 5,390 ppb gold and 112 ppm molybdenum (map No. 4-1, sample 4681). The next highest gold value obtained during Bureau sampling was 36 ppb (map No. 4-1, sample 4678). The trenches shown on Robinson's map were sloughed-in and have been subsequently covered by slash. The creek adjacent to the adit was traversed down to the beach. Several areas of unmineralized contact rock (banded green/brown hornfels), diorite apophyses, and marble were observed in the creek. No samples were taken to identify the presence of a larger tonnage porphyry-type deposit because chloritic alteration and pyritization were not apparent.

Considerable time was spent examining the El Cap Gold prospect. A detailed survey and accompanying map of the numerous trenches and quartz outcrops was made (fig. 7). Twenty one samples were taken from the property and another 13 reconnaissance samples were taken to help determine the extent of gold mineralization in the area. Although only two separate quartz veins have been explored on the property, the presence of free-milling gold increases the property's potential. There is no published drill-data available, although the west vein was drilled in the 1950's. The west vein extends nearly 153 m along strike and attains widths up to 1 m across. The east vein is about a third as long and is narrower, but does have a rich shoot of gold-bearing quartz between samples 1768-1769 (map Nos. 5-20, 5-21). A 10- to 12-cm-thick zone of quartz often yielded visible gold. Both the east and west veins strike northwesterly and dip 65° to 83° east. A trench excavated perpendicular to strike of the veins, starting east of the east vein and extending to the creek, would help determine the presence of additional veins. A 45° drill hole positioned east of the east vein and directed southwest (225°) could help verify the downward extent of these veins.

The Angus Lillie prospect (fig. 6, map No. 2) and Sutter Lake occurrences (fig. 6, map No. 3) were briefly examined by Bureau personnel. The main trench at Angus Lillie was easily found adjacent to a small stream and exposes a garnet-epidote skarn containing molybdenite. The trench was mapped and samples were taken. Results from these samples are similar to analyses obtained by previous workers (252). The molybdenite occurrences around Sutter Lake were examined. Several outcrops of skarn

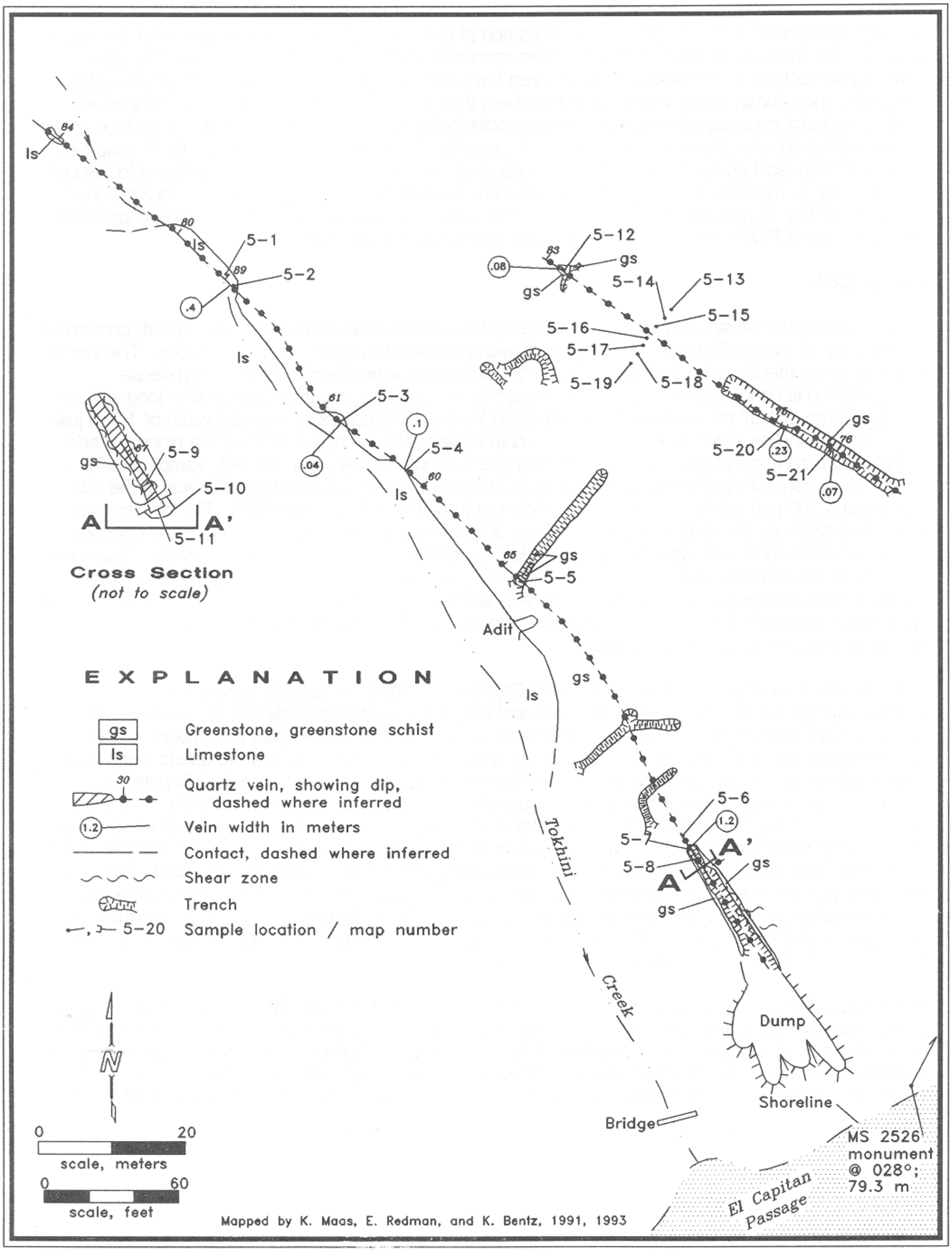

Figure 7. – El Cap Gold prospect, showing geology and sample locations.

and hornfels were observed, but sulfide mineralization was scanty. Bureau personnel sampled one small quartz vein containing visible molybdenite and took several stream sediment samples. The thick vegetative cover in this area precluded a thorough examination. Previous workers found isolated pods

of low-grade mineralization and a more complete examination was deemed inappropriate during the current investigation as mineral potential and outcrop density are very low.

Significant Samples/Mineral Resources

An extensive sampling program was undertaken at the Shakan Molybdenite deposit by the original companies developing the property. The Alaska Juneau Gold Mining Co. took several samples from both underground and surface workings and reported an average molybdenum grade of 0.95% MoS^2 (526). Robinson calculated measured and indicated ore reserves at this deposit after interpreting surface and underground sample results. Reserves were calculated using information from the higher grade portions of the workings. The entire vein did not merit equal consideration. His figures range from 9,100 to 18,200 mt of ore grading 1.5% MoS^2 (582). A metallurgical sample was taken from a high-grade portion of the orebody at Shakan for beneficiation testing. These tests produced a 93% recovery of MoS^2 (567).

Samples from the Angus Lillie prospect contained up to 4.6% molybdenum across 1.22 m (map No. 2-1, sample 4700). A chip sample from a thin quartz vein near Sutter Lakes contained 1,035 ppm molybdenum, 1,430 ppm copper, and 1,188 ppb gold (map No. 3-3, sample 4686).

Samples from the El Cap Gold prospect were erratic in their gold content and most contained very little silver. Metallic sieve analysis of a select sample from the west vein contained 2,027 ppm gold (59.01 opt) and over 50 ppm silver (fig. 7, map No. 5-8). Another sample taken from a 6-cm-thick portion of the west vein adjacent to Tokhini Creek contained 259.4 ppm gold (fig. 7, map No. 5-3). Two samples taken from the east vein contained a weighted average of 67.41 ppm gold across an average width of 19 cm (fig. 7, map Nos. 5-20, 21). A reserve calculation for the El Cap Gold prospect is not warranted until more information on the downdip extent of the veins is obtained.

Resource and Land Use Issues

There are several resource and land use issues identified in the Shakan/El Capitan area. Among these are: 1) over 50% of the area is included in a Land Use Designation II (LUD II) restrictive development area, 2) a small part of the northeastern corner is included in a 'karst' special interest area, 3) several anadromous fish streams are present, 4) the occurrence of subsistence Sitka black-tail deer hunting, and 5) there is a State of Alaska recreation area in the northeast corner of the area and several private parcels around Shakan and Calder (590).

The LUD II area encompasses the majority of the KMDA located on Kosciusko Island. The area surrounding the El Cap Gold prospect is excluded from this restricted area, as is the Shakan molybdenite deposit, but several of the minor skarn occurrences around Dry Pass are included. The remainder of the area is managed for timber harvest and the existing road system on POWI is being expanded by the Forest Service to access future timber harvest areas. The karst area surrounding El Capitan Peak and Calder Mountain is still being defined but current assessments have identified significant caves and cave resources. These caves are being evaluated for scientific and recreational values. Anadromous fish streams have been identified at the head of Devilfish Bay, at several places along El Capitan Passage, and on Shipley Creek and Marble Creek. These designations may have a seasonal effect on developments at El Cap Gold and at

Calder. Subsistence deer hunting pressure is classified as high along the Forest Service road system accessing El Capitan (FS road 15), medium in Devilfish Bay and along the south shore of Dry Pass, and low throughout the rest of the area. Private parcels have been previously identified in the land status section of this area writeup.

Table 5. Mineral locality information for the Shakan/El Capitan area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
2	Angus Lillie/Hump	OF	S: Mo	T, P, OC	NA	4.6% Mo across 1.2m (333); av 0.16% Mo across 17 m (252)	98, 159, 252, 333	L
3	Sutter Lakes	OF	S: Mo	T, P, OC	NA	1,430 ppm Cu, 1,035 ppm Mo	252, 333	L
4	Shakan (Alaska Chief)	P: MS 1450 A/B	PV: br fissure vein in hnbd di; Mo, Cu	Adit- 174 m: T, P (14)	NA	Probable ore: 12,455 mt @ 1.31% Mo ;Possible ore: 3,727 mt @ 2.08% Mo; (567); 9,100-18,200 mt ore @1.5% MoS^2 (582)	252, 333, 526, 567, 582	M
5	El Cap Gold	OF, MS 2526	V: Au	T, P (8); Adit - 3.8 m (open); vein exposed 153 m	NA	Select sample - metallic sieve analysis contained 2,027 ppm Au, > 50 ppm Ag; native copper	333	M
6	Devilfish Bay	OF	S: Cu, Fe, Au	C, OC	NA	Rep sample contained 3,695 ppm Cu across 4.6 m	167, 252, 333	L

Salt Chuck Area

General/Land Status

The Salt Chuck area is located on east-central Prince of Wales Island (POWI), encompassing the area from the head of Karta Bay north to Tolstoi Bay, west to Salmon Lake and including Rush Peak. This area is directly west of the Kasaan Peninsula area and is separated from it because of the distinctive geology and mineral deposit types surrounding the ultramafic Salt Chuck intrusion. Mineral deposits in the area include the Salt Chuck and Rush & Brown Mines, the Venus, Rush Peak, and Paul Young prospects, and the North Pole Hill and Kathy occurrences.

Thorne Bay is the closest population center to the area, located approximately 3 km to the north. Logging roads branching from the main POWI road system provide access to many of the area's deposits. Most of the densely forested land in the area has been logged, providing exposures that rapidly revegetate with scrub and brush. Topography is gentle and outcrops are generally scarce outside of logging road corridors. The exception to this is Rush Peak which rises to 834 m (2,734 ft) on the western edge of the area.

The majority of land in the area is managed by the Forest Service and is open to mineral exploration. The Venus prospect is the only patented property in the area (MS 2048); current ownership is unknown. Active mining claims are maintained at the Salt Chuck, Rush & Brown, and Rush Peak properties.

History/Workings/Production

The Rush & Brown Mine was discovered about 1900 by U.S. Rush and his partner, G. Brown. Development work began in 1904 and ore was mined almost continuously from 1906 until 1923, originally by the Alaska Copper Co. (which operated the Coppermount Smelter) and later by U.S. Rush. Operations were suspended in 1923 because of difficulties related to securing smelter contracts for the copper-iron ore (601). Total reported production from the mine was 1,960 mt copper (569), 1.5 mt silver, and 209 kg gold (585). Mine workings consisted of a 30-m-deep glory hole and a 61-m inclined shaft leading to a series of 5 levels, connected by a winze below the 61-m level. The Sawmill adit (originally 393 m long, later extended to 461 m) was driven by the Solar Development Co. after they acquired the property in 1929. Solar also acquired the Salt Chuck Mine at this time. The Sawmill adit was intended to undercut the lower levels in the Rush & Brown Mine, but it was also used to position drill holes. Additional exploration occurred in the 1960's-1980's (584). The Sawmill adit was extended to intersect the ore zone sometime during this time period.

Two prospects of minor importance were located southwest of the Rush & Brown Mine. The Venus deposit was located by magnetic survey in 1904 (643). The deposit was explored by 244 m of trenches and a 23-m-long adit. Assessment work was reported until 1908. Roehm examined the property in 1938 (428) and the USGS mapped the deposit in 1943 (601). The claim was surveyed for patent in 1938. The earliest report on the Paul Young prospect was in 1917 (115). This prospect was explored by numerous pits and cuts that were not located during the current investigation.

The original discovery at the Salt Chuck Mine occurred in 1906 when the Goodro claims were staked after bornite-bearing rocks were discovered during a hunting trip (458). Copper, silver, and gold production began by 1909 and continued until 1914. In 1915, platinum was discovered by assay as a byproduct in the ore, but it wasn't until 1917 when palladium was discovered that a different milling process was implemented to recover these platinum group metals (PGM). The new flotation mill produced a copper-palladium concentrate through 1926 that was ultimately shipped to New Jersey for final processing (458). The Salt Chuck was the largest producer of palladium in the U.S., annually producing up to 117 kg, which often generated a profound effect on the world price of palladium (458). Palladium sold for $155/ounce in 1917 and by mid-1926 the price had dropped to $76.82. Development workings at the Salt Chuck include 3 adits with a cumulative length exceeding 400 m on 3 levels, a large glory hole, and a flotation mill. By 1929, Solar Development Co. had acquired the Salt Chuck and drilled 7 holes. Solar dropped the property in 1931. In 1934, Alaska Gold and Metals Co. acquired the Salt Chuck Mine and leased the Rush & Brown Mine. They produced ore until 1941. Total production from the Salt Chuck amounted to 2,820 mt copper, 365 kg gold, 1.73 mt silver, and 639 kg palladium from 296,363 mt ore (268).

The Bureau of Mines (Bureau), in conjunction with the USGS mapped, sampled, and drilled the Salt Chuck and Rush & Brown deposits in 1943-44. Bureau geologists returned in 1957-59 to continue drilling efforts (382). Juan Munoz initiated geophysical and geochemical work at North Pole Hill in 1953-54 that continued until 1958. Several companies have explored the Salt Chuck area between 1958 and the present. This interest is attributed to Salt Chuck being the only lode platinum producer in the U.S. Orbex Minerals Ltd. acquired the ground in 1980 and performed extensive drilling, mapping, and geochemical work. The Salt group of claims (Salt Chuck and Rush & Brown properties) are currently held by Fox Geological Consultants Ltd.

Geology

The geology in the Salt Chuck area is characterized by a variety of Cretaceous to Silurian-Ordovician igneous rocks intruded into a sequence of Descon Formation sedimentary and volcanic rocks (176, 473). Descon rocks present include volcanic graywacke tuff, conglomerate, feldspathic graywacke, and andesite flows with lesser amounts of argillite, chert, and limestone (fig. 8). There are large areas of alluvium concealing the SOg units in low elevation areas but outcrop patterns suggest the continuity shown in figure 8. The igneous rocks include the pyroxenite-gabbro-diorite mafic-ultramafic body hosting the Salt Chuck deposit and North Pole Hill mineralization (SOum); two small pods of quartz diorite porphyry about 1.5 km north of Salt Chuck (Kqdp); a gabbro body south of the Venus prospect (SOq); and the northern extension of a large Cretaceous quartz diorite batholith (Kqd - Granite Mountain). This quartz diorite intrusion hosts several gold deposits that are discussed in the Hollis area analysis.

Descon Formation rocks have been weakly metamorphosed to lower-greenschist facies and exhibit a

slight foliation (seen best in the slaty argillites), but no intense penetrative deformation. The older igneous rocks are not foliated which corroborates the low pressure regime present during regional metamorphism. Rocks generally strike north-northwest with variable dips. There are a few large northwest-striking faults mapped in the area, one of which controls mineralization at the Paul Young prospect (fig. 8, map No. 16).

There are several mineral deposits within the Salt Chuck area. Copper-palladium mineralization related to an early Paleozoic Alaskan-type ultramafic is present at the Salt Chuck Mine and on North Pole Hill (327); a magnetite-copper skarn and a separate shear-related chalcopyrite-rich vein hosted in andesite occur at the Rush & Brown deposit; a pyrrhotite-chalcopyrite-sphalerite massive sulfide vein occurs at the Venus; fault-related quartz-pyrite mineralization is seen at the Paul Young prospect; and chalcopyrite hosted in a quartz-calcite fault breccia zone in argillite is exposed in a rock pit near Rush Peak.

Mineralization at the Salt Chuck Mine (fig. 8, map No. 13) consists primarily of chalcopyrite, bornite, digenite, chalcocite, and covellite with magnetite, pyrrhotite, and pyrite (604). The palladium mineral kotulskite (PdTe) was found singularly or in association with sperrylite ($PtAs_2$) (604). There were three separate tabular ore zones exploited at Salt Chuck, all plunging about 70° east-southeast along the irregular pyroxenite/gabbro contact (379). These zones are exposed in several of the mine workings. The Central zone is roughly delineated by the large glory hole, while the southeast orebody has been mined by underground stopes, and the north orebody simply penetrated by mine headings. Dimensions of the large Central zone are roughly 15 by 61 by 91 m. The sulfide ore is commonly disseminated in magnetite clinopyroxenite, but is also found in pyrite-pyrrhotite veins, epidote veinlets, and calcite-rich veins near the contact with layered gabbro. Mineralization is also noted in the less-fractured gabbro. Alteration and metamorphism have produced an assemblage of epidote, actinolite, chlorite, sericite, titanite, and calcite minerals adjacent to ore minerals (604) but these same minerals are present in lesser amounts throughout the intrusion (379). Faulting has occurred contemporaneously with ore deposition, localizing a high-grade chalcopyrite seam, but this fault has not offset mineralization within the pyroxenite.

The genesis of the copper-palladium ore at Salt Chuck has been the subject of much work as other Alaskan-type ultramafic complexes are not similarly enriched in these metals. The current view proposed by Loney and Himmelberg (USGS) is that the deposit formed from a two-stage process: 1) initial magmatic crystallization in which the sulfides and PGM were disseminated in the layered gabbro and 2) a later magmatic-hydrothermal event dominated by calcium-bearing chloride-rich solutions that remobilized the sulfides and PGM and concentrated them in veins and fractures controlled by the complex magnetite clinopyroxenite-gabbro contact (327). Most PGM is found in epidote or bornite (604).

The North Pole Hill occurrence (fig. 8, map No. 12) is similar to the Salt Chuck deposit in geology and sulfide mineralogy, but PGM has not been identified during sampling. Test pits reveal bornite and chalcopyrite mineralization in a magnetite pyroxenite unit along a structure known as Murphy's Slip

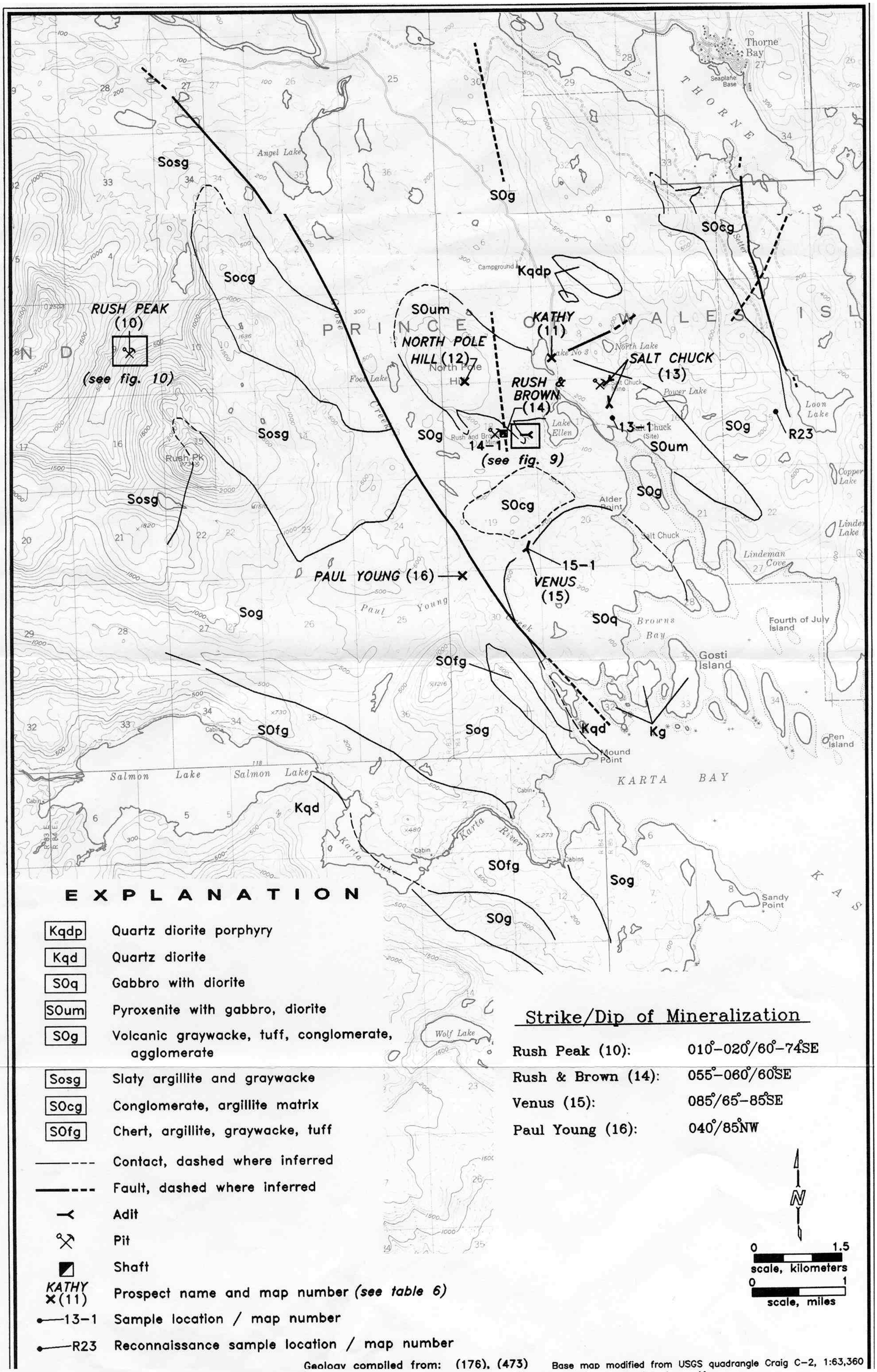

Figure 8. — Salt Chuck area, showing geology, mineral localities, and sample locations.

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(359), which continues southeast to the Rush & Brown Mine.

Mineralization at the Rush & Brown (fig. 8, map No. 14) occurs in two separate deposits: 1) a magnetite-chalcopyrite orebody hosted in greenstone and skarn (originally calcareous clastic rocks) and 2) a 10- to 40-cm-wide chalcopyrite-rich sulfide vein emplaced along a 055° to 060° fault also hosted in fine-grained greenstone. Mining of the magnetite-dominated ore led to the discovery of the richer shear-vein deposit. Gold and silver is associated with both deposits. The main portion of the magnetite deposit was mined out by glory hole methods and only small shoots of ore are left in pillars and in the shell surrounding the hole. The shear-vein was originally mined to a depth of 152 m and is intersected by the Sawmill Adit at 91 m, below which the workings are flooded. The deposit is cut by numerous mafic dikes as opposed to the alkalic dikes common in Kasaan Peninsula skarns. At least three other subparallel shear veins have been identified within a kilometer of the main deposits.

The Venus prospect (fig. 8, map No. 15) contains a massive pyrrhotite-sphalerite-chalcopyrite vein up to 1.83 m wide hosted in volcanic graywacke, near the contact with a gabbro-diorite intrusive (Kg). The pyrrhotite and sphalerite are banded, but the chalcopyrite fills fractures in both these sulfides and in the country rock up to 2 to 4 cm from the main sulfide vein. Both the hanging and footwall portions of the vein contain gouge from the 085° striking fault. The vein is exposed in an adit and several trenches and extends for nearly 76 m along strike. Metamorphic textures are evident as the ore is seen enveloping quartz porphyroblasts. Brecciated country rock is incorporated into the ore zone. Volcanic and intrusive rocks several meters away from the sulfide vein have been pyritized and appear severely altered (chlorite, epidote). There is no compelling field evidence as to the origin of this vein.

The Rush Peak occurrence (fig. 8, map No. 10) consists of clots and disseminations of chalcopyrite and pyrite hosted in a 23-m-thick section of intercalated brecciated argillite and volcanic agglomerate. Sulfides are concentrated in calcite-quartz stringers along several small shears of variable strike/dip (010°-020°/60°-74° southeast; 320°-335°/60°-85° southwest; 045°/70° northwest) creating a stockwork arrangement. The mineralization is concealed by vegetation outside the confines of the pit. Chalcopyrite concentrations are up to 3% locally, and malachite staining is evident, but the overall sulfide concentration is low.

Bureau Work

Bureau geologists briefly examined the geology and mineralization at the Salt Chuck Mine. No detailed maps or extensive sampling program were completed because of the wealth of data previously collected and made available by private industry (, , , ,). However, four samples were taken from the tailings comprising the mud flats below the mill. Analyses from these samples revealed up to 2.67% copper, >5,000 ppb palladium, 1,890 ppb gold, and to 1,162 ppm vanadium (fig. 8, map No. 13-1).

The extension of the Sawmill adit at the Rush & Brown Mine was mapped and sampled by Bureau geologists (fig. 9) and plotted relative to the stopes mapped by Warner, Ray, and Flint (602). Samples taken across the 0.15- to 0.46-m thick vein contained from 1.86% to 10.4% copper, 11.9 ppm to 60.0 ppm silver, and up to 7,509 ppb gold (fig. 9, map Nos. 14-2 to 14-5).

The adit and trenches at the Venus prospect were mapped and sampled. A continuous chip sample taken across the thickest portion of the ore zone (1.83 m) contained 1.68% copper, 1,916 ppm zinc, and 40.2 ppm silver (map No. 15-1, sample 1750). Mineralization exposed at the face of the adit contained 1.57% copper, and 24.9 ppm silver across 0.91 m (map No. 15-1, sample 1748). The massive sulfide veins at the Rush & Brown and Venus are separated by nearly 2 km on opposite sides of a conglomeratic unit and additional prospecting is warranted around this SOcg unit to search for similar style mineralization.

The pit at Rush Peak was mapped and several samples of chalcopyrite were taken, primarily in an attempt to associate precious metal content with copper mineralization (fig. 10). A select sample of hand-picked chalcopyrite contained less than 5 ppb gold (map. No. 10-4). The highest gold value obtained was 10 ppb (map No. 10-5).

Significant Results/Mineral Resources

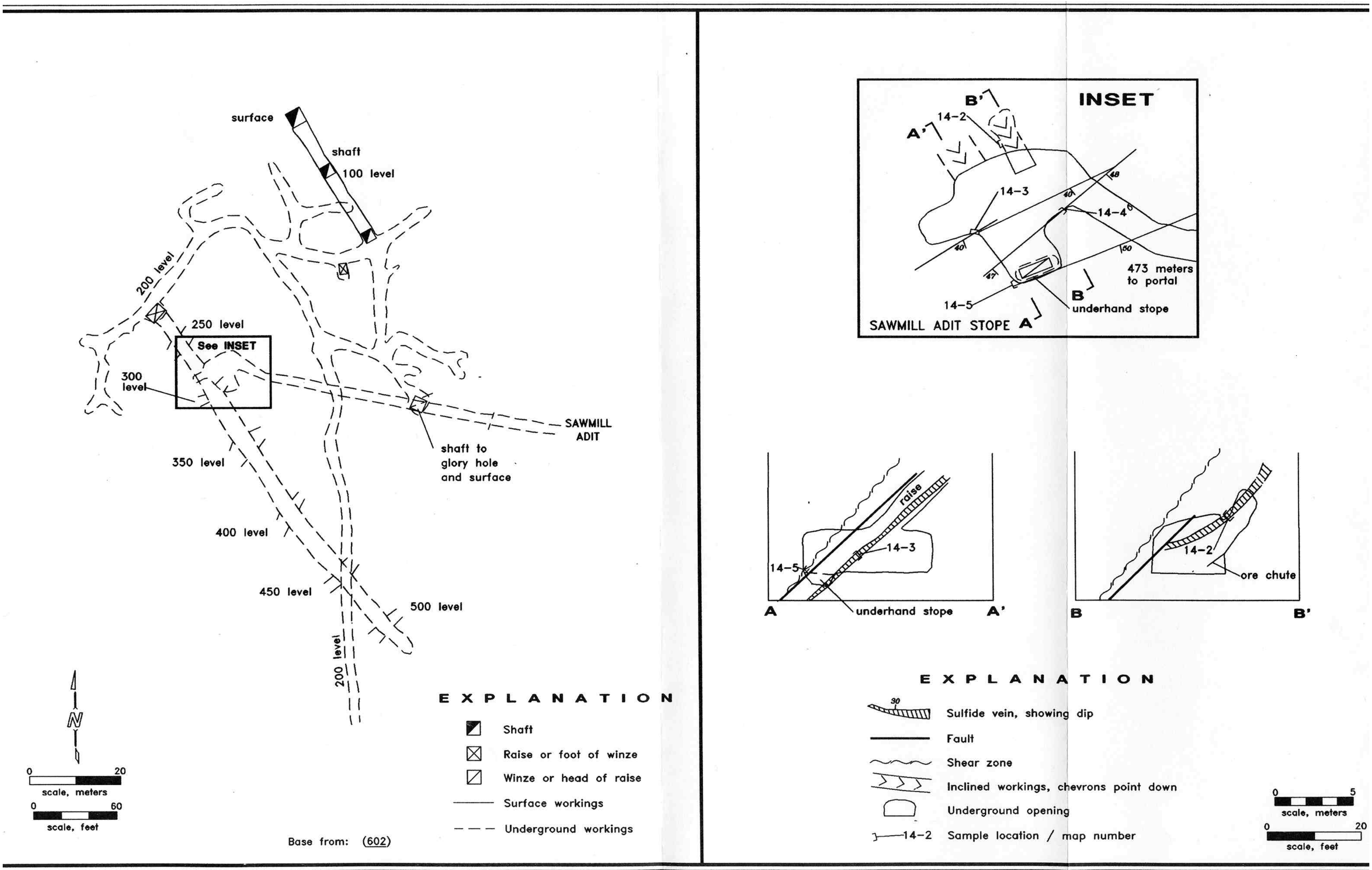
A geologic ore reserve of 244,545 mt grading 0.6% copper, 0.45 ppm gold, 5.55 ppm silver, and 0.1 ppm palladium has been established for the Salt Chuck deposit (366). Several geochemical and IP anomalies have been identified at Salt Chuck and need to be verified by drilling (229). Similar mineralization style is present along the pyroxenite-gabbro contact on North Pole Hill, although no PGM has been identified to date. There may be additional ore reserves along strike at the high-grade shear vein at the Rush & Brown Mine. The parallel shear veins need to be further explored.

The Venus prospect contains about 7,300 mt of low-grade resources if the present outcrop exposure is extended to a depth of one-half the length of outcrop exposure.

Resource and Land Use Issues

There are four resource and land use issues identified in the Salt Chuck area that may affect future minerals development. These issues relate to: 1) Sitka black-tail deer hunting, 2) the presence of two anadromous fish streams, 3) a Forest Service campground at Lake No. 3 (1 km east of North Pole Hill), and 4) timber management objectives (590).

Sitka black-tail deer hunting pressure has been classified as high, medium, and low at various locations within the Salt Chuck area. Logging roads enter the area off the main Forest Service road (FS 30 road) that connects Klawock to Thorne Bay through Control Lake. A high level of hunting pressure is identified within the road corridor and pressure decreases away from this vehicular access. Anadromous fish streams are identified at the head of Salt Chuck and on a tributary of the Thorne River in the northern part of the area. The Forest Service campground is closed to mineral entry and any development of existing claims will have to avoid this area. The eastern half of the area has experienced intense logging and consequently an extensive road network has been developed. The remainder of the area is being managed for additional



gure 9. – Sawmill adit stope geology and relation to underground levels at Rush & Brown Mine.

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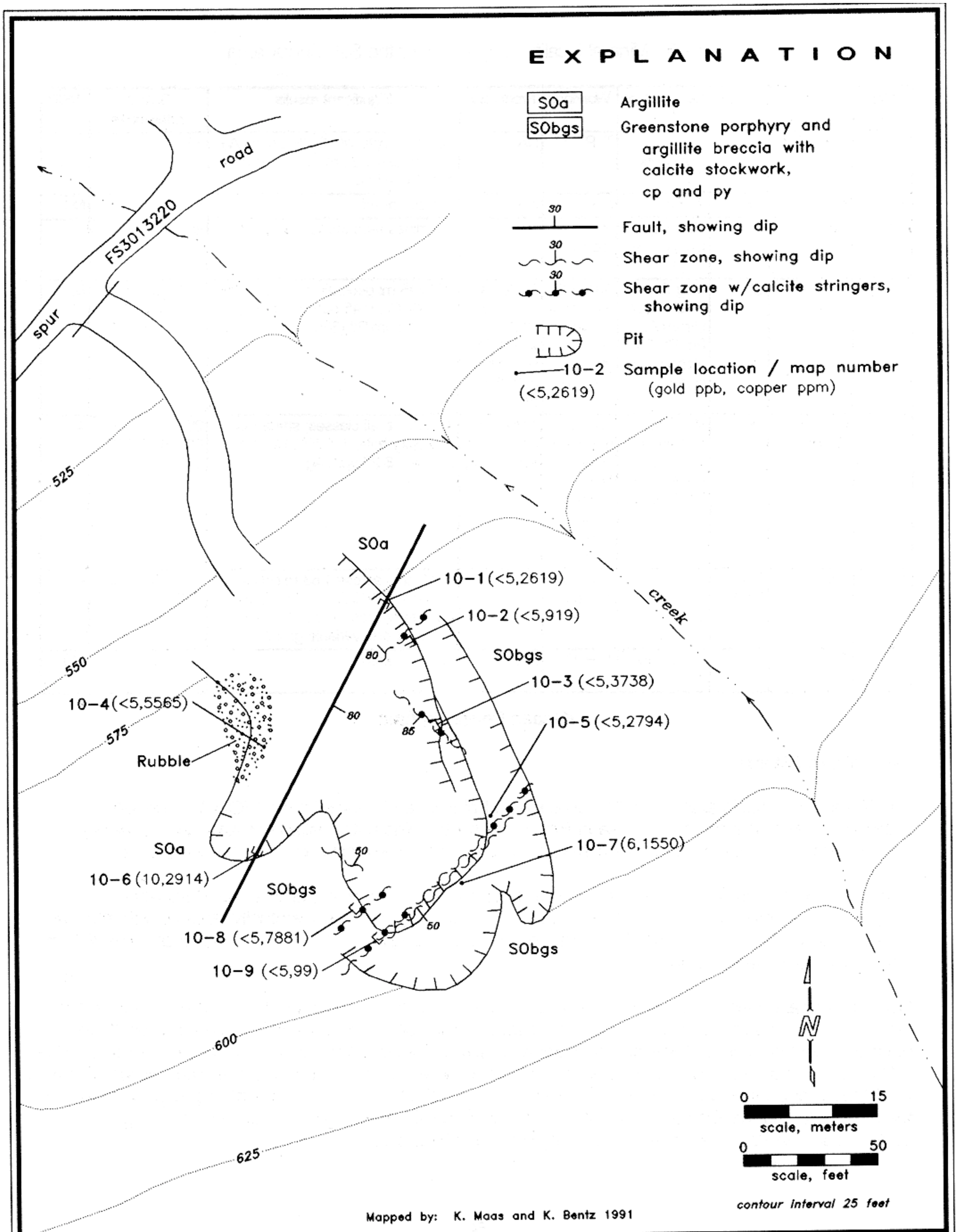

Figure 10. – Rush Peak prospect, showing geology and sample locations.

Table 6. Mineral locality information for the Salt Chuck area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
10	Rush Peak	OF	PV: stockwork; Cu	T, P	NA	Select sample w/ >0.5% Cu, nil Au; chip across 1.22 m contained 2,619 ppm Cu, nil Au	333	L
11	Kathy	OF	? : Fe	NA	NA	Not examined	632	ND
12	North Pole Hill	OF	Mag Seg: Cu, Au, Fe in gb	P (several)	NA	Au values reported to 6.9 ppm (40)	40, 473, 587	L
13	Salt Chuck	OF	Mag Seg: Alaska-type ultramafic; Pd, Pt, Cu, along px-gb contact	Adits (3): >400m on 3 levels, 9m, 35 m; glory hole, mill	2.820 mt Cu, 1.73 mt Ag, 639 kg Pd, 365 kg Au from 296,363 mt ore	244,545 mt geologic ore reserve w/0.6% Cu, 0.45 ppm Au, 5.55 ppm Ag, 0.1 ppm Pd (366)	201, 268, 327, 366, 379, 382, 570	M
14	Rush & Brown	OF	V, S: msv sulf shear vein; Cu, Fe, Au, Ag; Fe-Cu skarn	Adit: 461 m (open); glory hole; inclined shaft (several levels)	1,960 mt Cu, 1.5 mt Ag, 255 kg Au	45,000 mt; all classes; shear vein and glory hole; 1-4.25% Cu, 1-4 ppm Au, 8-20 ppm Ag	267, 458, 569, 601, 602, 608, 639	M
15	Venus	P: MS 2048	V: massive sulfide vein in gs: Cu, Zn, Ag	Adit: 23 m (open); T, P (4)	NA	Cont. chip across 1.83 m contained 1.7% Cu, 0.2% Zn, and 40.2 ppm Ag; inferred resources of nearly 7,200 mt ore, variable grade	428, 601, 602, 639	L
16	Paul Young	OF	PV: cp, py in arg	T, P, C	NA	Not examined	115, 473	ND

Kasaan Peninsula Area

General/Land Status

The Kasaan Peninsula area is located on east-central Prince of Wales Island (POWI), bounded by Clarence Strait to the north and Kasaan Bay to the south. The native village of Kasaan is centrally located within the area and is headquarters for Kavilco, Inc., the local native village corporation.

Access to the peninsula is presently limited to boat and aircraft from either Hollis or Ketchikan. A logging road is being constructed from Kasaan to Tolstoi Bay and may eventually hook up with the main POWI road system near Thorne Bay. The peninsula is a long mountainous ridge culminating in 868- m-high (2,846 ft) Kasaan Mountain.

Numerous abandoned mines, prospects, and mineral occurrences occur within the western half of the steep, heavily timbered peninsula. Several of these mines produced copper from iron-copper skarn deposits; most notable of these are the adjoining Mamie, Stevenstown, and Mount Andrew Mines. The It Mine also produced appreciable quantities of copper whereas the Rich Hill, Uncle Sam, Haida, Brown & Metzdorf, and Goodluck/Mayflower Mines were all small producers. Several other prospects occur in the area including the Big Five, Iron Cap/Tolstoi, Wallace, Charles, Alarm, Poorman, Iron King, Copper Queen, Tacoma/Peacock, Hole-In-The-Wall, Rico, and Peacock.

Land status in the Kasaan area is dominated by Native conveyed land selected by Kavilco and Sealaska Regional Corporation under provisions established in the Alaska Native Claims Settlement Act. Sealaska Regional Corporation owns the subsurface/mineral estate of the village corporation lands as well as fee title to regional corporation lands extending north to Tolstoi Bay and west to Mills Bay. The USDA, Forest Service manages land east of the native parcels, while the State of Alaska has received title to lands in the western part of this area, south of and including Thorne Bay. Several patented mineral surveys are present in the Kasaan area as outlined in the following list:

MS 568, 603, 726, 727, 925: Noranda Exploration, Inc. (Denver, CO)
MS 558, 537: Univar Corp. (Seattle, WA)
MS 552, 1026, 1028, 1033: David Hedderly-Smith/Mount Andrew Mining Co. (Park City, UT)
MS 767: Unknown
A patent application has been submitted on MS 2412 at the Poorman/Iron King claims. A mineral examination was completed and the owners (Sally Newman/Jim Sanders) are awaiting a validity determination by the USDA, Forest Service.

The townsite of Hadleyville (Hadley) was established along Lyman Anchorage on the north side of the peninsula in the early 1900's and remains private property today. There are several other homestead sites (U.S. surveys) depicted on Bureau of Land Management master title plats for this area.

History/Workings/Production

Significant mineral exploration and development activities have occurred in the Kasaan Peninsula area since Charles Baranovich staked the first lode claims in Alaska at the Copper Queen around 1867 (28, 37). Nearly 30 years passed before more discoveries were made as copper demand was met by the vast Lake Superior deposits and local prospectors were more interested in satisfying gold-fever in the world-class Juneau Gold Belt to the north. An increase in the price of copper from $0.07-$0.11 to $0.17/pound was a major factor leading to the renewed interest in copper at the turn of the century, especially in the Kasaan and Copper Mountain areas of POWI (458). Nearly a dozen noteworthy copper discoveries were made on the peninsula by 1907.

Copper-iron deposits at the Mamie and Mount Andrew Mines were discovered in 1898-99. A 364-mt (400 ton) capacity smelter was built at Hadley to process ore from the Mamie Mine. Eventually Hadley also processed ore from the adjacent Stevenstown Mine and smaller mines on the peninsula in an attempt to bolster operating efficiency. The smelter produced a 45% copper-matte that was ultimately converted to blister copper and shipped to New York (458). The smelter operated until 1908, when depressed copper prices forced final closure of the facility. Production continued at the Mamie until 1918 with ore sent to the Granby Consolidated Mining, Smelting, and Power Company's (Granby) smelter at Anyox, British Columbia, Canada. Mount Andrew ore was sent to the Tacoma smelter beginning in 1906 and then to the Ladysmith smelter in British Columbia (458). Operations ceased at Mount Andrew in 1918. Total production from the Mamie, Stevenstown, and Mount Andrew Mines was 5,729 mt copper, 1.74 mt silver, and 216 kg gold. Workings at these three mines are extensive and aggregate 2,232 m of underground workings, 9 glory holes, 2 shafts, numerous ore chutes, and several trenches (see table 9 for individual division).

The It Mine was first developed in 1907 and a shipment of copper ore was sent to Hadley in 1908. The mine operated continuously until November 1912, then experienced a two-year hiatus after which Granby acquired the property. Granby worked the mine until 1918. Total production amounted to 1,840 mt copper, 870 kg silver, and 136 kg gold. The It was developed by 5 adits (cumulative length: 310 m), three glory holes, and several trenches (601).

Granby developed and produced ore from the Rich Hill deposit in 1917-18, with additional production in 1928. Uncle Sam was a small deposit originally located in 1899; 990 sacks of ore were shipped to the Tacoma smelter in 1900 (601). Workings at these small prospects are summarized in table 9.

Bureau of Mines (Bureau) geologists trenched, sampled, and drilled the Poorman deposit in 1942-43 (266); trenched and sampled the Iron Cap deposits on Tolstoi Mountain in 1944 (186); and performed drilling, evaluation, and beneficiation testing of ore from the Mount Andrew deposit in 1942-44. The USGS examined most of the ore deposits on Kasaan Peninsula from 1942 to 1944 (601). Several site- specific evaluations were completed by Territorial Dept. of Mines personnel (368, 412, 427, 548).

The Mount Andrew deposit was drilled by private industry in 1957, 1960-62 (356), and again in 1971-72 (372). Utah International drilled over 86 holes into the Poorman deposit in the early 1960's (542). Jim Sanders drilled an additional 14 holes into the Poorman in 1989-1990 (542). Sealaska Regional Corporation sampled many of the Kasaan deposits during 1991 in addition to conducting a ground-geophysical survey at the Iron King claims (241). A geophysical investigation and some drilling was completed at Tolstoi Mountain by On-Line Exploration, Inc. for Sealaska in 1993. Results from this program have not been made public at this time.

Two masters theses analyzing the origin of the Kasaan deposits have recently been completed (51, 362). Bond's work focussed on the metallogenesis of the Kasaan deposits, specifically if the deposits were formed as oxide-facies volcanogenic massive sulfides or contact metamorphic skarns. This possible distinction was first suggested by Eberlein and Churkin (175). Myers' work characterized several of the Kasaan deposits, but the main focus was the skarn petrogenesis and mineral composition and zonation at the It and Alarm Mines (362).

Geology

The geology of the Kasaan Peninsula has been studied by several workers since the first comprehensive overview and map was published by C. W. Wright in 1915 (639). During World War II, the USGS and the Bureau made detailed investigations of known iron-copper deposits with strategic mineral potential. This work included geologic and topographic mapping, and dip needle surveys (639). Eberlein and Churkin also produced a map of the Kasaan area while a regional geologic map of the Craig quadrangle (176). Most of the following geologic discussion is based on the USGS work corroborated by Bureau workers during the present study.

The Kasaan Peninsula area is underlain predominantly by Silurian-Ordovician Descon Formation sedimentary and volcanic rocks that have been intruded by a large Paleozoic diorite intrusive complex and numerous dike swarms of varying composition ranging from fine- to medium-grained syenite and dacite to gabbro. Descon rocks include porphyritic andesite volcanics containing phenocrysts of plagioclase and/or augite in a dark aphanitic groundmass, andesitic tuff, volcanic graywacke, limestone/marble bands of varying thicknesses, limy conglomerates, and cherty siltstones. These rocks generally strike northwestward parallel to the long axis of the peninsula (fig. 11), although local variations are common and can be attributed to folding events. Many of the andesites have been pervasively altered and contain abundant secondary chlorite, sericite, and epidote. Similarly, mineralogy of the dikes is variable which can be attributed to assimilation of country rock during intrusion and/or alteration during ore fluid emplacement.

Warner has distinguished five groups of intrusive rocks on the peninsula and they are: early diorite and gabbro (dated 400 to 435 Ma (176)); diorite porphyry; alkalic porphyritic dikes (granodiorite to andesite); late granodiorite (Cretaceous); and Tertiary diabase dikes (601). It became apparent during the current investigation that these units, as mapped by Warner, are sometimes indistinguishable during megascopic examination and more detailed mapping would be useful. As a general observation,

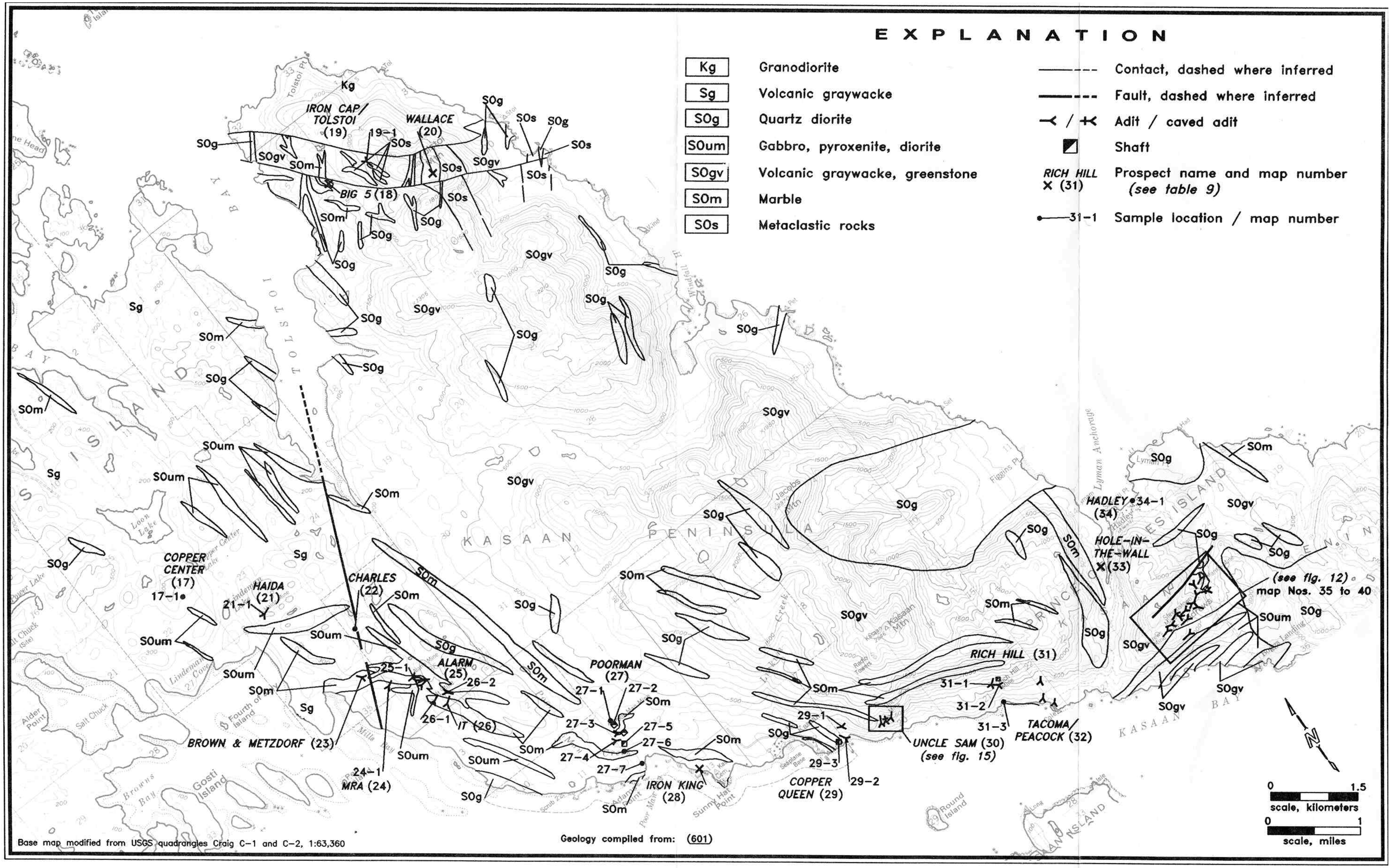

Figure 11. – Kasaan Peninsula, showing geology, mineral localities, and sample locations.

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however, the early diorite, gabbro, and late granodiorite form larger stocks and sills than the various porphyries (both alkalic and dioritic) and diabase dikes.

Dike swarms exhibit a north-south preferred orientation with steep dips both east and west suggesting structural control to their emplacement (601). Faulting on the Kasaan Peninsula has been loosely constrained to post-middle Early Devonian to pre-mid Cretaceous time (212). Several large faults have been mapped in the area, specifically around the Mount Andrew Mine, the Poorman prospect, and on Tolstoi Mountain. Although many of the faults are steeply dipping, mineralization has been notably controlled by moderate angle faults and fractures at the Peacock, Rico, and Goodluck/Mayflower

deposits.

Folds with amplitudes ranging from a few meters to several hundred meters in scale have been recognized. The folding was probably contemporaneous with low-grade (greenschist-facies) regional metamorphism as folded sedimentary rocks commonly contain low-grade metamorphic index minerals (chlorite, sericite, epidote). Dip directions near Mills Bay on the western edge of the area are predominantly to the northeast while dips on Tolstoi Mountain are generally to the southwest. This evidence suggests the presence of a large synform. Many of the folds on the peninsula exhibit a shallow plunge on the order of 30° to the northwest, but others display a shallow northeast plunge (601). This is noteworthy because several of the ore bodies are flat-lying to shallow-dipping tabular pods that may be controlled by these shallow-dipping fold axes (e.g., Mount Andrew, Stevenstown, Poorman).

Crosscutting relations and age-dating of compositionally similar rocks suggest various times of emplacement for the numerous dikes. All dikes are not related to mineralization (either directly or indirectly; Mount Andrew adit number 3 is a good example of this), so ore-fluid control is a result of a combination of factors, including timing, proximity to reactive rocks and major faults, and crustal level of emplacement. The ore geometry seen at Stevenstown, Rich Hill, and the Alarm Mines also reflects this. The It and Mamie deposits have irregular, pipelike orebodies.

The carbonate content of the host rock geology varies across the peninsula and may be partly responsible for marked differences in the resultant skarn mineralogy present at many of the deposits. Garnet-epidote-calcite-diopside skarn is widespread along the peninsula. Other common gangue minerals include hornblende, actinolite, chlorite, and quartz. Hematite and pyrite are also common. Garnet loses dominance to epidote from west to east while magnetite is very common in the eastern deposits up to the Poorman, where it drops off in abundance. The Magnetite Pit and Adit 4 at the It Mine are exceptions to this generalization as abundant magnetite is present. Marble is more abundant near the It, Alarm, and Brown and Metzdorf Mines and massive garnetized country rock with chalcopyrite and comparatively less magnetite is seen. These western deposits also contain significantly higher gold and silver values associated with the chalcopyrite. The Mount Andrew-Stevenstown-Mamie deposits (fig. 12), the Tolstoi Mountain deposits, Poorman, and Uncle Sam all contain abundant magnetite with associated chalcopyrite and pyrite and lesser precious metal values. Bond and Warner have provided a thorough description of the mineralogy and paragenesis of the Kasaan deposits and interested readers are encouraged to peruse these publications (, , respectively).

Bureau Work

No attempt was made during this study to duplicate the work completed by the USGS and the Bureau in their strategic and critical minerals investigation prompted by World War II (, , , ,). Instead, Bureau geologists concentrated their efforts on mapping and sampling prospect workings overlooked during the initial effort and taking character samples that are lacking on the geologic maps made by the USGS. This effort included mapping and sampling the Peacock, Rico, Goodluck/ Mayflower, lower Stevenstown adit, Uncle Sam, Copper Queen, and MRA workings. Samples were taken at the Mamie, Stevenstown, Mount Andrew, Hadley Smelter slag and tailings, Rich Hill, Poorman, It, Alarm, Haida, and Iron Cap deposits. The Hole-In-The-Wall, Tacoma/Peacock, Iron King, Brown & Metzdorf, Charles, Wallace, Big Five, and Copper Center prospects were either not visited or not found by Bureau personnel. In all, nearly 865 m of underground workings and several pits and trenches were mapped and sampled. Several of the high-grade zones in all the deposits were sampled and analyzed for Pt/Pd in addition to the normal skarn-ore mineral assemblage (Au, Ag, Cu, Pb, Zn, Mo, Ni, Co, Fe, Sn , W, Ti). Samples were analyzed for PGM because of the association made between high-grade magnetite and the presence of PGM at Union Bay by Clark and Greenwood (127).

Bureau workers examined the relation between host rocks and skarnification at many of the prospects. Alkalic dacite, porphyritic andesite, and granodiorite are intimately associated with skarn and ore mineralization at the Peacock (see fig. 13) and Uncle Sam deposits. The lower adit at Mount Andrew displays skarnified igneous rocks, but no ore minerals are present adjacent to the igneous rocks. Metavolcanic andesite was altered to iron-copper skarn assemblages at the Stevenstown, Goodluck/Mayflower, Peacock, Rico, upper Mount Andrew, and Mamie Mines. Good exposures of marble are visible near the main glory hole at the Mamie and in the east pit at Stevenstown. Marble was converted to garnet-diopside-epidote-calcite skarn near its contact with diorite at the It, Alarm, and MRA adits. Chalcopyrite, pyrite, and magnetite is associated with these skarns.

Stratiform pyrite bands were observed in magnetite skarn at the Stevenstown. This skarn grades into altered metavolcaniclastic rocks, but what is interesting here is the selective replacement by pyrite of parts (limy clasts ?) of the host rock producing this stratiform band. This selective replacement is limited in extent, but may be indicative of the overall selective replacement of the original rocks (stratabound nature) by the skarn fluids. The south adit at Stevenstown contains a 25-m pod of magnetite with minimal chalcopyrite. Marble was nearly absent from this working (see fig. 14).

Most of the deposits in the Kasaan area are magnetite-dominated skarns with lesser chalcopyrite, pyrite, chlorite, and hematite. Quartz veining is largely absent from these deposits. The magnetite skarn appears to be structurally controlled by moderate angle (25° to 45°) faults and fractures at the Peacock, Rico, and Goodluck/Mayflower prospects. Structural controls of ore deposition are seen at other deposits (notably the It, Alarm, and Poorman) but stratabound and stratiform replacement is probably more important in localizing ore.

There are no marble or limy clastic rocks closely associated with skarn replacement at the Uncle Sam (fig. 15). The workings at Uncle Sam follow an alkalic dacite dike that cuts black metavolcanic rocks. The rock grades along strike from a porphyritic feldspar-rich reddish dacite (hematite-bearing) to a medium-grained hornblende granodiorite. Much of the dike has been replaced by magnetite, epidote, and minor quartz. An elongate mass of magnetite-chalcopyrite-epidote has developed parallel to the dike in the lower adit. Skarn fluids may have originated at depth and channeled upward along the dike contacts where final deposition and replacement occurred under suitable pressure-temperature-chemistry conditions.

Many generalizations can be made from sample results obtained at the various properties in the Kasaan area. There was virtually no platinum-palladium in any of the magnetite samples. Lead numbers are virtually absent from Bureau samples. There is zinc in most of the samples and it appears that high zinc values correlate well with both copper and silver. Gold-copper and silver-copper ratios were higher at the It, Alarm, and Stevenstown Mines than others in the area. Overall, the silver-copper ratios show the best correlation area-wide (except at Iron Cap). Table 7 shows the relation between gold, silver, copper, and iron values obtained from selected samples at many of the properties in this area. Two sets of numbers are shown for properties that contained both high copper values and high iron values.

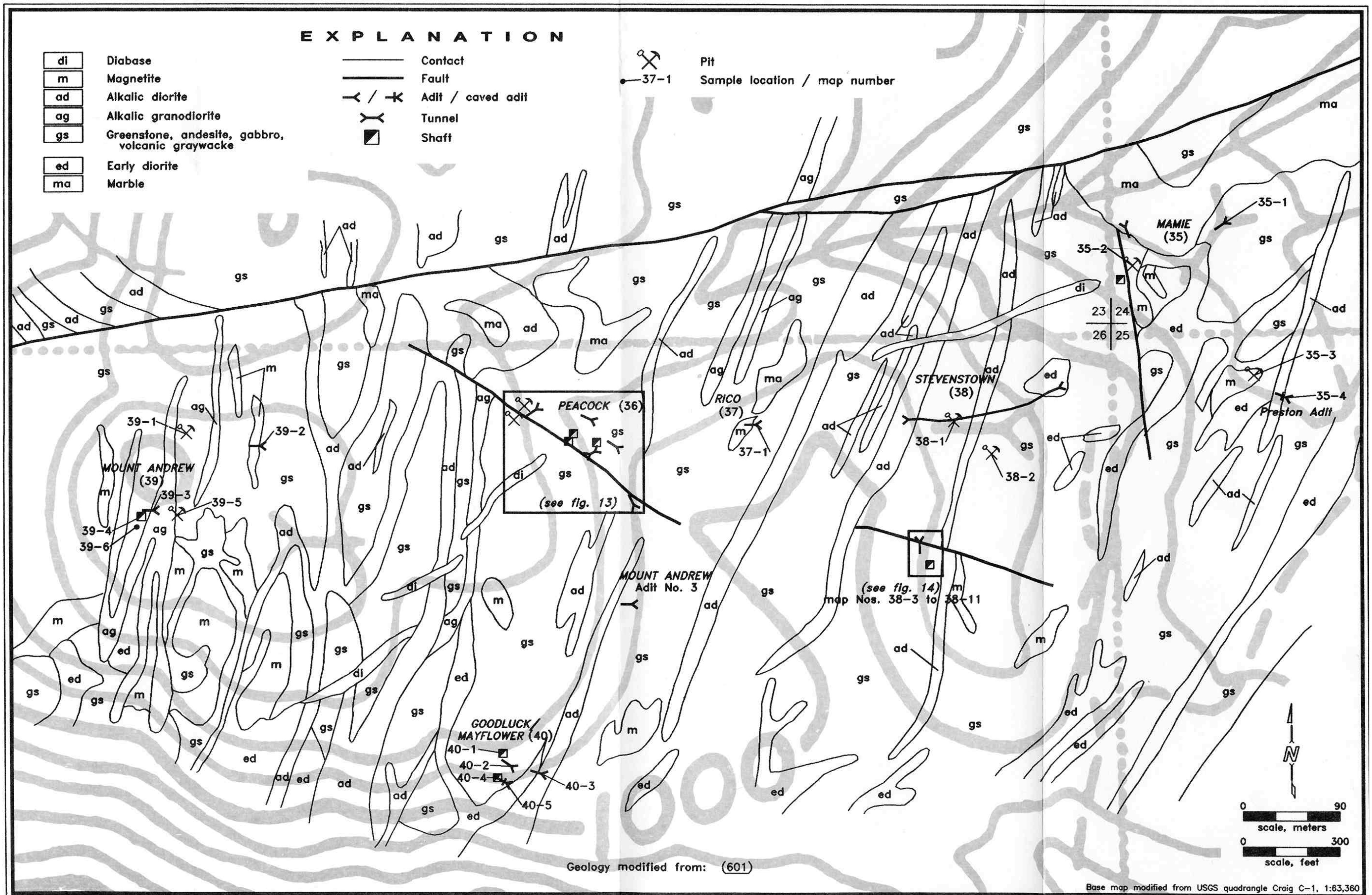

Figure 12. – Enlargement of Mamie/Stevenstown/Mount Andrew area, showing geology and sample locations.

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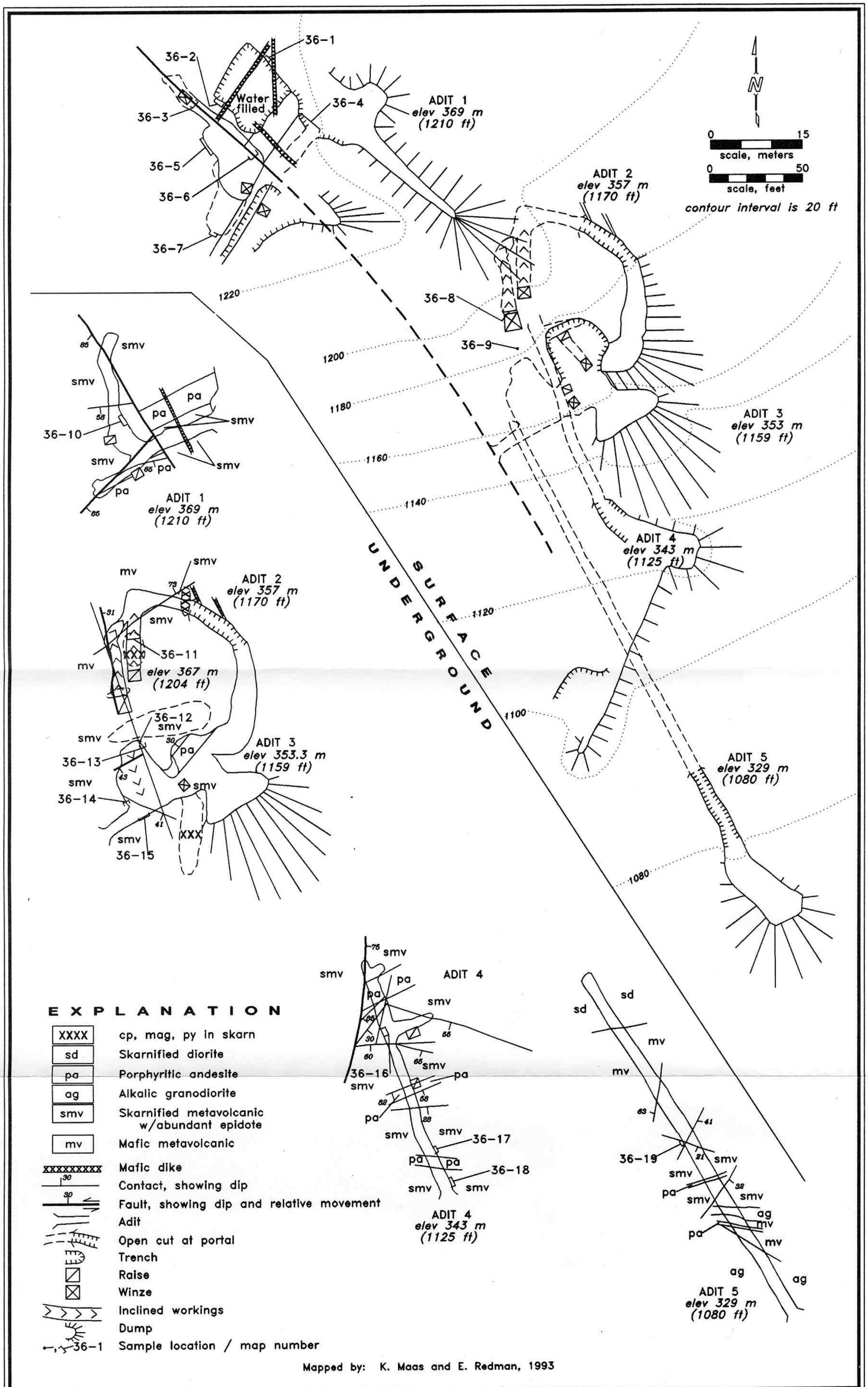

Figure 13. – Peacock prospect, showing geology, underground workings, and sample locations.

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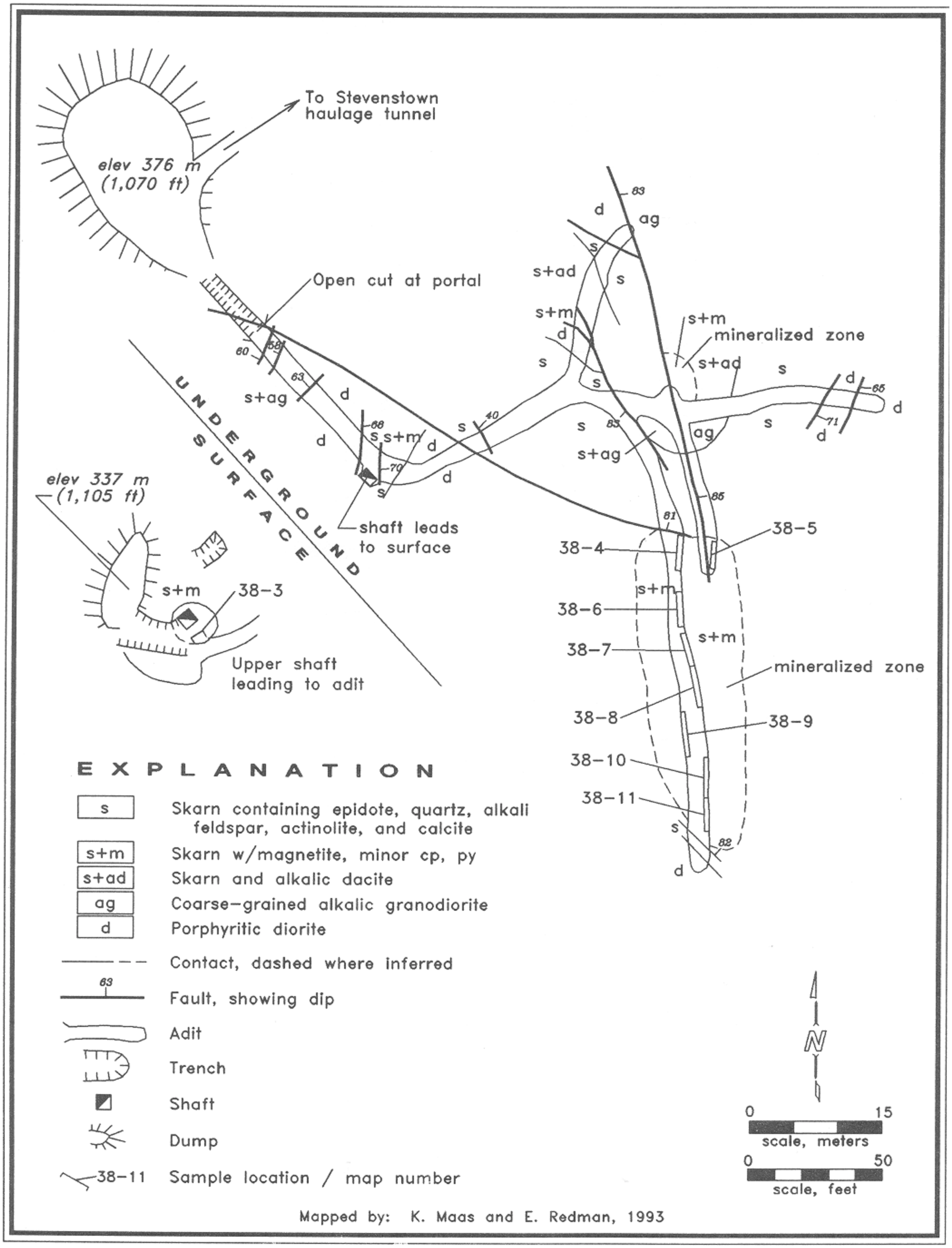

figure 14. – Stevenstown south adit, showing geology and sample locations.

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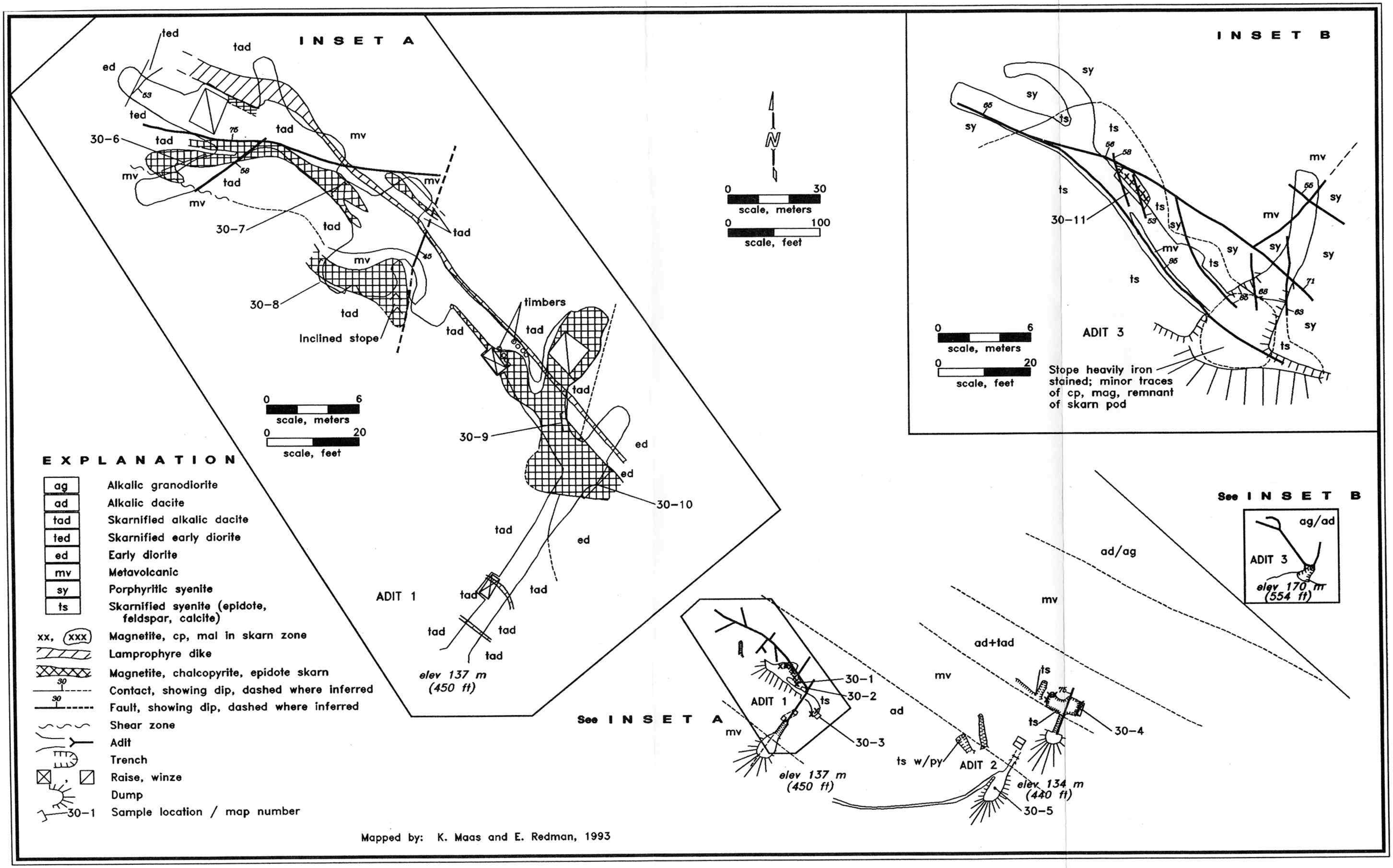

Figure 15. – Uncle Sam Mine, showing geology, workings, and sample locations.

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There is no correlation between high copper, gold, and iron except at the Iron Cap deposit. Data for the Iron King was obtained from Sealaska work (241). Data for the Brown & Metzdorf was obtained from Bureau work during World War II (601).

Table 7. Relation between gold, silver, copper, and iron values from several localities in the Kasaan Peninsula area.

Location	Au, ppb	Ag, ppm	Cu, ppm or %	Fe, %
Copper Center	61	<0.1	675	-
Iron Cap/Tolstoi	404 88	2.4 1.3	19,928 2,509	54.4 66.3
Haida	3,840	8.9	3.83%	48.7
Brown & Metzdorf (601)	925	20.2	3.8%	-
MRA	86	5	5.39%	-
Alarm	5,213	9.6	5.64%	12.8
It	6,620	97	18.7%	2.83
Poorman	1,418 804	2.4 0.8	10,452 1,452	49.8 61.0
Iron King (241)	12,430	13.8	2.82%	51
Copper Queen	626	4.1	3,626	-
Uncle Sam	664	12.6	2.24%	35.9
Rich Hill	11,794	43.5	6.15%	24.7
Mamie	2,926 362	9.2 3.7	3.35% 7,410	22.0 58.9
Peacock	329 14	31.7 1.5	6.98% 1,326	32.0 54.0
Rico	2,694 42	8.9 1.1	2.37% 2,190	33.3 45.7
Stevenstown	3,620 922	24.4 4.5	7.33% 13,645	>10 57.3
Mount Andrew	722 28	25.8 1.8	7.55% 7,634	41.8 56.6
Goodluck/Mayflower	1,720 370	17.5 1.9	5.31% 5,511	30.3 49.9

Metallurgical samples were taken at the Poorman, Mamie, and Mount Andrew deposits for beneficiation testing at the Bureau's Salt Lake City Research Center. Samples were also sent to the Bureau's Albany Research Center for mineral characterization. Beneficiation tests were performed to determine both precious metal and iron-copper recoveries. The following table summarizes results from these tests.

Table 8. General results of beneficiation testing from Poorman, Mamie, and Mount Andrew deposits.

Location	Precious metal recovery	Base-metals and iron (292)	Minerals identified (291)
Poorman	cyanide leaching (77% Au; 29% Ag)	60% iron product produced at minus 65-mesh grind; only 50% copper recovered from flotation of nonmagnetic fraction	magnetite, chalcopyrite, pyrite, malachite, sphene, apatite, calcite, quartz
Mamie	cyanide leaching (41% Au, 39% Ag)	Wet magnetic separation at minus 100-mesh yielded 64% iron product; copper was recoverable from flotation product, copper recovery from nonmagnetic fraction was 85%	magnetite, pyrite, chalcopyrite, malachite, amphibole, serpentine, chlorite, quartz, calcite, apatite, sphene
Mount Andrew	cyanide leach (40% Au, 39% Ag)	60% iron recovery may be attainable with extra cleaning steps; copper recovery from nonmagnetic fraction was 93.5%	magnetite, chalcopyrite, pyrite, calcite, pyroxene, serpentine, chlorite, apatite, wolframite, epidote, amphibole, quartz

Significant Samples/Mineral Resources

The Kasaan area was historically mined for its copper ore. In certain areas, significant precious metal values are associated with the copper ore. More likely, however, is that the copper ore will be intimately associated with magnetite. It is apparent from examining the old workings that most deposits contain magnetite, but not all magnetite pods and lenses are associated with abundant copper, silver, and gold. Geophysical methods can be used to find additional buried magnetite bodies, but only drilling and sampling will determine if other metals are present.

The Iron King/Poorman area delineates a favorable exploration target. Several high gold values were obtained at the Iron King prospect and gold values at the Poorman deposit average nearly 1 ppm (542). A ground geophysical survey completed peripheral to the Iron King by Sealaska identified additional magnetic anomalies that could be evaluated. A large tonnage of low-grade magnetite-chalcopyrite ore has been identified in the compound orebody south of the main Mount Andrew Mine workings.

The copper zones in most Kasaan Peninsula Mines have been selectively mined leaving large pods of magnetite with low amounts of copper and precious metals present in the abandoned workings. Drilling programs at the Poorman, Mount Andrew, and Tolstoi Mountain have identified the following resources:

Poorman: In excess of 1 M mt ore containing an average of 52.4% Fe, 0.25% Cu, 1.1 ppm Au, and 2.47 ppm Ag (542)

Mount Andrew: Nordine calculated resources of 5.78 M mt ore containing 45.61% Fe and 0.46% Cu (372).

Iron Cap/Tolstoi: Bureau drilling indicated resources of 90,719 mt grading 40% Fe and 0.25% Cu.

Resource and Land Use Issues

There are several resource and land use issues that may have an effect on mineral development in the Kasaan Peninsula area. Among these are: 1) important tourism areas (not to be confused with scenic viewshed), 2) at least 15 anadromous fish streams, 3) high density eagle nest concentrations, 4) moderate and low intensity subsistence hunting pressure for Sitka black-tail deer, 5) two small areas designated for intensive timber harvest, 6) designation of the area as a minerals prescription candidate, and 7) Native Corporation and State of Alaska land parcels in the area (590).

An important tourism area has been identified near Tolstoi Point. This area coincides with a high concentration of eagle trees and an intensive sport fishery (2). Anadromous fish streams are located around the periphery of the Kasaan Peninsula and several of these streams support large salmon runs. Creeks flowing into Tolstoi Bay, Windfall Harbor, and Lyman Anchorage are extensive, while the other creeks are much shorter in length. The northeast side of the peninsula overlooking Clarence Strait contains a high density of eagle trees, while the shoreline of Kasaan Bay hosts a lesser amount. Mandatory buffer zones occur around eagle trees and therefore an increased density of these trees may warrant significant mitigation measures and increased development costs.

The area extending from Mills Bay north to Tolstoi Bay and again east to Lyman Anchorage maintains a medium level of subsistence deer hunting pressure, as does Kasaan Mountain, while the remainder of the area supports low intensity hunting pressure. Federal land in the Kasaan area is limited to small parcels on the east side of Tolstoi Peninsula and east of Mills Bay. This land is being managed for intensive timber harvest and has been designated for a minerals prescription in the Tongass Land Management Plan. These are both management options that could preclude additional restrictions for mineral development. The presence of large Native Corporation tracts in the area is conducive to future mineral development as Sealaska Corporation actively promotes the mineral potential on their land. The State of Alaska adopts a multiple use approach in developing their management objectives for State owned on-land parcels and tidelands use. Readers are referred to the Prince of Wales Island Area Plan for further information (2).

Table 9. Mineral locality information for the Kasaan Peninsula area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
17	Copper Center	S	S: Cu, Fe	Shafts: (4), 3 to 9 m depth	NA	Select sample contained 11.8 ppm Au, 69 ppm Ag, 4.72% Cu. (601)	412, 601, 608	L
18	Big Five	N	S:Fe, Cu	Adit: 15m w/4m winze	NA	NA	639, 643	L
19	Iron Cap/Tolstoi	N	S: Fe, Cu	Adit: 30 m, TP (12)	NA	Estimated reserves of 90,000 mt @ 40% Fe and 0.25% Cu, trace Ag, Au	186, 333, 436, 601, 639	L
20	Wallace	OF	S: Fe, Cu	Short adit	NA	Small exposures	601, 639, 643	L
21	Haida	S	S: Cu, Fe, Au	Adit: 50 m (open); shaft; T, P (16)	Small amounts sent to Hadley Smelter (601)	Cu values to 3.83%, Fe to 57%, Au to 3,840 ppb, Ag to 8.9 ppm	90, 333, 601, 639, 643	L
22	Charles	S	S: Cu, Fe, Au, Ag	C: 6-m long	NA	NA	639, 643	ND

Table 9. Mineral locality information for the Kasaan Peninsula area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
23	Brown & Metzdorf	S	S: Cu, Ag, Au, Mo	Adit: 69 m (caved at 23 m); shafts (2)	22-ton shipment in 1937 grading 3 ppm Au, 60 ppm Ag, and 14.28% Cu	Bureau samples averaged 3.8% Cu, <1 ppm Au, 20 ppm Ag, and 0.05% MoS^2 (601)	90, 427, 601, 639	ND
24	MRA	S	S: Cu	Adits: (2) 18 m, 2.5 m (open)	NA	Small amounts of Cu in skarn; select sample contained 5.39% Cu, 86 ppb Au	No references	L
25	Alarm	P: MS 925	S: Cu, Fe	Adits: (2) 24, 32 m (open)	NA	Select sample contained 5.64% Cu and 5,213 ppb Au	601, 643	L
26	It	P: MS 925	S: Cu, Fe, Ag, Au	Adits: (5) 120 m (caved), 59 m, 46 m, 43 m, and 42 m, 3 glory holes; T,P	1,840 mt Cu, 870 kg Ag, 136 kg Au	Bureau samples contained up to 22.9% Cu, 97 ppm Ag, 7,660 ppb Au; average ore grade was 3.99% Cu, 2.3 ppm Au and 16.4 ppm Ag	333, 601, 639, 643	L
27	Poorman	OF, patent app. pending on MS2412	S: Fe, Cu	Adits: (3) 27m, 8m open, 1 caved; shafts (4)	NA	Bureau drilling indicates 52.4% Fe, 0.25% Cu, 1 ppm Au, and 2 ppm Ag; select values to 1.1% Cu, 2,031 ppb Au, 63.86% Fe	266, 270, 542, 601, 608	M
28	Iron King	N	S: Cu, Fe, Au	TP (4)	NA	Average analyses revealed 2% Cu, 40-50% Fe, and appreciable Au (241)	36, 241, 601	M
29	Copper Queen	P: MS 558	S: Cu, Au	Adit: 38 m, 14m (open); shaft; 11m	NA	Values to 3,628 ppm Cu, 626 ppb Au, 6.7 ppm Ag	70, 333, 639	L
30	Uncle Sam	P: MS 537	S; Cu, Fe	Adits (3): 105 m, 50 m, 1 caved ; shafts (2); T, P (4+)	12 mt Cu	Average grade from production: 2.2% Cu; rep samples contain up to 3.14% Cu, 39% Fe, 12.3 ppm Ag, and 529 ppb Au	601, 639	L
31	Rich Hill	N	S: Cu, Ag, Au	Adits (3): 203 m, 41 m, 6 m (open), Glory Hole, T, P	43 mt Cu, 16 kg Ag, 2.4 kg Au	Values to 6.32% Cu, 17.6 ppm Ag, 1,696 ppb Au across 1.22 m	241, 333, 601, 639	L
32	Tacoma/ Peacock	N	S: Cu, Fe, Mo	Adits: (3) 18 m, 14 m, 9, m; T, P	NA	Not examined	70, 639	ND
33	Hole-In-The-Wall	N	S: Cu, Fe	Adits (2): 30m, 8m, T, P	NA	Not examined	90, 639	ND

Table 9. Mineral locality information for the Kasaan Peninsula area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
34	Hadley Smelter	N	Cu smelter	Magnetite/sulfide piles, granulated slag, clinker, ruins	smelted >90,000 mt ore between 1906-1908	Clinker contained to 5.1% Cu, 10.8 ppm Ag, and 2,555 ppb Au	458, 601, 639	NA
35	Mamie	P: MS 603	S: Cu, Fe, Ag, Au	Adits (3): 670 m, 15 m (open); 1 caved; 3 glory holes, shaft	2826 mt Cu, 659 kg Ag, 107 kg Au	Average grade from production : 1.81% Cu, 4.3 ppm Ag, 0.7 ppm Au; Bureau sample values to 3.35% Cu, 9.2 ppm Ag, 2,926 ppb Au	333, 458, 601, 639	M
36	Peacock	P: MS 552	S: Cu, Fe	Adits (5): 43 m, 40 m, 16 m, 51 m, 66 m (all open); glory holes (2); 2 cuts	Small tonnages mined (601)	Bureau samples contained up to 6.98% Cu, 31.7 ppm Ag, and 957 ppb Au; average for deposit is much lower	241, 368, 601, 639	L
37	Rico	P: MS 1026	S: Cu, Fe	Adit: 31 m (open), TP	NA	Bureau samples contained up to 2.37% Cu and 46% Fe; USGS estimates are 0.5% Cu, and 45-50% Fe (601)	241, 601	L
38	Stevens-town	P: MS 568, 726, 727	S: Cu, Fe	Adits: (2) 168 m, 173 m (open); glory holes (2+)	932 mt Cu, 467 kg Ag, 62 kg Au	Average grade from production: 2.88% Cu, 9 ppm Ag, 1 ppm Au (601); Bureau samples contained to 7.33% Cu, 24.4 ppm Ag, 3,620 ppb Au	90, 241, 601, 639	L
39	Mount Andrew	P: MS 552, 1026, 1028, 1033	S: Cu, Fe, Ag, Au in historic mine workings; S: Fe, Cu in compound orebody to the south	Adits (3): 589 m, 465 m (open), 152 m (partially caved); 4 glory holes	1,973 mt Cu, 849 kg Ag, 71 kg Au	Average grade from production: 3.09% Cu, 12.4 ppm Ag, 0.9 ppm Au (601); USBM drilling revealed 0.32% Cu, and 47.8% Fe (649). Nordine calculated reserves of 5.78M mt with 45.61% Fe and 0.46% Cu (372). Samples contained to 7.55% Cu, 26.3 ppm Ag.	241, 372, 568, 601, 639, 649	M
40	Goodluck/ Mayflower	P: MS 552	S: Cu, Fe	Adits (4): 92 m, 53 m, (open), 2 caved; T, P (3)	Stopes exist, no recorded production	Values from Bureau samples averaged 1.11% Cu, 4 ppm Ag, and 37% Fe	241, 333, 601	L

Hollis Area

General/Land Status

The Hollis area is located about two km west of Hollis, Alaska near Twelvemile Arm on the east side of Prince of Wales Island. The paved road from Hollis to Klawock passes through the area and several of the mines and prospects are accessible by road. Other occurrences in the area require helicopter access. Topography in the area is generally rugged; elevations range from close to sea level to 1,050 m (3,400 ft) (fig. 16). Vegetation below timberline is thick. Rock outcrops are limited to roadcuts, streamcuts, and minor shoreline exposures as well as to mine or prospect workings. Above timberline outcrops are more easily found.

The major properties in the area are the Dawson and Harris River Mines, the Crackerjack and Puyallup Mines, the Flagstaff Mine, and the Cascade prospect. Ten claims of the Crackerjack property are patented under MS 1527 A&B (R. Schnabel, Haines, AK). The Harris River Mine also includes two patented claims (MS1408). An active claim covering the Dawson property is currently held by K. Adams and E. Romilly. A claim covering the Cascade mineralization is held by J. Matuska. Land outside the patented claims is managed by the Forest Service and is open to mineral entry, with one exception. As part of the Tongass Timber Reform Act of 1990 (PL101-626), an area encompassing the Flagstaff property was designated as the Karta Wilderness Area. This wilderness designation precludes mineral entry.

History/Workings/Production

Prospecting in the Hollis area began by 1900 or 1901, when claims were located at the Flagstaff Mine (90), Puyallup and Crackerjack Mines (90, 407), the Harris River Mine (90), and the Cascade prospect (432). The Dawson Mine was discovered in 1903 (90).

The Flagstaff property was held by various people between 1900 and 1937 who explored the area with adits, trenches, and pits (618, 642). The Flagstaff Mining Company took over the property in 1937 (435) and accounts for the production from the mine between 1937 and 1941 (548). Bureau of Mines (Bureau) production records indicate that the Flagstaff Mine produced 8.0 kg gold, 61.6 kg silver, 1,299 kg copper and 2,688 kg lead from 792 mt of ore. Another report states that 1,326 mt were milled from 1938 until 1940 (548). Production came from the main Flagstaff adit that consists of 340 m of drifts, 6 raises (averaging 17 m in height), one 15-m winze, and 8 stopes (618). North of the main adit, 4 additional adits, 11 to 50 m in length, explore another vein on the property (fig. 17). Additional prospects on the west and south slopes of Granite Mountain have been developed on quartz veins with adits, trenches, and pits (Buckhorn, map No. 61; and Lucky Jim, map No. 62).

El Paso Mining and Milling Company examined the Flagstaff property in the mid-1970's. From 1980 until 1988 the Killick Gold Company, Ltd. (formerly Orell Resources, Ltd.) of Canada optioned claims covering the original Flagstaff property. The company performed geochemical and geophysical surveys and did geologic mapping on the property (475[7]).

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[7] Additional information from Canadian Mines Handbook, 1980-81 to 1988-89.

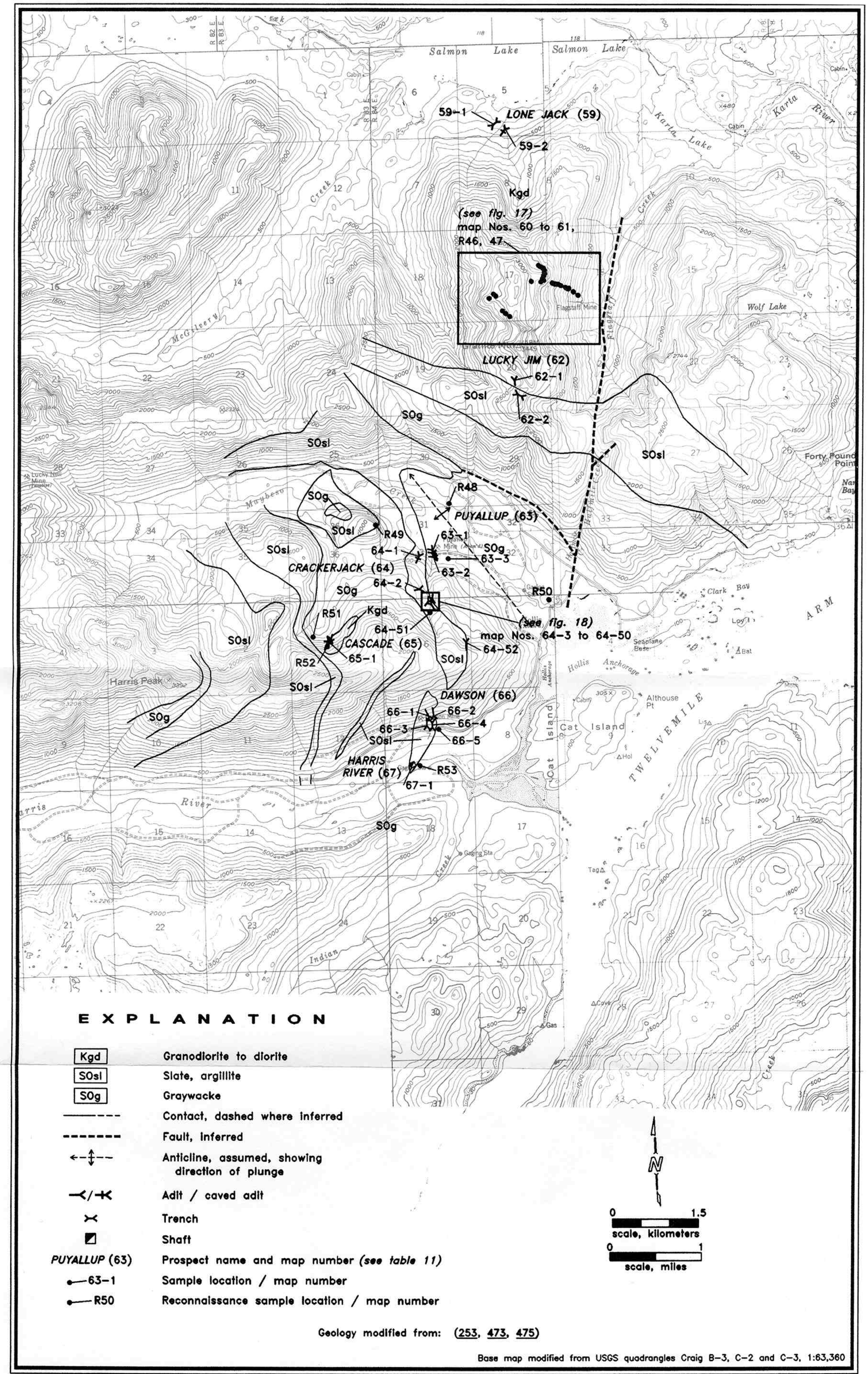

Figure 16. - Hollis area, showing geology, mineral localities, and sample locations.

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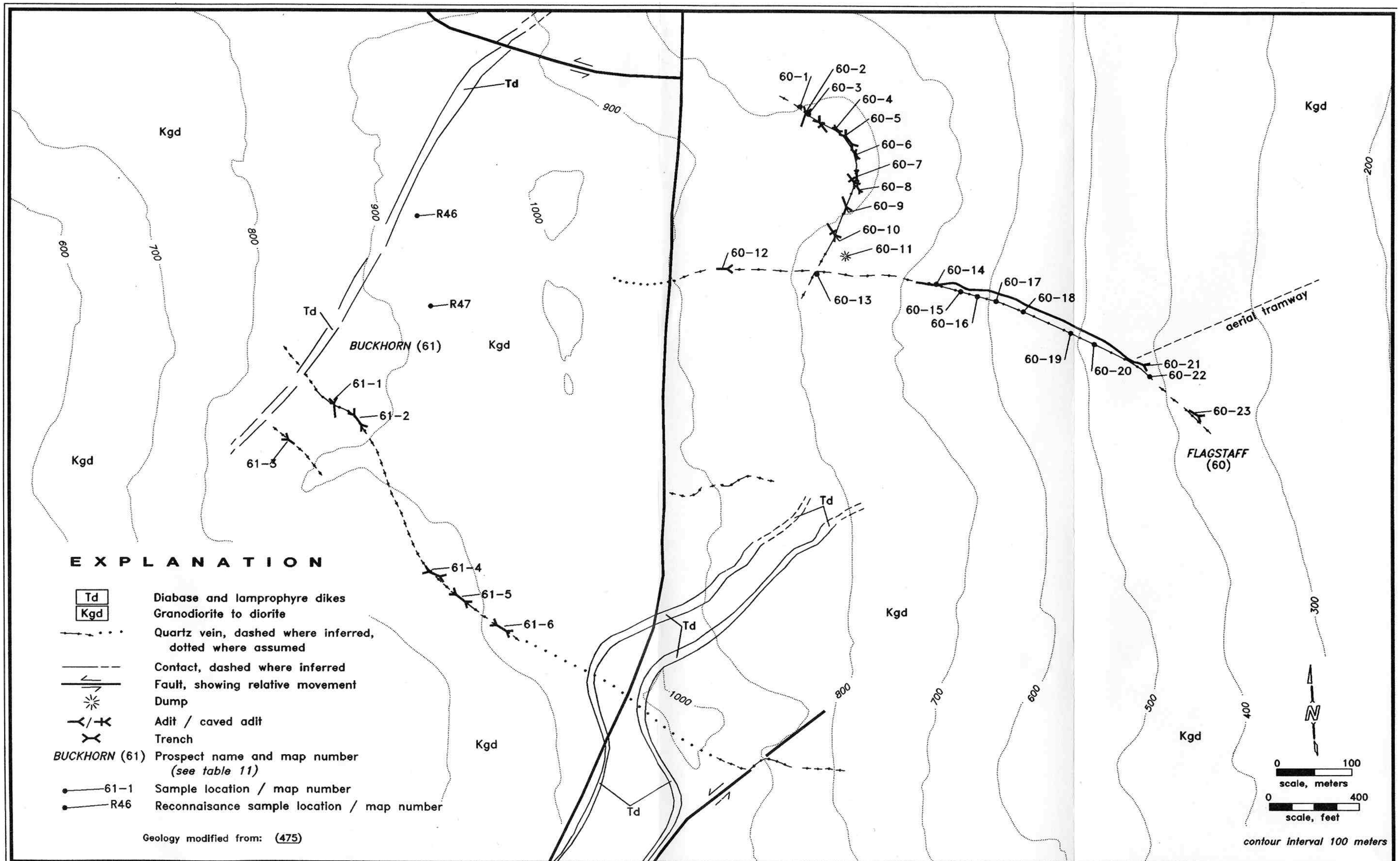

Figure 17. – Mines, prospects and sample locations on Granite Mountain.

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Development at the Puyallup Mine began soon after discovery with the sinking of shafts and driving of adits. Production from the mine is reported as early as 1902 (70). By 1908, developments included 345- and 365-m adits, but mining activity had slowed by that time (643). Production from the Puyallup is recorded in 1915 and 1916 (113,585), and again in 1934 and 1946 (585).

The amount of production from the Puyallup Mine is difficult to determine. Bureau production records indicate only 20.2 kg gold and 14.7 kg silver was produced from 740 mt of ore between 1915 and 1946 (585). However, other reports mention production prior to 1915 and descriptions of stopes in the Puyallup workings prior to 1915 suggest some production had occurred by that time (77). An additional complication is the fact that ore from the Crackerjack property was also milled at the Puyallup mill (413,643).

By 1904, 525 m of underground workings in 4 adits explored the Crackerjack property (641). Development continued at the mine at least until 1908, but production was "slight" (637,643). There are 6 to 8 adits on the Crackerjack property with a cumulative length of at least 780 m (413) (fig. 18). Except for patenting in 1926, the property has remained virtually idle since about 1908 (90,413).

The Dawson and Harris River Mines have historically been included as one property; however development and production originally was restricted to the Harris River Mine and only later was the Dawson Mine developed and brought into production. In addition, two claims were patented at the Harris River Mine; whereas the Dawson is on unpatented ground.

The earliest development at the Harris River Mine took place by 1906 (634) and continued intermittently until about 1936 (various USGS & TDM reports). The principal operator was the Kasaan Gold Mining Company who held the property from about 1923 to 1929 (90). A 26°-inclined shaft, extending 210 m below sea level and 800 m of drifts and raises developed the orebody (620). Although the Dawson Mine was reportedly discovered in 1903 (90), reports of development do not appear until 1931 (549). Production from the Dawson mine came from 6 or more adits that total at least 260 m in length.

A mill at the Harris River Mine processed both Harris River and Dawson Mine ores. Cumulative production totalled 204 kg gold and 162 kg silver plus minor lead and copper. This production occurred between 1909 and 1935 at the Harris River Mine and between 1935 and 1950 at the Dawson Mine (585).

K. Adams restaked the Dawson property in 1976 and began additional exploration and development. MAPCO, Inc. optioned the property from 1979 to 1981 and did geochemical sampling, geologic mapping, and diamond drilling (351). Discovery Gold Company acquired an option from K. Adams and E. Romilly and from 1985 to 1986 built an access road to the workings, dug trenches, and did diamond drilling (352).

Development and minor production from the Cascade property followed soon after its discovery in 1900 (90,432). Early development consisted of a 50-m drift and a 90-m crosscut, driven to intersect the vein (643). Additional prospecting of the property occurred in 1913-14 and in 1931 or 1932. In 1938 the property was staked by J. J. Matuska (90,432). A claim on the property is currently held by J. E. Matuska.

Geology

The geology of the Hollis area is made up of Silurian to Ordovician metasedimentary and metavolcanic rocks of the Descon Formation in the south that host a Cretaceous granodiorite to diorite intrusive body in the northern part of the area (176,253). Bedded rocks strike generally northwest. Gentle to moderate dips vary from southwest to northeast forming a northwesterly plunging anticline (253). Locally, tight to isoclinal folds and small-scale faults have disrupted bedding (352). Greenschist facies metamorphism has produced a foliation that is generally parallel to the bedding orientation (253).

Auriferous quartz veins at the Harris River, Dawson, Crackerjack, Puyallup, and Flagstaff Mines are associated with sills and dikes of generally dacitic to andesitic or gabbroic composition (253,352 ,581) that probably fill shears in the host rock. At the first three properties the dikes are hosted by black slate; at the Puyallup the host is graywacke; and at the Flagstaff, the dikes are hosted by intrusive rock. At each property, quartz veins occur at the margins of, within, and crosscutting the associated dikes. The veins strike generally 305° to 0° and dip about 30° to the southwest. The Harris River and Dawson veins do not have uniform orientations; variation may be due to folding or rotation of fault blocks containing the veins (401).

The quartz veins of the Hollis area are valuable for their gold content; however, silver also occurs in approximately 1:1 to 1:10 gold to silver ratios. Generally minor base-metal sulfides are found in the veins and include galena, sphalerite, and chalcopyrite as well as pyrite. In some places the sulfides are associated with higher precious metal values.

Veins in the Hollis area are narrow, commonly 0.3 to 1 m wide, but persistent. The adits at the Crackerjack are driven on at least two parallel veins (fig. 18) that extend from 90 to 450 m elevation and along about 1.6 km of strike length. At the Puyallup, drifts along the vein are reported to extend up to 365 m and stopes up to 60 m in height (77). Veins at the Flagstaff property have surface exposures extending up to 400 m. The Dawson veins are wider, up to 2.4 m, but are less extensive; the veins are cut off by faults in some of the workings (418).

Bureau Work

Bureau personnel examined each of the major mines and prospects in the Hollis area. The examinations included surveying workings, mapping accessible workings, and sampling and reconnaissance sampling of mineralized properties. In cases where published maps of properties are available, field work included field-checking existing maps. Analytical results from Bureau samples are given in table A-2.

The workings at the Hollis area properties are in various states of ruin. The Harris River shaft is flooded, so only the dumps were sampled. Only one adit at the Dawson Mine is accessible, but even this adit has very unstable ground, so most Bureau sampling was done from outcrops and trenches dug in the 1980's. Five of six Crackerjack adits were mapped and sampled, or maps field-checked. The lowest Crackerjack adit (No. 1) is caved. Only one adit at the Puyallup was accessible for examination. This adit was mapped and sampled as were surface outcrops, trenches, and dumps. The main Flagstaff adit is in good condition; however, stope ladders are rotten and a winze driven on the vein is flooded. Of the nine other adits found on Granite Mountain in the vicinity of the Flagstaff Mine, six were accessible and were mapped and sampled. Outcrops of veins on the mountain were also sampled.

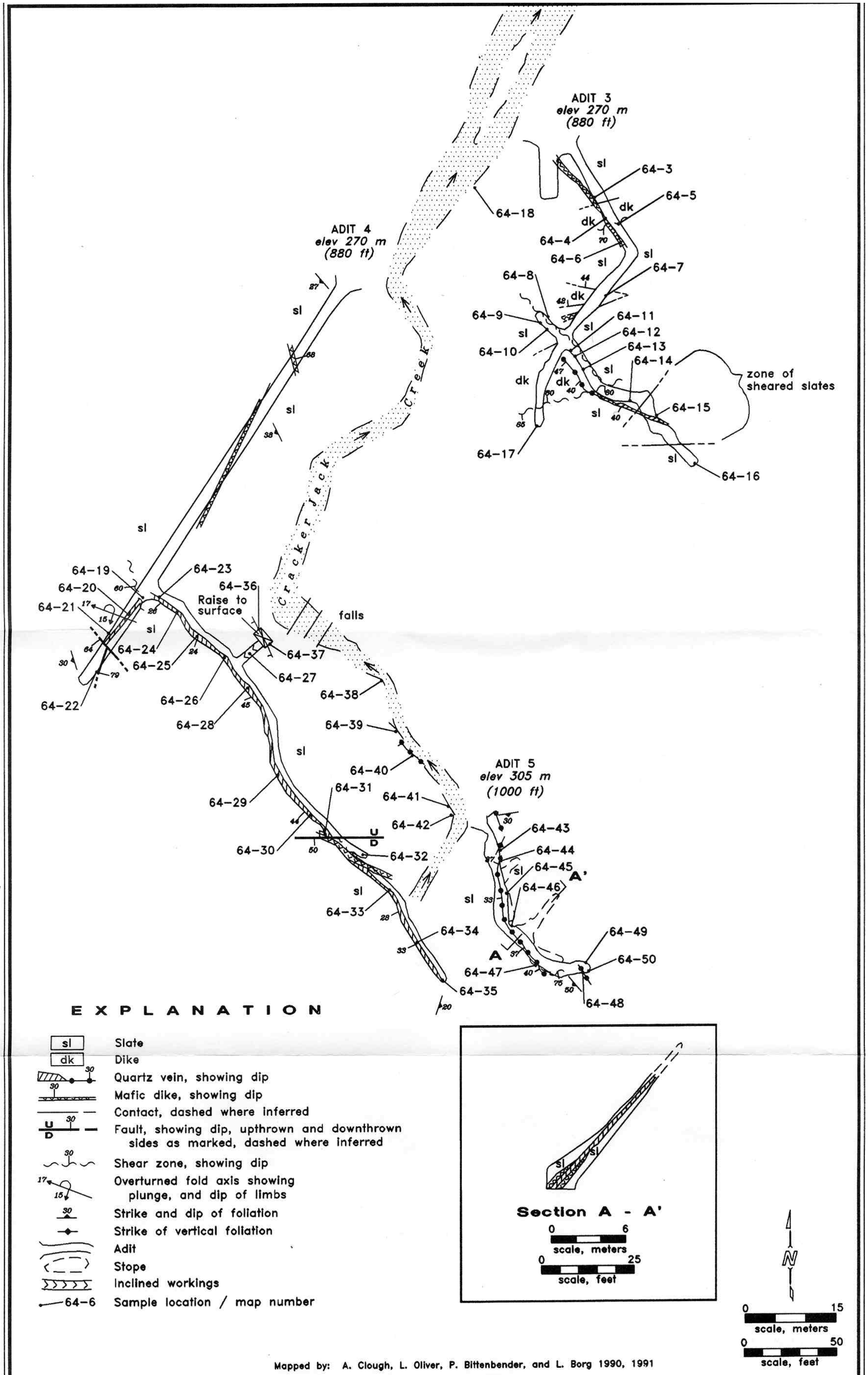

Figure 18. – Crackerjack Mine, showing geology and sample locations from selected adits.

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Both adits at the Cascade prospect are caved. Surface and trench exposures of the vein were mapped and sampled.

Significant Samples/Mineral Resources

The quartz veins in the Hollis area are characterized by narrow widths and relatively high gold grades. At the Dawson Mine four samples from a trench exposure contained a weighted average of 72.3 ppm gold across 0.65-m average vein width (map No. 66-4, samples 3114, 3117, 3118, 3410). At the Crackerjack Mine two samples contained 122 ppm gold over 0.30 m (map No. 64-41, sample 3215) and 87.4 ppm gold over 0.46 m (map No. 64-23, sample 3219). A narrow, high-grade sample from the Flagstaff Mine ran 32.1 ppm gold across 0.76 m (map No. 60-21, sample 3033). A grab sample of quartz found adjacent to a dump at the Cascade prospect contained 185 ppm gold (map No. 65-1, sample 3646).

Two hundred seventy-two samples were taken in the Hollis area for analysis. Means and weighted averages (by sample width) have been calculated using all of the measured samples collected at each property (table 10).

Table 10. Average gold values from selected deposits in the Hollis area.

Map No.	Property	Mean gold value, ppb	Weighted gold average, ppb	Mean sample width, m	No. of samples
60	Flagstaff	2,840	3,833	0.44	25
63	Puyallup	13,647	10,224	0.16	13
64	Crackerjack	8,489	7,000	0.65	108
65	Cascade	10,209	9,015	0.31	8
66	Dawson	7,265	6,917	0.80	38

The weighted average of all 108 measured samples from the Crackerjack property is 7,000 ppb. The mean sample width of the 108 samples is 0.65 m. Table 10 represents samples that were generally taken across quartz veins, but commonly include some host rock as well. Samples were collected along the veins, but were not taken at measured distances.

An industry resource estimate of 40,000 mt at about 34 ppm gold and 68 ppm silver was calculated for the "Free Gold" vein of the Dawson Mine. The calculated tonnage is based on trenching and core drilling in the mid-1980's and the grade is based on historic production (352). An indicated resource of 7,600 mt at 8.0 ppm gold has been determined for another vein at the Dawson Mine. This estimate is based on trenching, core drilling, and sampling in the mid-1980's (352).

Resource and Land Use Issues

Nine different issues related to resources and land use have been identified in the Hollis area. Subsistence use of the area for Sitka black-tail deer hunting is designated as moderate to low due to access provided by the Hollis-Klawock road. The road corridor is also considered an important tourism resource. There are two existing Forest Service recreational cabins on the north side of Karta Lake within the Karta Wilderness

Area. This wilderness covers approximately the northern half of the Hollis area. Bordering the wilderness area on the south is the Maybeso experimental forest, which is open to mineral entry. There is a timber management designation for maximum utilization on a small part of the southern Hollis area, south of the Harris River. The Harris River is one of two nominated wild and scenic rivers in the area. The other nomination is given to the drainage basin emptying into Karta River, including McGilvery Creek. Anadromous fish streams cross the area and include all the major drainages. Private and state land make up portions of the southeastern part of the Hollis area, near the town of Hollis.

The largest past mineral producers in the Hollis area were the Harris River and Dawson Mines. The Harris River Mine is located adjacent to the Harris River and the Dawson Mine is about 600 m to the northwest, on the north side of the Hollis-Klawock road (fig. 16). The road and river are the basis for four of the nine resource and land use issues identified in the area. The historic Flagstaff Mine is located on wilderness-designated land, in the northern part of the area. Access to the mine would cross the Maybeso experimental forest located south of the wilderness area. The third important mineralized area includes the Puyallup and Crackerjack properties. These two properties, along with the Cascade prospect to the west, lie outside most of the areas where resource and land use issues are evident. Impact from activities associated with any of these three properties would likely be greatest on Maybeso Creek, which has been identified as an anadromous fish stream.

Table 11. Mineral locality information for the Hollis area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
59	Lone Jack	CF	V: Au, Ag, Cu	1 Adit: caved, T	NA	Qz veins in di w/ py, cp; in places vein parallel to mafic dike	420, 643	L
60	Flagstaff	CF	V: Au, Ag, Pb, Cu	5 Adits: 330m, 11m, 30m; 2 caved adits: 50m, 45m	8 kg Au, 61.6 kg Ag, 1.3 mt Cu, 2.7 mt Pb	Industry exploration in 1980's; vein hosted by gd to di and adjacent to diabase dike; vein avg ~0.5m wide; avg of all Bureau samples, Au: "main vein": 3.2 ppm; "cross vein": 1.5 ppm; metallurgical testing	246, 253, 401, 548, 575, 581, 618, 642	L
61	Buckhorn	CF	V: Au, Ag	2 Adits: 17m, 4m, T(s)	NA	Qz veins w/ py in gd; in places vein follows mafic dike; best sample: 0.9m @ 2.2 ppm Au	385, 642, 643	L
62	Lucky Jim	CF	V: Au, Ag, Pb, Cu	1 Adit: 2.4m, T(s), C(s)	NA	Qz veins w/ py, cp, gn; in gd; generally minor Au values	90, 253, 643	L
63	Puyallup	OF	V: Au, Ag	5 Adits: 26m, (>800m in 4 adits, mainly caved)	maximum: 20.2 kg Au, 14.7 kg Ag	Free-milling Au in ore shoots within 0.1-0.8 m qz vein in slate; average grades: Au 29 ppm, Ag 23 ppm	70, 77, 90, 253, 407, 643	M
64	Crackerjack	P, MS 1527 A&B	V: Au, Ag	6 Adits: 333m, 87m, 123m, 43m, 178m, 1 caved, T(s)	combined with Puyallup	0.3-1.6 m qz vein(s) adjacent to porphyry dike in black slate, highest grades in shoots along veins; avg of 97 vein samples: 9.4 ppm Au, 78 ppm Ag	253, 413, 426, 643	M
65	Cascade	OF	V: Au, Ag	2 caved Adits: 90m, 50m	0.9 kg Au	0.6m average qz vein in gs w/ free Au, Ag, py, sl, cp, & gn	90, 434, 618, 641, 643	L

Table 11. Mineral locality information for the Hollis area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
66	Dawson	OF	V: Au, Ag	5 Adits: 76m, ?, 105m in 3 caved adits, T(s)	204 kg Au, 162 kg Ag, minor Pb & Cu	Approx. resource: 48,000 mt at 34 ppm Au, 68 ppm Ag based on industry drilling in mid-1980's & historic production	75, 90, 347, 351, 352, 401, 545	M
67	Harris River	P, MS 1408	V: Au, Ag	1 Shaft: 210m (flooded), 800m of drifts & raises	(combined with Dawson)	Auriferous qz veins in black slate, associated with mafic dike; select sample up to 9.5 ppm Au	90, 253, 620, 634	M

Big Harbor Area

General/Land Status

The Big Harbor area is located on the north side of Trocadero Bay, approximately 16 km southeast of Craig, Alaska on the west side of Prince of Wales Island. The area can be reached by boat, floatplane, or helicopter. The topography is relatively gentle; elevations extend from sea level to a maximum of about 300 m (1,000 ft). The workings in the area are located approximately 0.8 km from tidewater and are at less than 150 m (500 ft) elevation (fig. 19). Vegetation is thick and affords little bedrock outcrop.

The Big Harbor area encompasses the Big Harbor Mine and associated workings. The area is on land that has been selected by Sealaska Regional Native Corporation. Therefore, mineral entry must be accomplished through Sealaska Corporation. As of May, 1994, the land had not yet been conveyed to Sealaska.

History/Workings/Production

Prospecting and claim staking in the Big Harbor area began as early as 1902, according to one report. The report indicates initial development included sinking of a shaft in about 1905 (458). Another report states that claims were originally staked on the Big Harbor mineralization in 1907 (112). In either case, by 1908 the claims were acquired by the Northland Development Company who were responsible for the majority of the development at the mine (112,458). Ore shipments were made by this company in 1912 and 1913 (112,458). In 1915 (458) or 1916 (113) the property was taken over by the Southeastern Alaska Copper Corporation. This company made a minor ore shipment in 1916 (113,458) but apparently dropped the property soon afterwards. The last report of mining activity at the Big Harbor Mine was in 1917 (341).

The Big Harbor Mine was examined by the USGS in 1944 (581) and by the Bureau of Mines (Bureau) in 1958 (388). Claims in the area were staked by local prospectors and controlled by various mining companies from the late 1950's until the mid-1970's. Companies that examined the area include Montana Phosphate Products Company (1957-58), Texas Gulf Inc. (1974), and Homestake Mining Company (1974) (584). The Big Harbor area was included in land selected by Sealaska in the mid-1970's as part of the Alaska Native Claims Settlement Act. Since selection, the area has been examined by Anaconda (late 1970's), Exxon Minerals (around 1985), and by Cominco Exploration Company in the early 1990's.

Developments at the Big Harbor Mine comprise an adit and shaft of the western or "main" workings and a shaft and adit of the eastern workings (fig. 19). The western and eastern workings are separated by about 0.8

km. The western workings include 140 m of crosscuts and drifts in the main adit, and a 16-m winze connecting the main adit to a 16-m adit above. The winze also extends below the main adit level for an undetermined distance (388). Much of the ground in the area of the western workings is unstable; there has been significant caving and sloughing making parts of the workings inaccessible.

The eastern workings consist of a shaft that is reported to be 37 m deep with crosscuts made at 15 and 37 m below the surface. The 15- and 37-m-level crosscuts are 6 and 5 m in length, respectively. Mineralized rock is reportedly cut in both of these levels (113). A 20-m adit intersects the shaft 7.5 m below the surface. The shaft is presently flooded below the adit level. The adit cuts sparsely mineralized rock for most of its length, and a massive sulfide lens near its face. Approximately 140 m west of the eastern workings is a 9-m adit. Other trenches, pits, and open cuts have also been made to expose mineralization in the Big Harbor area.

According to Bureau production records, production from the Big Harbor Mine was 8,567 kg copper in 1913 and 1916 from 123 mt of ore (table 3). Whether these numbers include a shipment of ore reported in 1912 (112,458) is unknown. USGS records indicate that the ore shipped contained between six and seven percent copper (581), which is consistent with Bureau production figures given above.

Geology

The mineralization at the Big Harbor Mine consists of discontinuous stratiform massive sulfide lenses hosted by metavolcanic and metasedimentary rocks of the Wales Group. The pre-Ordovician Wales Group is thought to represent a volcanic arc remnant that has been penetratively deformed and metamorphosed to mainly greenschist facies (176). In the Big Harbor Mine area the host rocks consist of generally east-west striking, moderately to steeply north dipping layers of felsic to intermediate tuffs, flows and pyroclastics, and interlayered argillite, clastic sedimentary rocks, and chert. Minor intermediate intrusives are also found in the area (388). Greenschist metamorphism has changed protoliths hosting the sulfide lenses to greenstone, greenstone schist, and quartz-mica schist, all of which may be lightly to heavily mineralized with pyrite, chalcopyrite, and minor sphalerite.

At the eastern workings a mineralized body of 1.0% to 1.2% copper ranges in width from 5 to 9 m, extends up to 200 m along strike, and is oriented with an average dip of about 80°. The mineralized zone has been defined at depth by the eastern adit which cuts the zone at 5 to 7 m depth and by 3 drill holes with intercepts between 40 and 58 m (388). The orebody at the eastern workings seems to be cut off by faults at its eastern and western ends. Dextral movement offsets the favorable schist horizon 30 m on the east and 60 m on the west. An alternate possibility is that the orebody is lensoid and pinches out at each end (388). The mineralization at the western workings is apparently more discontinuous. Here, massive sulfide layers are more commonly associated with quartz and calcite veins and stringers. No reserve calculations have been made for the western mineralized zone.

The stratiform mineralization at Big Harbor is situated near the contact between quartz-mica schist and greenstone or greenstone schist. Pyrite is the predominant sulfide. Chalcopyrite is present along with minor amounts of sphalerite and magnetite. Precious metal values are generally low.

The volcanogenic nature of the massive sulfide mineralization in the Big Harbor area is suggested by

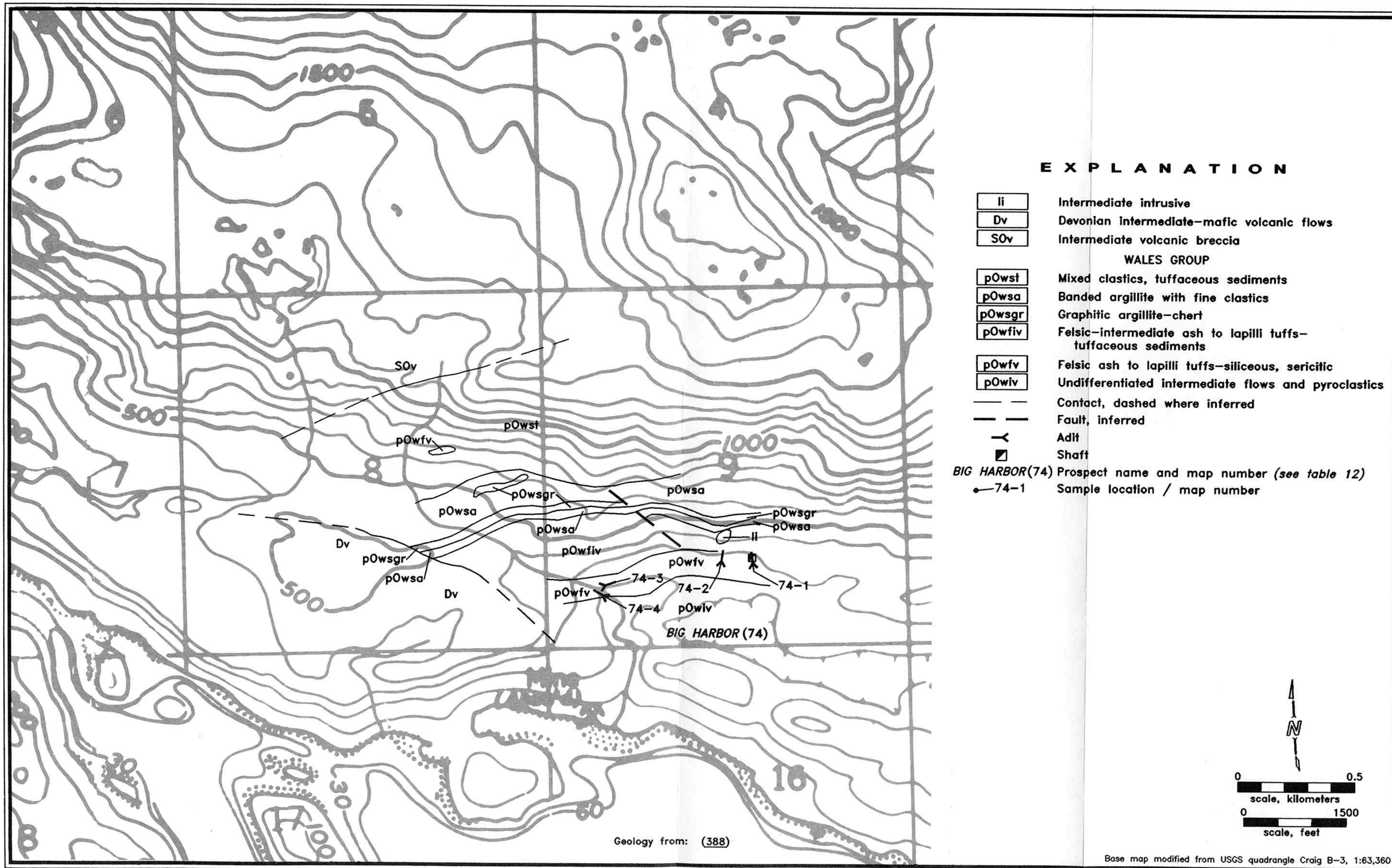

Figure 19. – Big Harbor area, showing geology, mineral localities, and sample locations.

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distinctive fragmental massive sulfide and volcanic cobbles, a stratabound footwall alteration zone (367), the stratiform character of the mineralized zones, and their occurrence at or near the boundary between felsic to intermediate and more mafic volcanic strata. Cominco geologists suggest a proximal submarine volcanic setting where massive sulfide mineralization formed near one or more hydrothermal vents that flanked a shallow felsic dome (367).

Bureau Work

During the Bureau's examination of the Big Harbor Mine in 1958 the workings were mapped and sampled, electromagnetic and magnetometer traverses conducted, and a general geologic map completed. Samples were analyzed for copper, zinc, gold, and silver, and selected samples were petrographically analyzed (388). The results of this examination were never published but are available from the Bureau office in Juneau, Alaska.

During the current study Bureau personnel field-checked existing maps and took 19 samples to characterize the mineralization. Analytical results of samples collected from the properties are given in table A-2.

Significant Samples/Mineral Resources

At the eastern workings, a 2.4-m band of massive pyrite and chalcopyrite is exposed near the face of the 20-m adit. Bureau samples from this zone averaged 1,315 ppm copper, 279 ppb gold, and 4.0 ppm silver (map No. 74-1, samples 3021, 3022) .

The main adit at the western workings includes a stope from which Big Harbor production likely occurred. A high-grade sample from the stope contained 15.2% copper, 1.1% zinc, 470 ppb gold, and 32.8 ppm silver over 0.15 m (map No. 74-3, sample 3024). Other samples from a quartz-rich zone in this adit contained 8.80% copper (map No. 74-3, sample 3026) and 7.37% zinc (map No. 74-3, sample 3027). An outcrop containing a 0.3- to 0.9-m-thick zone of massive chalcopyrite and pyrite lies adjacent to the upper adit. A sample of this zone contained 11.0% copper, 1,590 ppb gold, and 54.5 ppm silver (map No. 74-2, sample 3030). This zone does not extend into the adit however, and suggests that the mineralization at the western workings is discontinuous.

Work by the Bureau in 1958 resulted in an indicated resource estimate of 1,325 mt per vertical foot of mineralized rock that grades 1.0% to 1.2% copper. This estimate is based on examination of the eastern massive sulfide body that measures 5 to 9 m wide by about 200 m long (388).

Resource and Land Use Issues

Several resource and land use issues are raised if mining-related activity is considered in the Big Harbor area. Three anadromous fish streams cut the area, but only one of these is located adjacent to known sulfide mineralization. Subsistence land use associated with Sitka black-tail deer hunting is moderate along the shoreline and is considered low inland, where known mineralization is located. Timber management use designations indicate moderate and maximum utilization areas within the Big Harbor area. A river in the area has been nominated for wild and scenic river designation, but it is located to the northwest and is separated from the mineralized area by a small rise.

Mineral development at Big Harbor would likely depend on finding additional ore bodies in the area. Prospectors have suggested that sulfide mineralization similar to that at the Big Harbor Mine may extend to the east, on the north side of Trocadero Bay. If this development were to take place, several land and resource issues would have to be considered.

Table 12. Mineral locality information for the Big Harbor area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select reference	MDP
74	Big Harbor	N	VMS: Cu, Zn, Au, Ag	3 Adits: 140m, 18m, 9m; 1 Shaft: 35m; T(s)	8,567 kg Cu	USGS production records site 6-7% Cu; 8 drill holes (1958); recent work by Cominco	112, 331, 367, 388, 458, 581	M

Khayyam Area

General/Land Status

The Khayyam area is located south of the head of McKenzie Inlet, off Skowl Arm, on the east side of Prince of Wales Island. It lies approximately 50 km east of Ketchikan, Alaska and is accessible most easily by helicopter. Floatplane and boat access to McKenzie Inlet is possible, however the major mine workings are 4 km south and 700 m (2,300 ft) above the head of the inlet (fig. 20). Logging roads at the head of Polk Inlet to the west, specifically up Polk Creek, provide the closest access to the mine workings.

The Khayyam Mine and Stumble-On prospect are the two major properties in the Khayyam area. Both are on Forest Service-managed land that is open for mineral development. Topography in the area is generally steep with thin vegetation at the upper elevations where the major workings are situated. Rock outcrops are relatively abundant. A good description of the location, history, physical features, and climate is given by Fosse (192). The geology is well described by Barrie and Kyle (29).

History/Workings/Production

The history of the Khayyam area involves mainly the Khayyam and Stumble-On properties. Brooks in 1902 (70) describes the "Kiam" and "Mammoth and Lake View" (Stumble-On) properties. He also mentions three claims to the southwest of the Khayyam Mine that have similar mineralization to that of the Khayyam (Red Rose, Hecla, and Bertha claims). No other first-hand information on these three claims has been found.

The first claims were staked at the Khayyam Mine in 1899 and work continued until 1945. Most development was accomplished by the Omar Mining Company between 1901 and 1907 (90,458 ,643). Developments included eight adits with total workings of about 600 m; numerous pits, trenches, and opencuts; an aerial and surface tram that connected the mine to tidewater; and an ore shipping terminal at the head of McKenzie Inlet. A small town with post office was established at the head of McKenzie Inlet to service the Khayyam Mine (455). Claims covering the property were relocated in 1916 and 1937, but little development work was accomplished at these times (90,192). Bureau of Mines (Bureau) geologists studied the Khayyam area in 1944-45 as a continuation of its war minerals investigations. Work included surveying, sampling, and trenching (192). Most of the underground

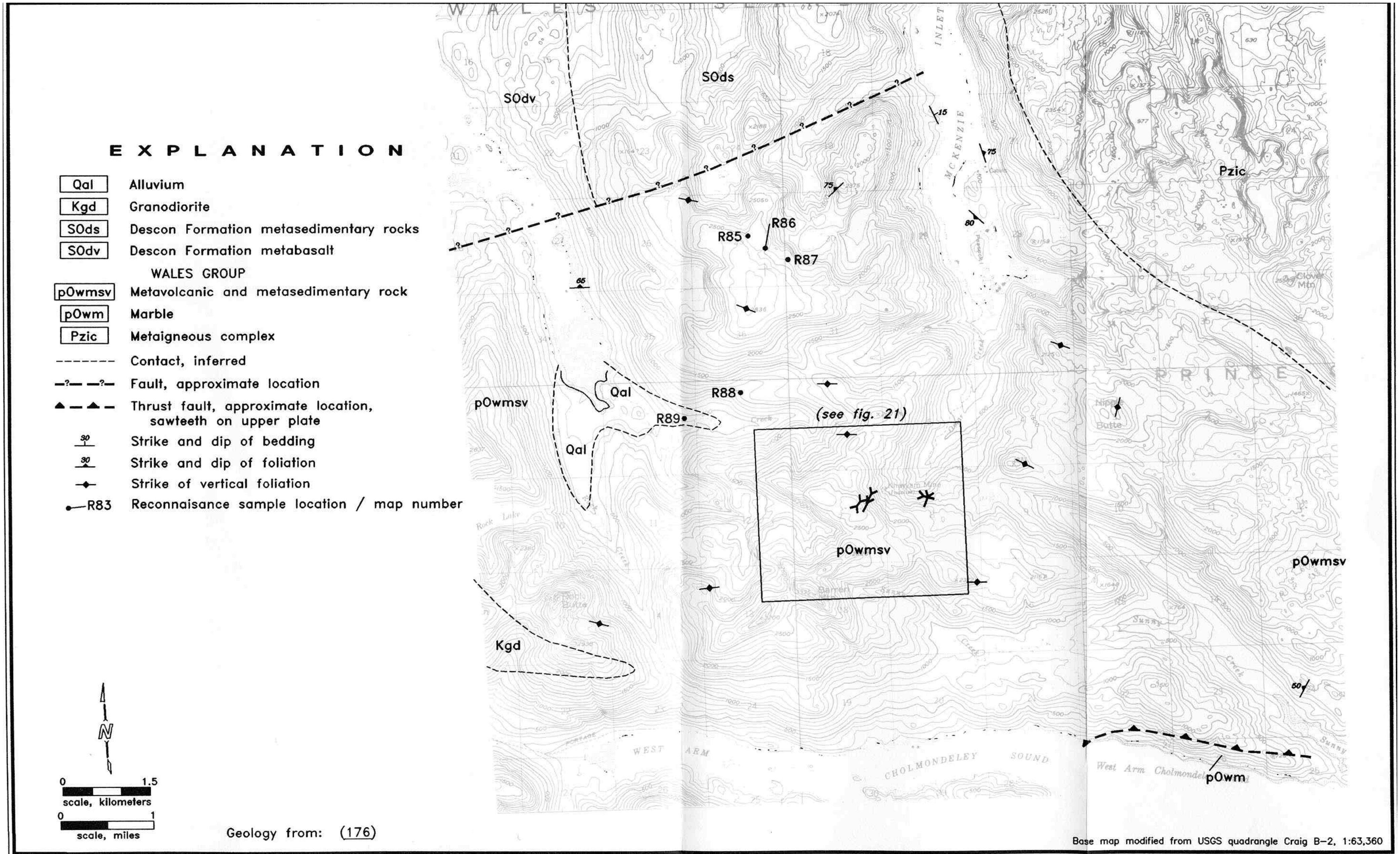

Figure 20. – Khayyam area showing geology, mineral localities, and sample locations.

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workings at the Khayyam Mine are still accessible. The Kimball adit at about 620 m (2,000 ft) elevation was driven to undercut the Khayyam orebody. The adit extends 188 m through barren or slightly pyritized rock. The Powell adit extends 72 m through massive sulfide lenses and enclosing country rock. Four stopes have been cut off the Powell adit and probably account for the production from the Khayyam Mine. Available production figures indicate 4.0 kg gold, 53.2 kg silver, and 80,635 kg copper were produced between 1906 and 1909 (table 3).

The Stumble-On prospect was originally located as the Iron Mast claim in 1901 (90). By 1902, this claim, situated about 1.5 km east of the Khayyam Mine, was called the Mammoth claim (70, 643). Developments on the property were accomplished before 1907 and include an open cut, several trenches, and two adits with about 120 m of workings (192, 643). Little development seems to have been accomplished after 1907. The prospect was relocated in 1945 and named the Stumble-On. Bureau geologists investigated the Stumble-On prospect along with the Khayyam Mine in 1945 (192). No records of production from the Stumble-On have been found.

More recent interest in the Khayyam area has been shown by the Banner Mining Company, Noranda Exploration Inc., Duval Corporation, and Anaconda Copper (331, 584). In 1993, the Kennecott Exploration Company was examining the Stumble-On area.

Geology

Pre-Ordovician Wales Group rocks host the mineralization in the Khayyam area. The Wales Group is thought to represent a volcanic arc remnant that has been penetratively deformed and metamorphosed to greenschist and locally amphibolite facies (176). In the Khayyam area the host rocks consist of amphibolite, felsic to mafic schist, and metasedimentary rocks that are well foliated and have been metamorphosed to lower amphibolite facies (29) (fig. 21).

Mineralization at the Khayyam Mine consists of at least six stratiform massive sulfide lenses hosted by layers of siliceous, intermediate, and mafic schist (29). In the Powell adit, nearly vertical sulfide lenses are up to 8 m thick and have been stoped for up to 35 m along strike. The lenses are cut off on the west by a vertical to steeply southeast-dipping fault. Mineralized schist, however, crops out on both sides of the fault and extends along strike for at least 330 m (192). Sulfide lenses consist mainly of pyrite, but also include chalcopyrite, sphalerite, and pyrrhotite.

The host rocks and mineralization at the Stumble-On prospect are similar to those at the Khayyam Mine. A massive sulfide lens of pyrite with chalcopyrite, sphalerite, pyrrhotite, and magnetite is up to 2.5 m thick and extends for at least 170 m along strike (29). A ground VLF electromagnetic survey published in Barrie and Kyle (29) indicates the Stumble-On massive sulfide lens may extend to the east of the present prospect workings and may even be thicker in that direction.

Bureau Work

Bureau geologists mapped and sampled the surface and underground workings at the Khayyam Mine. Samples were taken of the massive sulfide lenses as well as of the hosting metamorphic rock.

Bureau personnel collected a 125-kg sample of massive sulfide from the Khayyam Mine area for metallurgical testing by the Bureau's Salt Lake City, Research Center. Initial assay of the bulk sample showed 1,300 ppb gold and 13.0 ppm silver, along with a calculated head for base metal flotation tests of about 2.5% copper and 1.4% zinc. Preliminary tests showed a 99.25% recovery of copper and 91.0% recovery of zinc from a minus 150-mesh grind. The concentrate however, was about 50% of the head weight. More testing is needed to

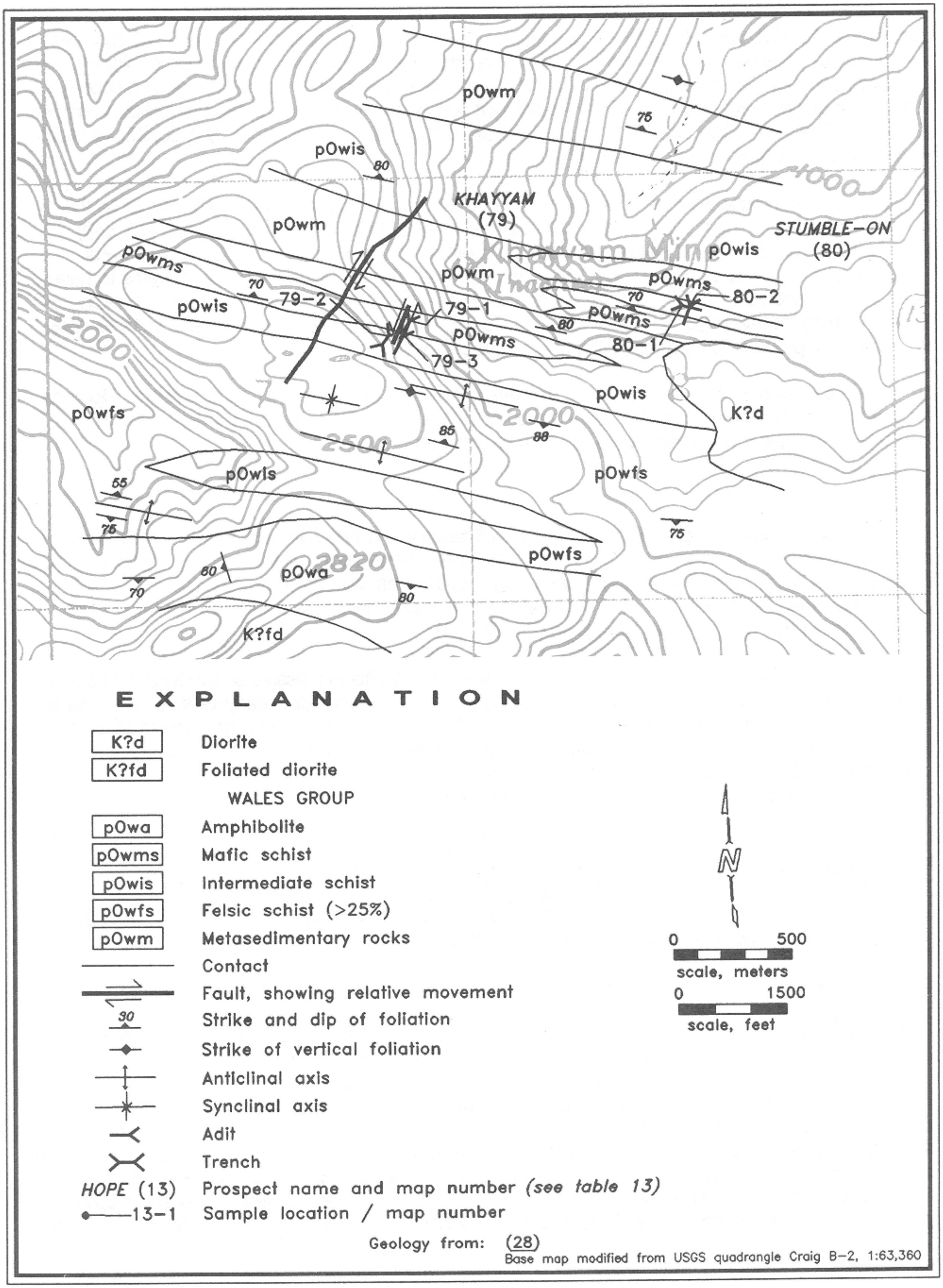

Figure 21. – Central portion of Khayyam area showing geology, mineral localities and sample locations.

determine if acceptable concentrate grades can be produced. Bureau geologists mapped and sampled the surface and undrground workings at the Stumble-On prospect. Portals to both of the adits required minor excavation to gain entry, but the underground workings were in fairly good condition. A total of 28 samples were taken from the upper and lower adits, outcrops, trenches, and ore stockpiles outside each adit.

Significant Samples/Mineral Resources

Bureau geologists took 41 samples of massive sulfide lenses and country rock from surface trenches, outcrops, and the 8 adits at the Khayyam Mine. Select sample 3261 (map No. 79-3), taken from a

stope in the Powell adit, assayed 2.61% copper and 1.54% zinc. Samples 3231 and 3233 (map No. 79-3) from an adit 50 m east of the Powell adit assayed 4.66% and 4.68% copper across widths of 0.9 and 1.5 m, respectively. Silver values from these two samples averaged 37.4 ppm. Sample 3237 (map No. 79-2) from an adit 200 m to the west of the Powell adit assayed 3.38% copper and 1,007 ppb gold across 2.4 m. Sample 3178 (map No. 79-2) from an adit approximately 30 m west of the Powell adit contained 2.85% copper and 1,910 ppb gold across 1.5 m. All 27 measured samples taken from the Khayyam Mine have an average of 832 ppb gold, 11.6 ppm silver, 1.27% copper, and 0.30% zinc.

Selected samples from the Stumble-On upper adit (map No. 80-2, samples 3274, 3276, 3301) contained up to 5.96% copper, 3.61% zinc, 43.7 ppm silver, and 3,916 ppb gold. Two continuous chip samples (map No. 80-2, samples 3269, 3271) across 0.9 and 1.5 m in the open cut above the upper adit assayed 3.17% and 8.93% copper, respectively. No significant analytical results were obtained from samples taken in the lower adit. Sample 3474 (map No. 80-2), taken from an outcrop immediately to the east of the mine, assayed 4.57% copper, 15.4 ppm silver, and 6,909 ppb gold across 1.5 m. The average of all 24 measured samples from the Stumble-On prospect reveal 1,122 ppb gold, 6.91 ppm silver, 0.92% copper, and 0.20% zinc.

The Bureau's investigation of the Khayyam Mine in 1944 resulted in the calculation of inferred resources of 78,700 mt of ore containing 2.94% copper, 0.79% zinc, 1.3 ppm gold, 16.8 ppm silver, and 39.7% sulfur (191). No calculation of the resources at the Stumble-On prospect was made.

Resource and Land Use Issues

Resource and land use issues identified in the Khayyam area include a research natural area, subsistence hunting, anadromous fish streams, and timber management, but, except for two anadromous fish streams, little conflict with the area of greatest known mineralization is present. The Old Tom Research Natural Area intersects a small part of the Khayyam area. Because of its relatively inaccessible location, the area has very low subsistence usage associated with Sitka black-tail deer hunting. The area of known mineral deposits is above local tree-line so, other than access considerations, timber management would probably not be affected by mineral development.

Two anadromous fish streams at the head of McKenzie Inlet drain the area of known mineralization of the Khayyam and Stumble-On properties. Observations of extremely rusty effluent emanating from adits on these properties indicate that development of the area's sulfide-rich deposits have the potential for generating acid mine drainage problems.

Table 13. Mineral locality information for the Khayyam area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
38	Khayyam	OF	VMS: Cu, Zn, Au, Ag	8 Adits: ~600m total, T(s), P(s)	4.0 kg Au, 53 kg Ag, 80,630 kg Cu	Resource estimate: 85,000 mt, 2.94% Cu, 0.79% Zn, 1.3 ppm Au, 17 ppm Ag; held fall '93 by Kennecott	29, 70, 192, 643	M
39	Stumble-On	OF	VMS: Cu, Zn, Au, Ag	2 Adits: 68m, 56m; T(s), P(s)	NA	Stratiform Cu-Zn msv sulf lenses in schistose Wales Group rocks; held fall '93 by Kennecott	29, 70, 192, 643	M

Jumbo Mountain Area

General/Land Status

The Jumbo Mountain area is located on southcentral Prince of Wales Island (POWI), approximately 50 km west of Ketchikan. The area extends east from Deer Bay/Hetta Inlet to Green Monster Mountain and Summit Lake and south from Beaver Creek/Beaver Mountain to Hetta Lake. The POWI road system provides access to Deer Bay and the north part of Hetta Inlet, but does not cross Hetta Inlet into the rest of the area. There are several historic copper mines in the area including the Jumbo, Copper Mountain, Houghton, and Corbin Mines. The Jumbo Mine was the largest single producer of copper in the Ketchikan Mining District. The abandoned smelter at Coppermount, which processed ore mainly from the Copper Mountain Mine, was one of only two copper smelters ever constructed in Alaska. Several other mineral localities are present in the area including the Gould Island prospect, Green Monster, Magnetite Cliffs, Upper Magnetite and Gonnason, Copper Bluff, Gould/Iron Crown, and Hetta Mountain prospects.

Land status in the Jumbo area is a combination of conveyed and overselected Native Corporation land managed by Sealaska Corporation, private land included within patented mining claims and abandoned townsites, and a small parcel of Forest Service land surrounding Green Monster Mountain. The patented mining claims cover the Jumbo and Copper Mountain Mines, Green Monster, Copper Bluff, and Hetta Mountain prospects. The abandoned townsite at Sulzer is also privately owned (current owner unknown). The following list provides recent ownership data for the patented mineral surveys:

MS 419A/B:	Charles Todd (Seattle, WA)
MS 562, 884, 886, 1522, 1523, 1524, 1542, 1545:	Eskil Anderson (Spokane, WA)
MS 649:	Doug Toland, Tom Hanna (Juneau, AK)
MS 743:	Unknown
MS 1023:	Thorn Ferguson Construction (Anchorage, AK)/ Georgia Pacific (Portland, OR)
MS 1006:	Bob Pickrell (Ketchikan, AK)

Topography in the area is rugged and precipitous. Copper Mountain is the second highest point on POWI at 1,194 m (3,916 ft). The ground surrounding the Jumbo Mines is especially steep with many cliffs. Foot traverses at mineral localities are necessarily slow and methodical and initial access by helicopter is warranted. Parts of the patented parcels on MS 562 (Jumbo Mountain) and Copper Mountain (MS 1023) have been logged and limited road access is still available in these areas.

History/Production/Workings

The first recorded mineral activity in the Jumbo area occurred in 1897 with the discoveries of the Jumbo and Copper Mountain Mines. These two mines were developed by the Alaska Industrial Co. and the Alaska Copper Co. respectively. Production at the Copper Mountain Mine commenced in 1901 and malachite/azurite ore averaging 25% copper was mined from open pits along the ridgetop of Copper Mountain. This ore was originally sent to the Tacoma smelter (458). Company officials decided to build a smelter to increase profits from this rich ore and by 1905 the Coppermount smelter was operational. The company drove 18 adits and several trenches in search of additional copper ore, but none was found. These workings spanned 335 m vertically and range from 10-m-long adits to a 914-m adit. The new smelter operated well, but by the fall of 1906 the smelter and the mine closed, never to operate again. The company had built a smelter before it had identified sufficient ore reserves to operate it (639). The mine produced 102 mt copper, 391 kg silver, and 5.5 kg gold (632).

The Jumbo Mine was significantly more productive than the neighboring mine at Copper Mountain. Copper mining began at Jumbo in 1907 and the first shipments were sent to a smelter at Tyee, British Columbia, Canada. By 1910, the Jumbo Mine was the largest producer of copper in Alaska (458). Ore averaging 4% to 5% copper was produced mainly from a surface glory hole and a rich underground shoot developed by several levels off the main working adit. The mine worked continuously until 1914 after which time operations continued sporadically until 1918. Ore was not produced after 1923 (458). The Jumbo Mine produced over 4,600 mt copper, 3.3 mt silver, and 268 kg gold during these periods (38). Workings at the Jumbo include over 14 adits, several trenches, and a glory hole. Many of these workings are still accessible, although the lower levels driven from the main working adit at elevation 478 m (1,570 ft) are flooded.

Several other properties in the Jumbo area were discovered around the turn of the century including Hetta Mountain in 1898, Green Monster in 1899, the Houghton in 1901, the Sultana in 1903, and the Corbin in 1905. The Houghton and Corbin properties were developed into small producing mines. The Houghton Mine was developed by three adits (two presently open) and some trenching, and produced nearly 2.2 mt copper and 1.6 kg silver by 1908. The Corbin Mine shipped nearly 450 mt of ore to the Coppermount smelter in 1905 (458), but no substantial work followed. This shipment produced nearly 9.7 mt copper and 12 kg silver. The Corbin was developed by two adits totalling 117 m, and two shafts, one of which had two working levels. Many short adits and trenches were developed at Hetta Mountain but no ore was produced. The Green Monster property was developed by two short adits, but never produced copper ore. Instead, the Green Monster became a world-renowned epidote crystal locality. Several museum quality specimens have been mined from this locality. The Green Monster is privately owned and crystal collectors are not welcome without expressed permission from the owners.

The Jumbo area has received considerable attention since the closure of the Jumbo Mine. The USGS and Bureau of Mines (Bureau) explored the area during the early 1940's as part of a war minerals study. Several reports were published from this work (271,299 ,647). Anaconda Copper Corporation examined the property in the 1950's (458). Private companies performed magnetometer surveys and drilling peripheral to the main Jumbo copper deposit in the 1960's (226,259 ,306). The Gonnason magnetite deposit was discovered as a consequence of this work. In 1967, the Smithsonian Institute conducted a mineralogical investigation in the area (322).

Cominco Alaska Exploration examined the Jumbo area in 1989-90 in search of a large low-grade copper-gold porphyry deposit peripheral to the high-grade copper skarns. Cominco's main objective was not achieved, but hundreds of samples were taken and underground workings at several properties were mapped in considerable detail (346).

Sealaska Corporation conducted reconnaissance investigations in the Jumbo area in 1988-91 (239,240 ,241 ,242). Their work identified a possible exhalative gold horizon in the Deer Bay area, base metal mineralization along Beaver Creek-Perry Creek and a geophysical anomaly at the Corbin Mine. American Copper and Nickel Co. (ACNC) was mapping, sampling, and drilling the Deer Bay-Corbin area in 1993.

Geology

The general geology of the Jumbo area is dominated by an irregularly shaped batholith of Cretaceous granodiorite (actually heterogeneous, ranging from syenite to gabbro in composition) that has intruded a structurally complex sequence of Wales Group calcareous schist, marble with interbedded siliceous schist, chlorite schist and greenstone flows (251). Several varieties of dike rocks including aplites, pegmatites, siliceous-intermediate porphyries, and diabase and basalt dikes have been injected predominantly into the Wales Group rocks, and to a lesser extent the Cretaceous granodiorite batholith. The map patterns produced by these events are somewhat complicated as various alteration effects are imprinted in the Wales Group rocks, ranging from simple hornfelsing of the schists to complete recrystallization into garnet-dominated epidote-diopside-calcite-quartz skarn (fig. 22) (251).

The marble beds that surround the intrusive are adjacent to calcareous schists and taken together have been converted to skarn, in places containing economic concentrations of copper, gold, and silver. Skarn is more commonly formed near apophyses of the intrusion, but also occurs where roof pendants have been assimilated into the intrusive. The deposits seem closely associated with the alkalic phase of the intrusive, marked by the occurrence of potassium feldspar. Contacts are sharper between the marble/skarn boundary relative to the calcareous schist/skarn zones. There is considerable magnetite associated with these skarn rocks that aid exploration, but not enough to be economic in its own right. A considerable thickness of silicified chlorite schist, greenstone schist, amphibolite, and quartz-sericite schist lies west of the intrusion and associated skarn rocks, and these schists host volcanogenic massive sulfide deposits and showings at Corbin (fig. 22, map No. 95) and Deer Bay Exhalite (fig. 22, map No. 84).

No extensive folds or faults have been mapped in the Jumbo area, but several small-scale features have been noted by previous workers and during the current study (299,639). Several episodes of isoclinal and recumbent folds occur in the schistose rocks adjacent to Hetta Inlet. Discussions with ACNC geologists working at the Corbin Mine corroborated the presence of complex folding present in these Wales Group rocks (574).

The ore within the skarn zones is irregular in nature and generally occurs in pods or lenses from less than 1 meter to over 30 m thick. Strike lengths of these pods vary but are generally longer than the above thicknesses. The primary ore minerals constituting the productive ores are chalcopyrite, malachite, and azurite. Chalcanthite has been identified in the Jumbo Mine (322). Molybdenite is also associated with the Jumbo and Copper Mountain ores, and galena is present at the Gould Island prospect. Pyrite, pyrrhotite, and specularite are common minerals. Euhedral specularite is commonly found in the trenches south of the main pits at Copper Mountain. Magnetite occurs in large quantities in the Magnetite Cliff , Upper Magnetite, and Gonnason deposits (fig. 23, map Nos. 88-90) north of the main Jumbo Mine (fig. 23, map No. 91), but overall there is more magnetite associated with skarns on the Kasaan Peninsula.

The Magnetite Cliff occurrence is over 18 m thick and extends along strike for 137 m (299). A small pod of magnetite with minor chalcopyrite (<10 m thick) is present at Copper Bluff (fig. 22, map No. 96) on the west shore of Summit Lake and an even smaller pod (<3 m thick) is present on the ridgetop at Green Monster Mountain (fig. 22, map No. 93). Geophysical techniques can be successfully used to find these magnetite zones, however copper is not necessarily present in economic quantities with the magnetite. This mineralization style is consistent with Kasaan Peninsula deposits.

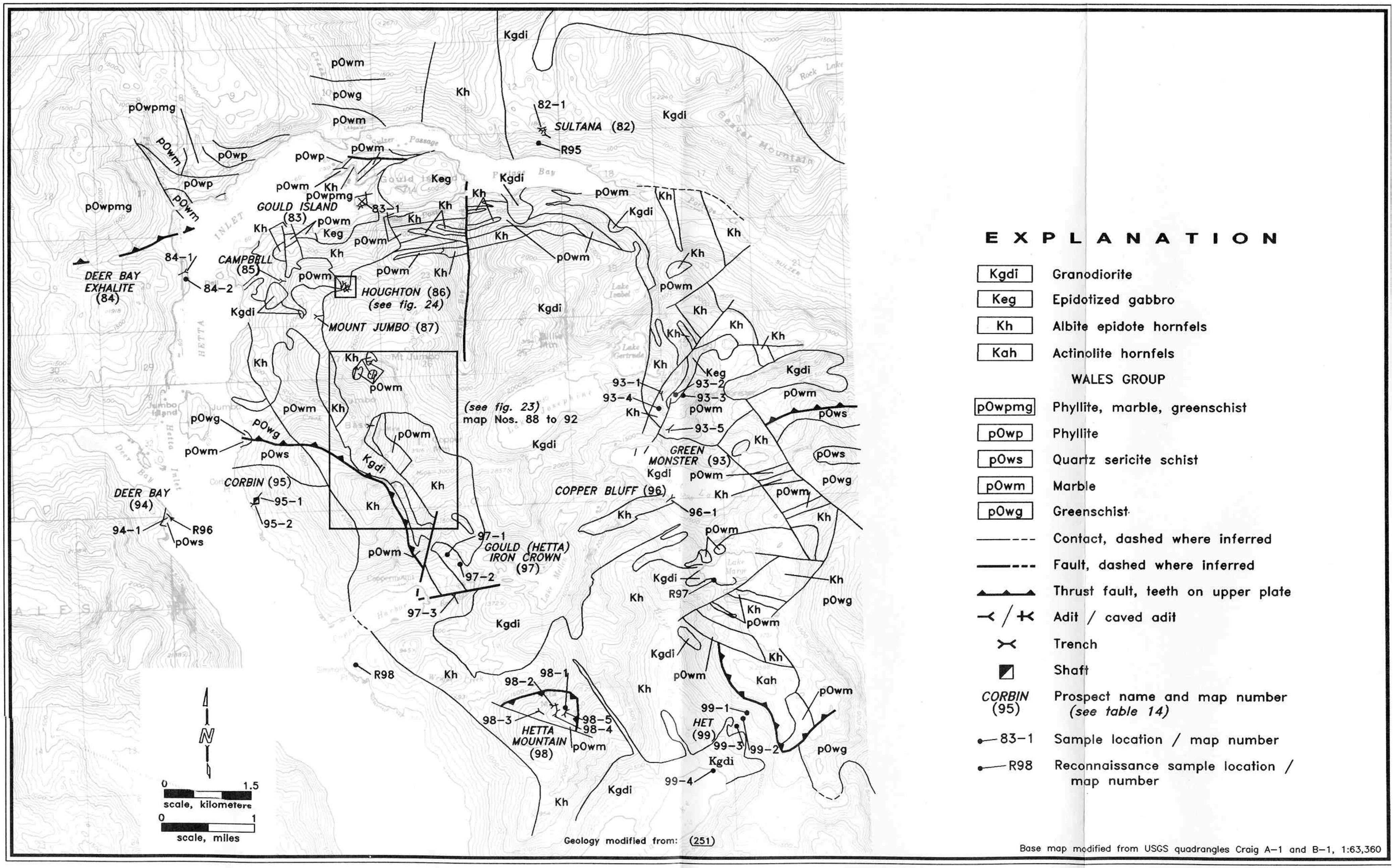

Figure 22. – Jumbo Mountain area, showing geology, mineral localities, and sample locations.

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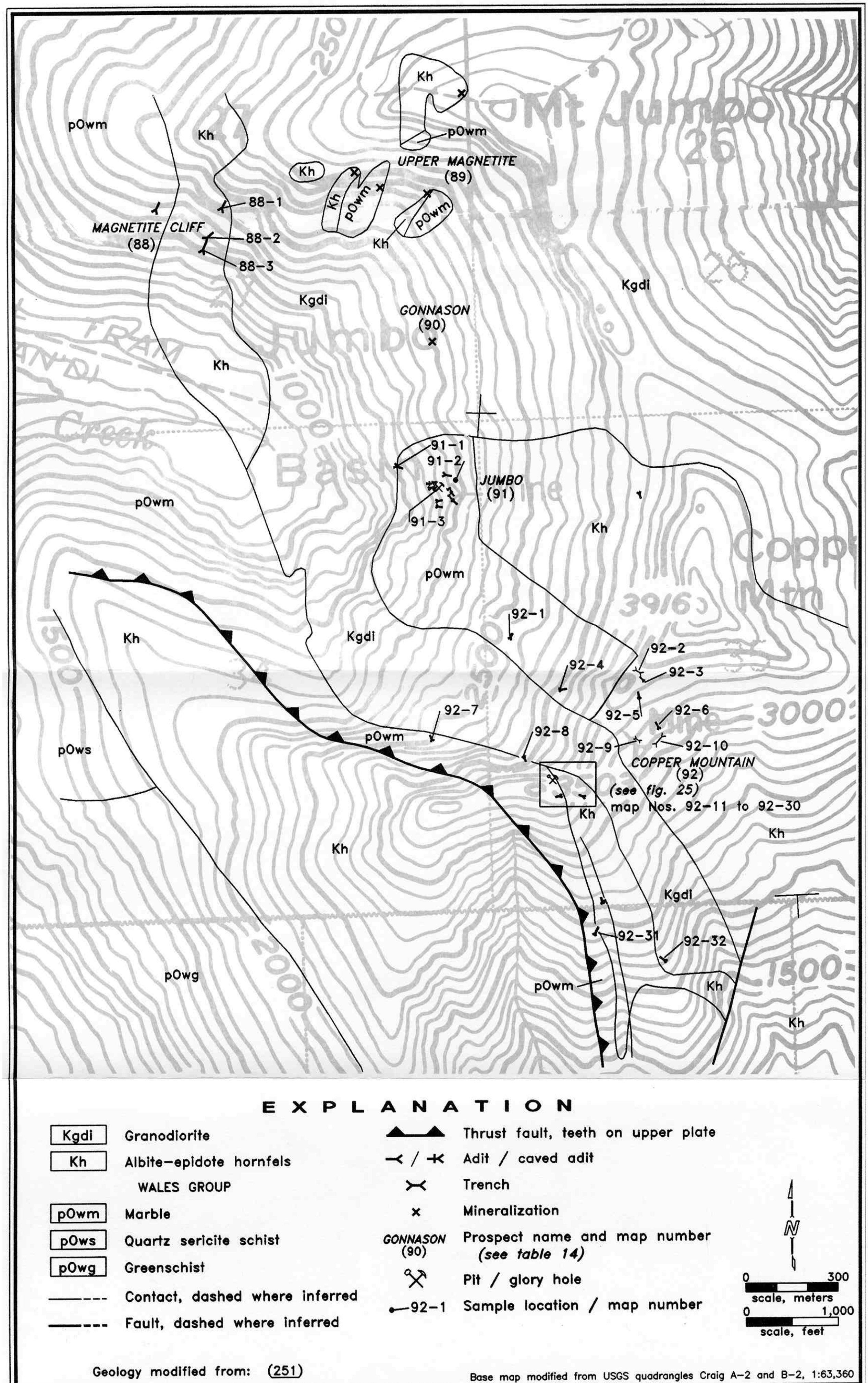

Figure 23. – Mines, prospects, and sample locations on Jumbo and Copper Mountains.

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Gangue minerals present in the skarn deposits are dominated by garnet and epidote with lesser calcite, quartz, potassium feldspar, diopside, sericite, hornblende, and wollastonite. Zoned garnets up to 8 cm across were found east of the glory hole at the Jumbo Mine, while museum quality epidote specimens occur in the extensive garnet ledge at Green Monster. The contact zone between the hornfels and intrusive just north-northwest of the peak of Copper Mountain (see map 22) contains a wide array of spectacular crystal assemblages, including 30-cm long quartz crystals, and 3- to 6-cm-square pyrite cubes in adularia. Several papers detail the paragenesis of mineral species in these deposits (299, 322, 639).

The geology at individual skarn deposits varies as does the ore and gangue mineralogy, but many generalizations can be made. Mapping reveals that sulfide mineralization occurs in both endoskarn and exoskarn. Faults have concentrated sulfide mineralization at some prospects, whereas other prospects show intense limonite staining adjacent to these structures. The occurrence of sulfides is haphazard along the skarn-contact zone. The western contact between the granodiorite and Wales Group carbonate rocks is more mineralized than the eastern contact. The vuggy nature and euhedral crystal growth of some of these skarn zones suggests shallow depths of formation.

The Gould Island prospect (fig. 22, map No. 83) occurs along an east-west, steeply dipping contact between marble and greenstone hornfels. Altered granodiorite crops out on the beach about 100 m from the prospect workings. Sulfide mineralogy consists of galena, sphalerite, and chalcopyrite in small veinlets and finely disseminated in a 10-m-zone within siliceous limestone (639). Wollastonite was found in dump rock and in a trench. This is the only skarn deposit examined in the Jumbo area with appreciable wollastonite.

The Houghton prospect (fig. 22, map No. 86) occurs on the north side of Jumbo Mountain along a granodiorite-Wales Group marble contact trending roughly 055° with a steep northwest dip. A skarn/hornfels zone consisting of garnet, calcite, epidote, and variable amounts of magnetite, chalcopyrite, pyrite, and pyrrhotite is exposed in the adits on the property (fig. 24). This zone is up to 22 m long, but mineralization is confined to much smaller zones. The largest of these zones is about 5 by 3 m exposed in the long adit near the winze.

The Jumbo Basin area contains the copper-gold skarn at Jumbo as well as iron-copper skarns at Magnetite Cliffs, Upper Magnetite, and Gonnason. These mineralized zones are the most extensive in the area and are derived from alteration and replacement of calcareous schist and silty marbles near the contact with the granodiorite intrusion. Fracturing and faulting played an important role in the localization of ore (299). The current examination confirms this premise as higher grade chalcopyrite mineralization is found proximal to these structures. Several workers suggest a relation between mafic dikes and the alteration/mineralizing fluids. There is evidence to both support and refute this theory. Production records suggest that the ore mined from Jumbo contained upwards of 4% copper, but Bureau sampling in old stopes did not confirm this. Additionally, the current size of stopes suggests that more than 112,000 mt of ore were mined from Jumbo and that hand sorting took place prior to beneficiation.

The Copper Mountain Mine is located high on the ridge south of the Jumbo Mine along a contact zone between a tongue of altered granodiorite and surrounding marble and calcareous schist. Surface exposures of copper carbonate in skarn were mined but these did not continue to depth. The mineralization exposed in the main pit on the New York claim does not continue to depth in the long adit driven 60 m below (fig. 25). Numerous other short adits driven below surface exposures of chalcopyrite-bearing skarn on the northeast side of the property were also devoid of mineralization. The long adit driven 305 m below these upper workings followed the granodiorite/marble contact but did not intersect appreciable mineralization.

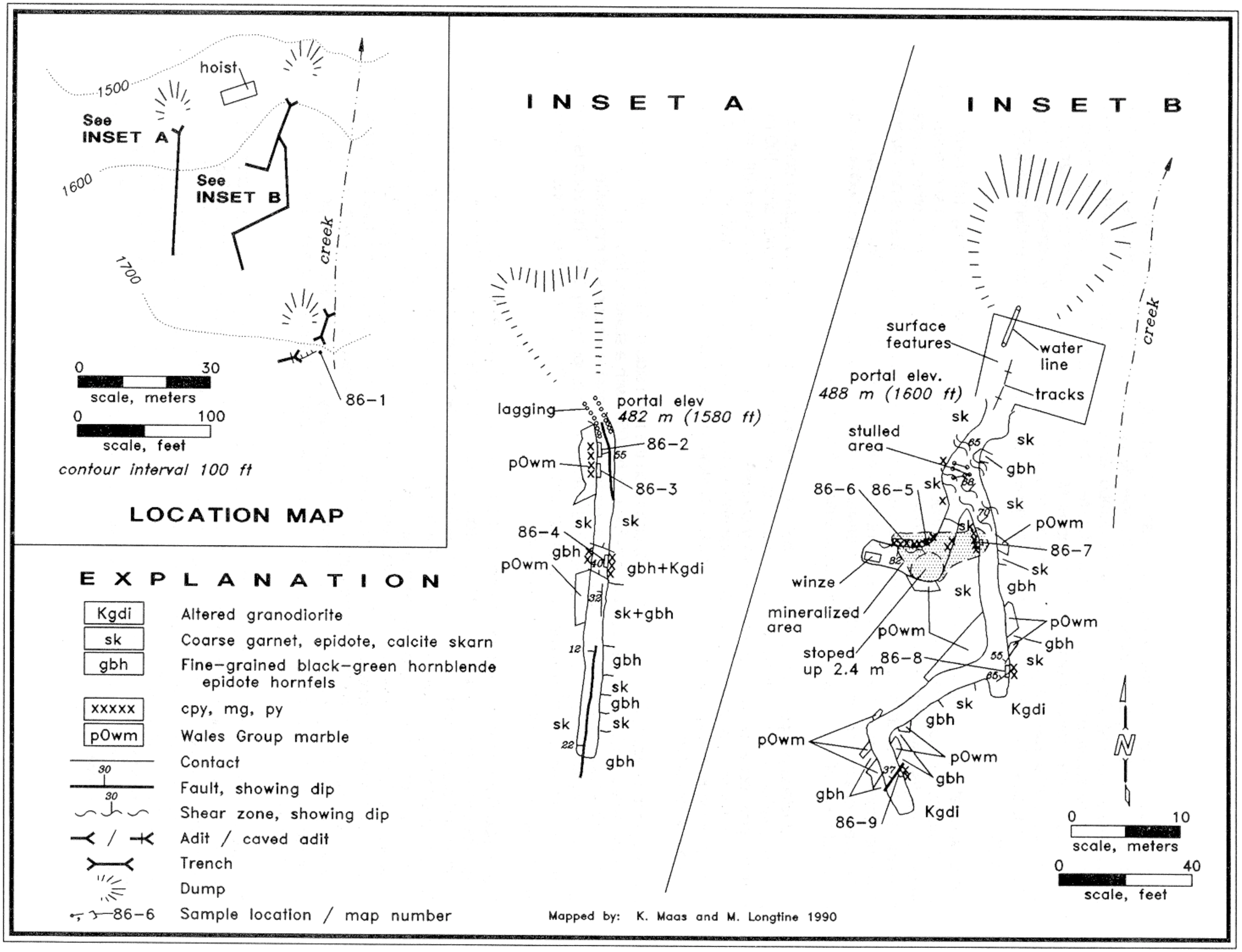

Figure 24. – Houghton Mine, showing geology and sample locations.

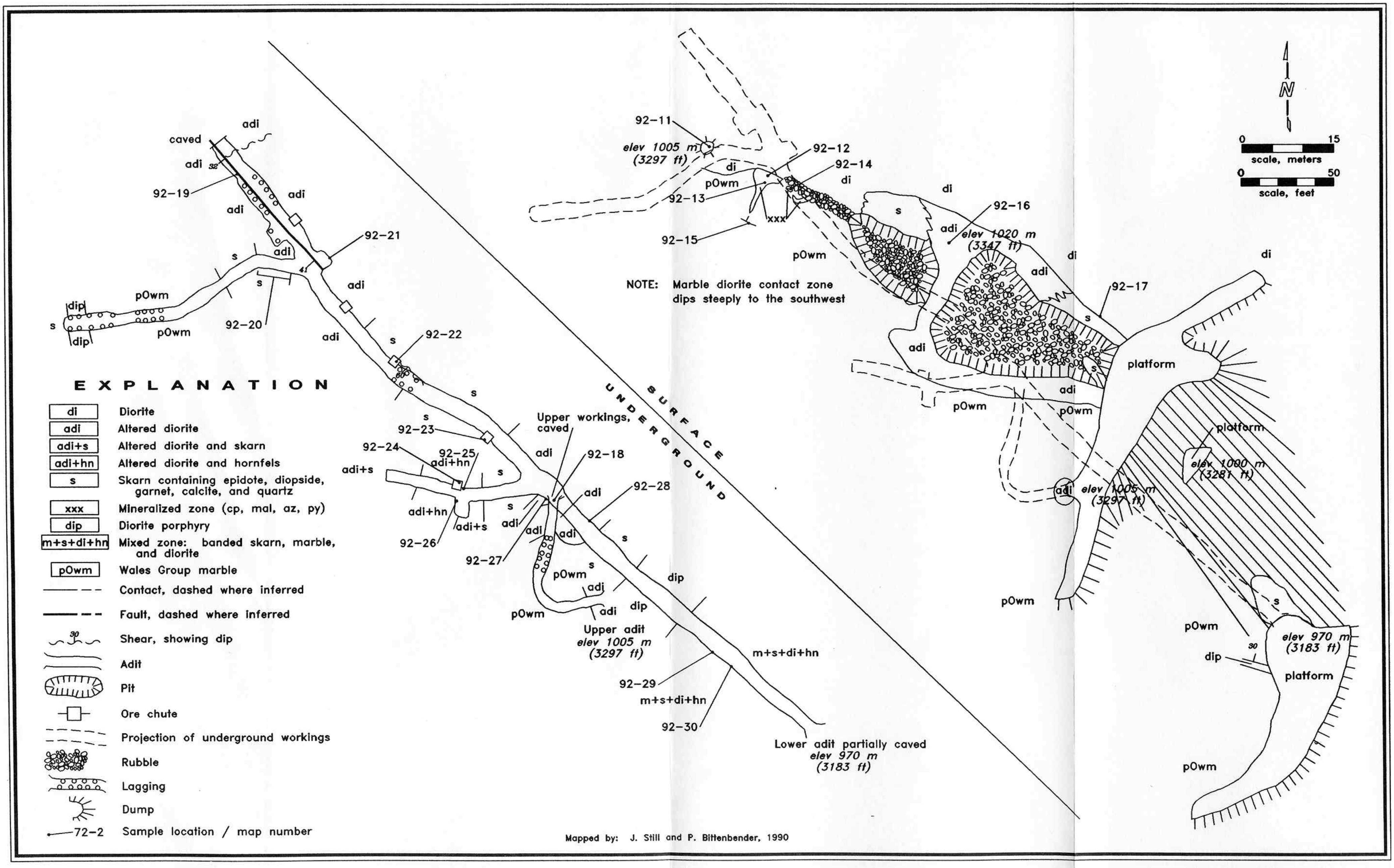

Figure 25. – Copper Mountain Mine, showing geology and sample locations.

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The Hetta Mountain prospect (fig. 22, map 98) contains small occurrences of chalcopyrite, malachite, and pyrite on both sides of an albite-epidote hornfels-marble contact. The contact is marked by a fault striking roughly 087°, with a near vertical dip, that is best exposed in a trench cut into the ridgetop. A thin tongue of altered granodiorite crops out near this trench. Sulfide mineralization is better developed here than in granodiorite exposed near the short adits on the north side of the occurrence. Another fault contact striking 060° between marble and epidotized albite hornfels is exposed in one of the short adits below the trench. Minimal sulfide mineralization was noted here. Generally, sulfides are confined to thin, discontinuous caps and small lenses within more extensive garnet-diopside-epidote skarn that has replaced marble.

The volcanogenic massive sulfide deposit at the Corbin Mine, located along the east shore of Hetta Inlet (map No. 95), is enclosed within a package of quartz sericite schist, dark chlorite schist, and bleached phyllite with up to 2% disseminated pyrite. A few mafic dikes cut foliation of the schists and the concordant sulfide ore zone. Foliation-parallel shearing and tight folds occur within and adjacent to the orebody (300°) and intense kink-banding with associated quartz veinlets is also present. The ore zone varies from 4 to 5 cm to 1.2 m thick. A stope nearly 13 m high has been excavated to the surface in the adit and a 30-m shaft with working levels was sunk to develop the orebody at depth. The State of Alaska DGGS has published a detailed map of the Corbin (251). ACNC is currently reevaluating the Corbin and the Deer Bay properties under a joint-venture agreement with Sealaska Corporation.

The Deer Bay exhalite zone is defined by disseminated pyrite and chalcopyrite hosted in a 17-m-thick portion of a thicker quartz-sericite-chlorite schist unit (242). The exhalative mineralization, as discovered by Sealaska geologists in 1988 (239), is exposed in a roadcut 3 km north of Deer Bay. An adit has been driven on similarly mineralized felsic schist near tidewater above Hetta Inlet, 40 m below the roadcut (fig. 22, map No. 84). The metavolcanic rocks in the area include interbedded chlorite schist, feldspar rhyodacite porphyry, and a massive greenstone unit, that, along with metasedimentary rocks, may define a period of cyclic volcanic activity (574). All these units have been intruded by diabase sills and dikes. The foliation and contacts exposed in the roadcut strike northeast and dip to the northwest. Northwest-trending open folds are exposed in the adit.

Bureau Work

Bureau geologists mapped the accessible underground workings at the Jumbo Mine. The main haulage adit and most of the workings leading from the main glory hole were sampled by Cominco (346) and their work is summarized in the next section. Bureau workers did not duplicate this work, rather, a few samples were taken from the high grade zones to confirm the best grades remaining in the mine. Mapping revealed the erratic nature of ore mineralization at Jumbo. Skarn zones are much more common than ore zones. Altered granodiorite was found at the portal and at the faces of several of the drifts and essentially encompasses the skarn and hornfels zones. This suggests that sulfide mineralization and skarn formation of the Jumbo orebody occurred within a roof pendant of marble and not along a continuous contact of marble and intrusive. Previous workers have suggested a relation between the mineralization found in the glory hole and main haulage level stope (299). The glory hole and underground stope can be connected by a steeply plunging line to the northwest. There is a discontinuity of nearly 60 m between these orebodies. The main haulage stope extends down nearly 95 m, and the main glory hole spans about 20 m vertically. Workers have suggested that the mineralization found in the underground stope may have continuity below its current position. An adit was started to intersect this mineralization (306), but was not completed. There is no reason to expect the mineralization to continue at depth based on the style of mineralization seen elsewhere on the property.

The tenor within ore zones is variable and unpredictable. High grade chalcopyrite zones are adjacent to anomalous, but relatively barren rock. The most concentrated molybdenite mineralization was found along the west rim of the surface glory hole (map No. 91-3, sample 4642), elsewhere it was found disseminated near hornfels zones, but not in a predictable manner. Molybdenite was not found in sufficient quantities to be recoverable. Most ore at Jumbo occurs in marble-derived skarn, but one working (south of the glory hole and across the small creek) exposes a mineralized mafic dike hosted in marble along which a mineralized zone was stoped vertically for nearly 20 m.

The skarns at Gould Island, Houghton, Magnetite Cliffs, Mount Jumbo prospect, Copper Mountain, Green Monster, Hetta Mountain, Copper Bluff, Gould (Hetta Inlet), and Hetta Lake were all examined by Bureau personnel. Adit workings were located, mapped, and sampled. No new discoveries were made during this work. High-grade mineralization was present at each of these deposits, but nowhere was it extensive. Mineralization style at most prospects in the Jumbo area is well characterized by the Houghton and Copper Mountain examples discussed in the previous section and shown in figures 24 and 25.

Significant Samples/Mineral Resources

The magnetite deposit at Magnetite Cliffs was previously sampled by the Bureau (647) and resource calculations were inferred from geologic mapping of surface and underground workings by Kennedy of the USGS (299). The known resources calculated by Kennedy amount to 376,000 mt of ore averaging 46.4% iron, 0.77% copper, 2.7 ppm silver, and 0.34 ppm gold. Bureau sampling revealed metal values slightly lower than these. Tests on this ore by the Bureau's Rolla Research laboratory showed that 92.2% of the iron was recoverable in a concentrate assaying 69% iron, and 84.94% of the total copper was recovered in a 19.8% copper concentrate (647).

Cominco's work at Jumbo revealed a weighted average of 0.8% copper and 0.69 ppm gold across a 31-m stope length in the main haulage level. Bureau geologists took samples containing up to 1.55% copper across 3 m in this same stope (map. No 91-2, sample 4640). A select sample from the west rim of the glory hole contained 4.57% molybdenite and 32.9 ppm silver (map No. 91-3, sample 4642). A 3-m chip sample from a pillar within the glory hole contained 2.8% copper (map No. 91-3, sample 4641).

High-grade samples from small pods of malachite/azurite taken from pit walls at the Copper Mountain Mine (New York claims) contained over 20% copper (e.g. map Nos. 92-15, 92-17). Both these high grade copper samples contained only 20 ppb gold. Gold values were generally lower at the Copper Mountain Mine than at the Jumbo Mine.

Chip samples taken from the stoped area at the Corbin Mine (map No. 95-1, samples 3077, 3078) contained 60.0 and 69.6 ppm silver, and 3,131 and 7,575 ppb gold, respectively. These values corroborate historical reports about gold and silver content at the mine (251). A 1.2-m chip sample across the back of the main adit of quartz sericite schist contained 3.25% copper, 4.15% zinc, 24 ppm silver, and 1,395 ppb gold (map No. 95-1, sample 3080). These precious metal values, coupled with high base metal values, justify additional exploration at the property.

The average metal content of samples collected at the Deer Bay Exhalite roadcut exposure (map No. 84-2) and adit (map No. 84-1) are similar to those reported by Sealaska (241). Four samples from the roadcut average 2,074 ppm copper, 1,027 ppm zinc, 5.6 ppm silver, and 266 ppb gold (map No. 84-2). Eight samples from the adit average 2,206 ppm copper, 1,679 ppm zinc, 3.9 ppm silver, and 607 ppb gold (map No. 84-1). A high-grade sample collected near the face of the adit returned 6,990 ppm copper, 397 ppm zinc, 6.8 ppm silver, and 2,063 ppb gold (map No. 84-1, sample 9394).

Resource and Land Use Issues

There are seven resource and land use issues in the Jumbo Mountain area which may affect future mineral development. These include: 1) a Land Use Designation II (LUD II) that directs Forest Service management to preserve the inherent wildland character of the land, 2) a proposed wild and scenic river draining into Hetta Lake, 3) several anadromous fish streams, 4) subsistence Sitka black-tail deer hunting, 5) A Forest Service recreational cabin at Lake Josephine, 6) management for both high- and medium-level timber harvesting, 7) several private parcels and areas of Native conveyed and selected land (590). The State of Alaska has also identified wildlife management concerns for this area (3).

The LUD II designation affects a small percentage of land surrounding Hetta Lake in the SE corner of the area. There is a proposed wild and scenic river within this LUD II area which could further complicate development plans. Anadromous fish streams are present throughout the area. Hetta Cove will be managed to protect it from any significant impacts associated with development as it supports a large sockeye salmon run and has a healthy population of furbearers for subsistence uses (3). Hetta Inlet supports many subsistence fisheries including abalone, dungeness crab, shrimp, and kelp (3). Subsistence hunting pressure is evenly split between low and very low levels, the boundary nearly bisecting the area. This low intensity is related to the inaccessible, precipitous terrain which characterizes the Jumbo Mountain area. The cabin at Josephine Lake is a popular fly-in camp for recreational hunters.

Forest Service land in the area is managed for both high and medium timber harvesting levels. The high harvest area is located adjacent to Native land on the north side of Portage Bay. The medium- level area is located south of Sulzer Passage on the east and north slopes of Jumbo Mountain. Several private parcels occur in Jumbo Basin and on Copper Mountain and are detailed in the land status section. The remainder of the area is Native conveyed and overselected acreage.

Table 14. Mineral locality information for the Jumbo Mountain area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
82	Sultana	P: MS 743	S: Cu	2 Adits: 8 m, 40 m (caved)	NA	Masses and dissem of sulf in calc-silicates; mag, po, py, minor cp	70, 584, 639	L
83	Gould Island	N	S: Cu, Pb, Zn, Ag, Wollastonite	Adit: 21 m (caved); shaft: 3 m (flooded); T, P	NA	Sample from trench yielded 802 ppb Au, 6.7 ppm Ag, 1.74% Cu, 1.39% Zn	251, 331, 639	L
84	Deer Bay Exhalite	N	VMS: Au, Ag, Cu, Zn	1 Adit: 53m	NA	Stratabound py, cp, sl in qz-sericite-chl sc; best sample: 0.9m @ 2.1 ppm Au, 6.8 ppm Ag, 0.7% Cu	241	L
85	Campbell	N	S: Cu, Fe	Adit: 15 m (partially caved)	NA	1,380 ppm Cu, 175 ppm Zn, 1.5 ppm Ag, (251)	251	ND
86	Houghton	OF	S: Cu, Ag, Au	Adits (3): 30 m, 60 m (open), 25 m (caved), T, P	2,184 kg Cu, 1.6 kg Ag	Samples contained up to 2,630 ppb Au, 46.5 ppm Ag, 10.44% Cu	251, 331, 639	L
87	Mount Jumbo	N	S: Cu, Ag	Adit: 3.3 m (open)	NA	1.2% Cu, 4.3 ppm Ag, and 246 ppb Au across 4.57 m	251	L

Table 14. Mineral locality information for the Jumbo Mountain area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
88	Magnetite Cliff	P: MS562	S: Fe, Cu	Adits: (4, 3 found) 20, 17, 11 m	NA	Reserves are: 376,000 mt @ 45.2% Fe, 0.73% Cu (299)	251, 299	M
89	Upper Magnetite	P: MS562	S: Fe, Cu	OC	NA	Reserves estimated at 45,500 mt (299)	251, 299	L
90	Gonnason	P: MS562	S: Fe, Cu	OC	NA	Channel sample contained 50.6% Fe, 0.94% Cu along 25-m line (263)	251, 263	L
91	Jumbo	P: MS 562, 1542, 1545	S: Cu, Au, Mo	Glory hole; adits (14+); several 1,000 m workings	4,634 mt Cu, 3.3 mt Ag, 268 kg Au	Average grade from production: 4.1% Cu, 24.5 ppm Ag, 2 ppm Au (hand sorted); Cu to 2.8%, Au to 4,526 ppb, Ag to 14.6 ppm, Mo to 1,322 ppm	251, 299, 306, 331, 639,647	L
92	Copper Mountain	P: MS 419, 886, 1006, 1023	S: Cu, Ag, Au	Adits (18), TP (21)	102 mt Cu, 391 kg Ag, 5.5 kg Au	Average grade from production: 1.9% Cu, 61 ppm Ag, 0.85 ppm Au (632); Select samples: 39.48% Cu; low-grade ore: 1,196 ppm Cu	70, 251, 331, 639	L
93	Green Monster	P: MS 649	S: Cu	Adits(2): 20 m, 24 m; T, P	NA	Samples contained up to 6.93% Cu, 40.2 ppm Ag, 1,869 ppb Au across 1.13 m	251, 323, 331, 355, 639	L
94	Deer Bay	N	VMS(?)	1 Adit: 4.6 m	NA	Minor metal values in quartz veins/lenses parallel to foliation in qz-mica sc; best values from 8 samples: 210 ppb Au, 1.6 ppm Ag, 400 ppm Cu	331	L
95	Corbin	N	VMS: Cu, Zn, Ag	Adit: 103 m (open), 14 m (caved); shaft: 31 m (flooded)	9.7 mt Cu, 12 kg Ag	Values to 3.25% Cu, 4.15% Zn, 24 ppm Ag, 1,395 ppb Au across 1.22 m	251, 331, 639	M
96	Copper Bluff	P: MS 1524	S: Cu, Fe	Adit: 23 m (open); T, P	NA	7,150 ppm Cu, 4.5 ppm Ag, and 251 ppb Au across 1.22 m	NA	L
97	Gould (Hetta Inlet)/Iron Crown	N, P: MS 1023	S: Cu, Ni	Adits (2): 6 m w/11m cut (open), 35 m (not found); T, P (2)	NA	2,012 ppm Cu across 0.76 m; 1,340 ppm Ni from massive po boulder	331, 639, 643	L
98	Hetta Mountain	P: MS 884A, 1522A, 1523A	S: Cu, Ag	Adits (6): 2.5 m, 3 m, 6 m, 7 m, 9 m, 10 m; T, P (several)	NA	Sample values to 4.17% Cu, 43.8 ppm Ag, 572 ppb Au and 0.18% Zn across 0.43 m	251, 331, 346, 639	L
99	Het (Hetta Lake)	OF	S: Cu	OC	NA	Values to 1,035 ppm Cu, 1.6 ppm Ag across 1.83 m; other samples contained to 1,251 ppm Cu	250, 254, 331	L

South Arm Cholmondeley Area

General/Land Status

The South Arm Cholmondeley area is located on east-central Prince of Wales Island just south of Cholmondeley Sound and west of Dora Bay. This area contains the Friendship, Ruby Tuesday (Ketchikan Copper/Polymetal) and Hope-Cholmondeley prospects in addition to the historic Moonshine Mine. These mineral locations are located at various elevations along a steep, heavily timbered slope adjacent to South Arm, Cholmondeley Sound. Elevations rise to nearly 1,000 m near the Moonshine Mine and drop precipitously to tidewater and into Big Creek. Industry had recently employed geologists with technical climbing skills to complete east-west traverses for mapping purposes. There are no roads in this area and helicopters are the preferred mode of access to high elevation deposits, although boats can be used to reach the Friendship prospect, located along the shore of South Arm.

Land ownership in the area is a mix between Federal land administered by the Forest Service and Native selected land. The Federal land is currently open to mineral entry, except for a large active claim block surrounding the Ruby Tuesday deposit. Lac Minerals, USA (LAC) and Kennecott Exploration are currently drilling this deposit. The Native land in the area is directly adjacent to South Arm and has not been conveyed to date. Access for cursory examinations can be negotiated with Sealaska.

History/Production/Workings

The Ketchikan Copper Co. prospect, Friendship prospect, and Moonshine Mine were initially discovered by 1900 (70). A 91-m-long adit had been driven on the Ketchikan Copper Co. property by the time Brooks first visited the property in 1901 (70). The adjacent Friendship prospect was explored by a 4.5-m-deep shaft and several cuts. The first claims at the Moonshine were staked in 1905-1906 and the owners commenced sinking a shaft and driving an adit to expose the orebody (458). The shaft was sunk to a depth of 27 m and the adit driven 61 m. Small amounts of ore were produced, but it is unclear whether it was shipped to a smelter (458). The nearby Hope-Cholmondeley prospect was also explored in the early 1900's, and a 6-m inclined shaft, an 8-m adit with a 10-m trench, and several open cuts comprise the workings on this property.

The last reported assessment work was performed at the Hope in 1915 (112). Several ownership changes occurred at the Moonshine between 1906-1916, but no major developments took place. By 1921, the Chomly Mining Co. took over the property and drove a 488-m-long adit to connect with the old shaft . A surveying error made during this work created a cave-in that developed a small glory hole (498) which can be seen today. The company also installed an aerial tram to the beach. Alaska Territorial Dep. of Mines geologists examined the property in 1926, 1942, and 1948 (194,441 ,498). DGGS reexamined the Moonshine, Hope, and Friendship in 1972 (251).

The Ketchikan Copper Co. prospect was renamed the Polymetal Lode when it was restaked in 1947 by G. Roberts. Fowler evaluated the prospect in 1948 (196). Roberts formed the Totem Exploration Co. in the mid-1950's and this group performed minor drilling (584). J. Walper restaked the Polymetal/Friendship area in 1973, and drilling was done by ASARCO (lessee) in 1974. Walper's ownership lapsed in 1977 and Noranda restaked a large area encompassing these historic properties in 1978-79, renaming it the Ruby Tuesday (317). Kucinski mapped and sampled portions of the new claimblock in 1979-80 and ultimately produced a master's thesis describing the geology and mineralization in the Ruby Tuesday area (317). LAC gained a controlling interest in the Ruby Tuesday property in 1988 (although Noranda is still a percentage owner) and secured Kennecott as a joint-venture partner in 1993. Several drill holes combined with detailed geologic mapping and geochemical sampling data comprise the extensive database now available for this property. Parts of this information are summarized in a 1989 LAC report (319).

Geology

The South Arm Cholmondeley area is underlain by pre-Ordovician Wales Group metamorphic rocks consisting of chlorite schist, siliceous sericitic schist, marble and calcareous schist, greenstone schist, clastic tuffaceous schist, black and green phyllite (black argillaceous chert), various breccias, and a silicious schist with abundant quartz veining and silica flooding (251). Minor occurrences of northwest-trending mafic and andesitic dikes crosscut these foliated rocks, but there are no large intrusives mapped in the area. These dikes are generally subparallel to major faults in the area (striking 290° to 310°), although 025°- to 040°-striking faults are also present. Chlorite schist, in places observed with thin calcareous interbeds, seems to be the most common rock type in the area. Marble and calcareous schist either host or are adjacent to the known mineral deposits in the area (fig. 26). This is true of the three areas of mineralization observed at Ruby Tuesday including 1) zinc-lead-copper-silver volcanogenic massive sulfide (VMS) adjacent to a marble band, 2) marble hosted disseminated sphalerite, and 3) the replacement lead-zinc pods. Other examples include shear-related lead-zinc-copper veins hosted in silty marble at the Hope-Cholmondeley and the fault-related lead-zinc-copper mineralization present near the marble, chlorite schist contact at the Moonshine, Friendship, and Hope-Cholmondeley.

Foliation of rocks in the Cholmondeley area generally strikes west-northwest, but local variations are common as many episodes of folding have been recognized in the area. The Dolomi-Sulzer Anticline is a prominent fold whose axis cuts through the Cholmondeley area just south of the Moonshine Mine. The fold axis undulates along its 16-km-long 290° to 325° trend, plunges northwest, and is not markedly offset on a map-scale by the faults that crisscross the area (251). This is not necessarily the case on a deposit scale as parasitic folds are truncated by steeply dipping normal faults at the Hope-Cholmondeley prospect.

Rock exposures in the vicinity of the Ruby Tuesday exhibit fold axes trending approximately 040° and 310°, with a 50° to 60° plunge (fig. 27). The 310°-trending folds are superimposed on the recumbent set best displayed on the southeast side of the property. The VMS-style mineralization at Ruby Tuesday is not localized by these folds, but the complicated structure manifested by differential thinning and thickening of beds during this fold-episode does hinder exploration. This is best exemplified at the Fish showing (map No. 101-1) on the northwest side of the property (fig. 27). A 1.5-m-thick of zone of massive galena-sphalerite-chalcopyrite mineralization (50% to 60% total sulfides) hosted in a black, argillaceous clastic unit crops out on the surface for nearly 120 m along strike with a similar 120-m vertical extent. Footwall rocks here are quartz-sericite schist and hanging wall rocks are a dark, chlorite schist. This massive sulfide zone was not intersected at depth during drilling. Widespread quartz-sericite alteration also hinders the search for ore horizons.

Most rocks in the Ruby Tuesday area have been thoroughly altered and drill core evidence shows that even dirty marbles have been converted to quartz sericite schist over a 3-m interval (Anderson,

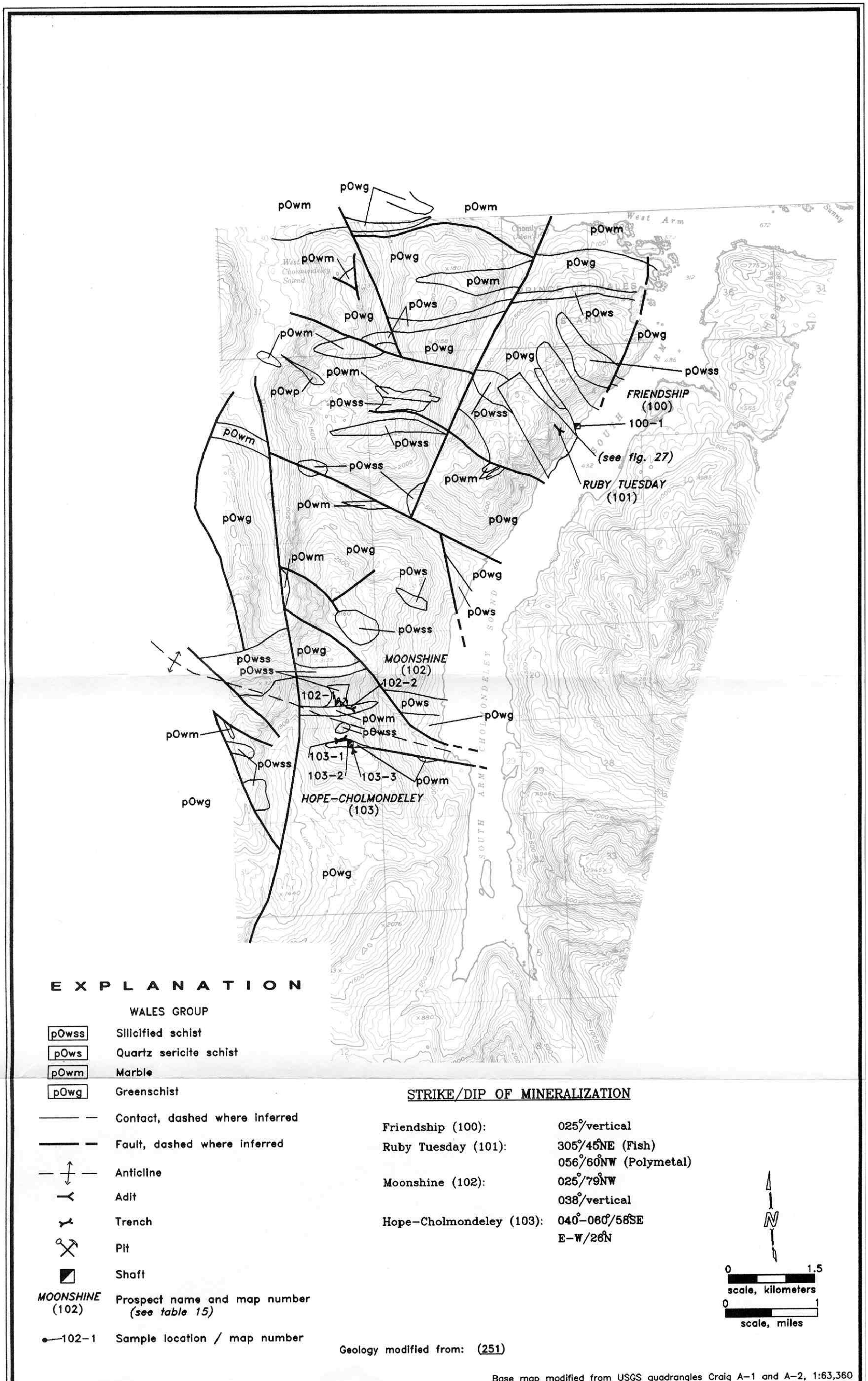

Figure 26. – South Arm Cholmondeley area, showing geology, mineral localities, and sample locations.

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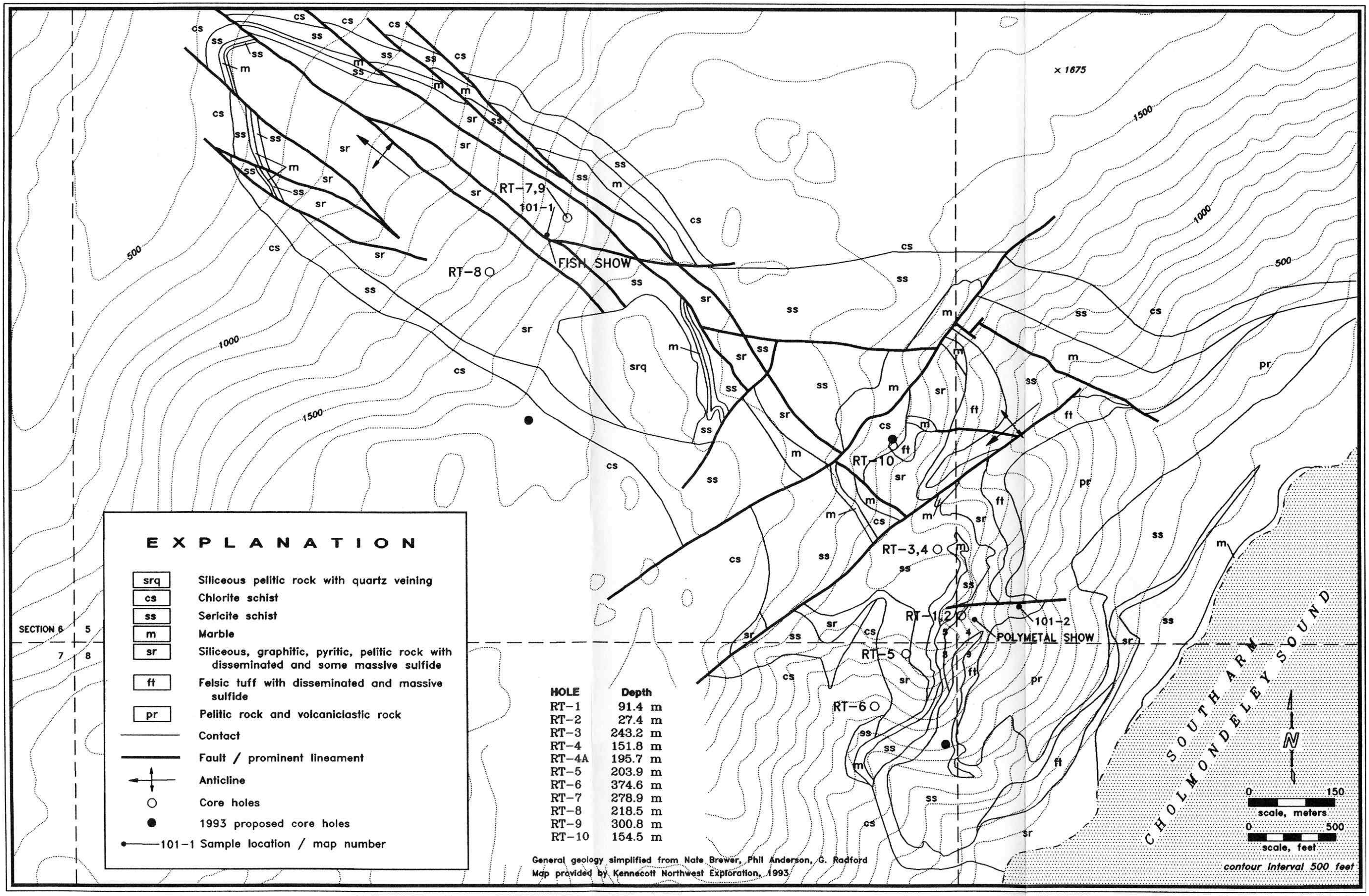

Figure 27. – General geology of the Ruby Tuesday claims.

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personal communication). In fact, map outcrop patterns suggest that the dirty marble and calcareous metasedimentary rocks may be the primary targets for this type of alteration. Methodology used during current exploration is to determine original lithologies (using trace element ratios) to reconstruct original stratigraphy and possibly provide more accurate drilling targets.

The Polymetal mineralization (map No. 101-2) consists of thin stringers and bands of sphalerite, pyrite, galena, and chalcopyrite in a siliceous felsic tuff. Mineralization occurs near the outer margin of the tuff unit near its contact with the black argillaceous chert. Fowler reported the mineralized zone in outcrop to be 6.1 m wide and contain an average of 11.1% zinc, 3.1% lead, and a trace of silver (196). This mineralization was not intersected in a 91-m-long adit driven to undercut the surface outcrops. Fowler estimated an additional 61 m of crosscut would be necessary to intersect the lode (196). The surface mineralization exposed at Polymetal is parallel to the 056°strike and 60° northwest dip of the foliated host rocks. Kucinski refers to small patches of VMS-style mineralization hosted in massive, fine-grained black argillaceous chert at the Chomly Lode (317). The sulfides consist of sphalerite and galena in thin stringers (0.5 to 12 cm thick) up to 1 m long (317). The mineralization is stratabound within the chert unit which overlies the Polymetal lode. The significance of the occurrence is the fact that VMS style mineralization is found in more than one horizon on the property.

Mineralization seen in the adit and adjacent trench at the Hope-Cholmondeley (map No. 103) is localized within a silty-marble horizon that has been folded in an isoclinal, recumbent manner. Mineralization in the adit consists of pods and lenses of galena and sphalerite up to 1.2 m thick with minor chalcopyrite and pyrite. There is a 5-m-long zone of sulfides exposed in the north rib of this adit that is abruptly terminated by an east-west striking, 55° north-dipping normal fault. Shear-related mineralization hosted in marble is exposed in two trenches northwest of a shallow shaft. Strike and dip of the 5- to 10-cm-thick quartz-calcite vein is 060°/58 northwest and is exposed for 23 m along strike.

The trenches southwest of the main glory hole at the Moonshine Mine (map No. 102) are oriented along two faults striking 025° and 038°. There are small galena-rich veins in the 025° structure from 5 to 30 cm thick. The main mineralization exploited in the glory hole (along the 038° fault) was not exposed, but literature suggests that a rich vein up to 2.5 m wide was worked. The long adit did not intersect ore; rather it exposed extensive sections of chlorite and greenstone schist, garnet schist, and marble.

The Friendship lode (map No. 100) is exposed in two shallow shafts and several trenches developed along a shear zone coincidental with the contact between marble and chlorite schist host rocks. A quartz-calcite vein from 15 cm to 1.5 m thick was explored and chalcopyrite, bornite, and pyrite were the main sulfides found. Mineralization is spotty and has been largely removed during previous exploration efforts.

Bureau Work

Bureau of Mines (Bureau) geologists mapped and sampled the accessible workings at the Friendship, Moonshine, and Hope-Cholmondeley properties. The adit at the Ruby Tuesday was not mapped as this working does not intersect the ore zone. Geologists from LAC/Kennecott escorted Bureau geologists on a tour of the Ruby Tuesday property and two character samples were taken from the Polymetal and Fish mineralization. A sample from the Polymetal lode contained 8.13% zinc, 2,548 ppm copper, and 1,711 ppm lead over 2.13 m (map No. 101-1). The Fish showing contained 16.52% zinc,

8.41% lead, 1.36% copper, and 27.3 ppm silver over 1.68 m (map No. 101-2).

Samples taken from high-grade float lying in the glory hole at the Moonshine Mine contained up to 4,668 ppm silver, 74.74% lead, and 3.51% zinc. Samples of the galena-sphalerite-rich veins exposed in trenches southwest of the glory hole contained up to 19.9% zinc, but significantly lower grades of lead and silver than are found on the remainder of the property. These workings trace mineralization for more than 100 m from the main glory hole. There are additional outcrops of unmineralized quartz-calcite veins parallel to the main structure.

Similar, but lower-grade mineralization was found at the Hope-Cholmondeley prospect, located 0.55 km southeast of the Moonshine. A sample across a 0.91-m zone in the adit contained 17.53% zinc, 8.71% lead, and 142.6 ppm silver (map No. 103-3, sample 4376). Samples from the shear zone exposed in trenches northwest of the adit contain up to 0.15% copper, 0.27% lead, and 1.9% zinc (map No. 103-3, sample 4374). A soil geochemical grid or geophysical survey (ground-VLF) could be initiated between these two deposits in search of additional mineralization.

The Friendship vein was mapped and sampled and assays revealed up to 15.63 ppm Au across 1.1 m (map No. 100-1, sample 4276) and 3.91% copper from a select sample taken at the water-filled shaft (map No. 100-1, sample 4259). Samples were also analyzed for REE because of the prospect's proximity to Dora Bay, which does contain notable REE (25). The analyses did not reveal REE mineralization, although the State of Alaska discovered REE in stream sediments in the vicinity (251).

Significant Samples/Mineral Resources

Drilling at the Ruby Tuesday has intersected several zones of significant mineralization. Hole RT-9 intersected 42.3 m of 3.18% zinc, with a 3-m high-grade portion of 9.52% zinc and 0.97% copper (fig. 27). Holes RT-1, RT-2, and RT-4 contained the highest gold values. A 2.56-m interval in hole RT-1 contained 10.5 ppm gold, while a 1.4-m interval in hole RT-4A contained 5.8 ppm gold (319). Additional drilling results from 1993 work were not available to the Bureau, and interested readers are encouraged to contact LAC for details.

There are no resources established for the properties in the Cholmondeley area, although Bureau geologists noticed several metric tons of high-grade lead-silver ore lying in the glory hole at the Moonshine.

Resource and Land Use Issues

There are five resource and land use issues present in the South Arm Cholmondeley area which could have an affect on future mineral development. These issues include: 1) the presence of a LUD II designation which can severely restrict development, 2) various management objectives for timber harvest in the area which ultimately affects road building, 3) a proposed wild and scenic river enters the area from the northwest, 4) several anadromous fish streams, and 5) subsistence hunting levels for Sitka black-tail deer (590).

The LUD II designation encompasses the southern quarter of the area and includes the Hope-Cholmondeley prospect, and abuts the Moonshine Mine. The management objectives for the remainder of the area are divided between high-and medium-level timber harvest. The Ruby Tuesday claims are located within an area managed for high timber harvest, so few development conflicts are foreseen if this property

passes from its current exploration phase to a development phase. Big Creek is a proposed wild and scenic river as well as an anadromous fish stream. The headwaters of this creek are located in the southwest portion of the area and any development that could adversely affect this drainage will be under intense scrutiny. There are several short anadromous fish streams entering the area from the west side of South Arm Cholmondeley Sound. Subsistence hunting pressure is considered very low, most likely related to the precipitous topography in the area. The State of Alaska has determined that mineral entry in the area is consistent with its management objectives for tideland areas (2).

Table 15. Mineral locality information for the South Arm Cholmondeley area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
100	Friendship	OF	PV: Cu, Au	Shaft: 4.5 m (flooded); T, P (flooded), C(s)	NA	Au values ranged from 2,574 ppb to 15.6 ppm, Cu reached 3.91%	70, 251, 331	L
101	Ruby Tuesday/ Polymetal	OF	VMS: Zn, Cu, Pb	Adit: 91 m	NA	Polymetal: 11.1% Zn, 3.1% Pb, trace Ag (196); Fish: 16.5% Zn, 8.4% Pb, 1.36% Cu and 27.9 ppm Ag	196, 251, 380	M
102	Moonshine	OF	PV: Cu, Zn, Ag	Adits (2):488 m (caved at 293 m), 61 m (caved); shaft 27 m; glory hole	Minor (251)	1.22 m chip samples with up to 59 ppm Ag, 6.76% Pb, and 13.6% Zn; high grade contains to 4,668 ppm Ag, and 74.7% Pb	251, 331, 458, 498, 643	L
103	Hope-Cholmondeley	OF	PV, replacement: Zn, Pb, Ag	Adit:8 m, (open) ; T, P (4); shaft: 6 m	NA	0.91-m-thick pod in adit contained 143 ppm Ag, 17.5% Zn, and 8.71% Pb	251, 331, 642	L

Dolomi Area

General/Land Status

The Dolomi area is located on the east side of Prince of Wales Island between Cholmondeley Sound, Clarence Strait, and Port Johnson, about 32 km southwest of Ketchikan (figs. 28, 29). It contains the old Dolomi gold mining area located to the north and east of Paul Lake. The Valparaiso and Golden Fleece Mines, the Paul Lake prospect, and numerous other vein-gold prospects are covered by 15 patented mining claims including: MS Nos. 1056, 790, 996, 587, 594, 766, 1055, 789, 995, 540A and B, 760, 1058, 1581, 1057, 889, and 279 (249). The ownership of these claims is unknown. The Kael-7 Mile Trend is located in the north part of the area and is on Native land to the east and unpatented mining claims to the west. Most of the eastern part of the area is native land, while the western part is Forest Service land, open to mineral entry. The area topography is fairly gentle with a maximum elevation of 676 m (2,221 ft). Most of the eastern part of the area has been logged, leaving slash and brush. Karst topography has developed in areas underlain by carbonate rocks. The abandoned mining town and logging camp at Dolomi can be reached by floatplane or boat. Logging roads provide access to most of the area's prospects. An abandoned logging camp at Lancaster Cove is connected to the same road network through a short Forest Service trail at the crest of the Dolomi Peninsula.

History/Workings/Production

Several gold deposits were discovered in the Dolomi area in 1899; among them were the Valparaiso Mine and the Golden Fleece Mine. The Valparaiso Mine was developed with two shafts and three levels of drifts, and a mill by 1908 (643). By 1933 mining had reached a depth of 122 m (400 feet). This deposit was mined sporadically between 1900 and 1933. Reported production is 22.71 kg of gold and 16.2 kg of silver (585). Bureau of Mines (Bureau) investigation of the property in 1990 revealed a 38-m-long inclined shaft that connects two mine levels located 16 m and 37 m down the shaft. In all 670 m of underground workings are accessible. The upper parts of the shaft are choked by large blocks of marble. Small caved areas and loose rock inhibit safe access to some parts of the underground workings.

The Golden Fleece Mine was developed with two drifts and several shafts by 1902. A mill was also erected (70). Small amounts of gold production were reported in the early 1900's and again in the early 1920's, with grades ranging from $10.90 to $54.00 per mt. Bureau investigation of this mine in 1990 revealed a lower adit 130 m long and an upper adit 59 m long connected by a 68-m-long raise. Parts of the upper adit are stoped to the surface and small stopes are developed along parts of the raise.

In addition to the Valparaiso and Golden Fleece, several other prospects such as the Amazon and Moonshine show evidence of production. Oliver (374) estimates that 300 kg of reported and unreported gold was mined from the Dolomi area.

During 1983 and 1984 Houston Oil and Minerals Exploration Company (HOMECO) performed geologic mapping and drilled 21 holes on the Valparaiso, Paul Lake, Amazon, and Boston properties.

Sealaska Corporation has been evaluating all native lands within the Dolomi area since 1987. This evaluation extends to the west into National Forest lands where 216 mining claims have been staked. In 1988 a Sealaska geologist discovered the Kael-7 Mile Trend. In 1990, this property along with the 216 mining claims and the remainder of Native lands in the area were leased to American Copper and Nickel Company (ACNC). During 1990 and 1991 ACNC drilled 26 holes and collected 3,426 auger soil samples mostly on the Kael-7 Mile Trend. In 1992, 4,270-line meters of induced potential survey was conducted in nine lines across and along the Kael-7 Mile Trend (244).

Geology

The Dolomi area is underlain by pre-Ordovician Wales Group rocks, that consist of the following units: 1) chlorite schist, greenstone, sericite schist, and minor marble, blackschist, and gray schist; 2) chlorite schist, greenstone, and marble; and 3) marble (244). To the south, in unconformable contact with the Wales Group rocks, are Silurian to Ordovician Descon Formation metasedimentary and metavolcanic rocks. To the north, the Wales Group rocks are intruded by the Mesozoic or Paleozoic Byron Lake alkalic intrusive complex, which consists of diorite, syenite, granodiorite, and quartz monzonite. The most important structural feature in the area is a doubly-plunging anticline (dome) oriented east-west and centered on Paul Lake.

Most mineral deposits in the area can be divided into three types: 1) conformable, low-sulfide, gold-bearing quartz veins that are brecciated and locally contain marble; 2) unconformable, low-sulfide, gold-bearing quartz veins; and 3) conformable, copper-gold-bearing, quartz-marble breccia zones. A possible source for the gold mineralization identified by drilling and surface exploration consists of subeconomic, gold-bearing schists that Oliver (374) and Hedderly-Smith (244) considered exhalative.

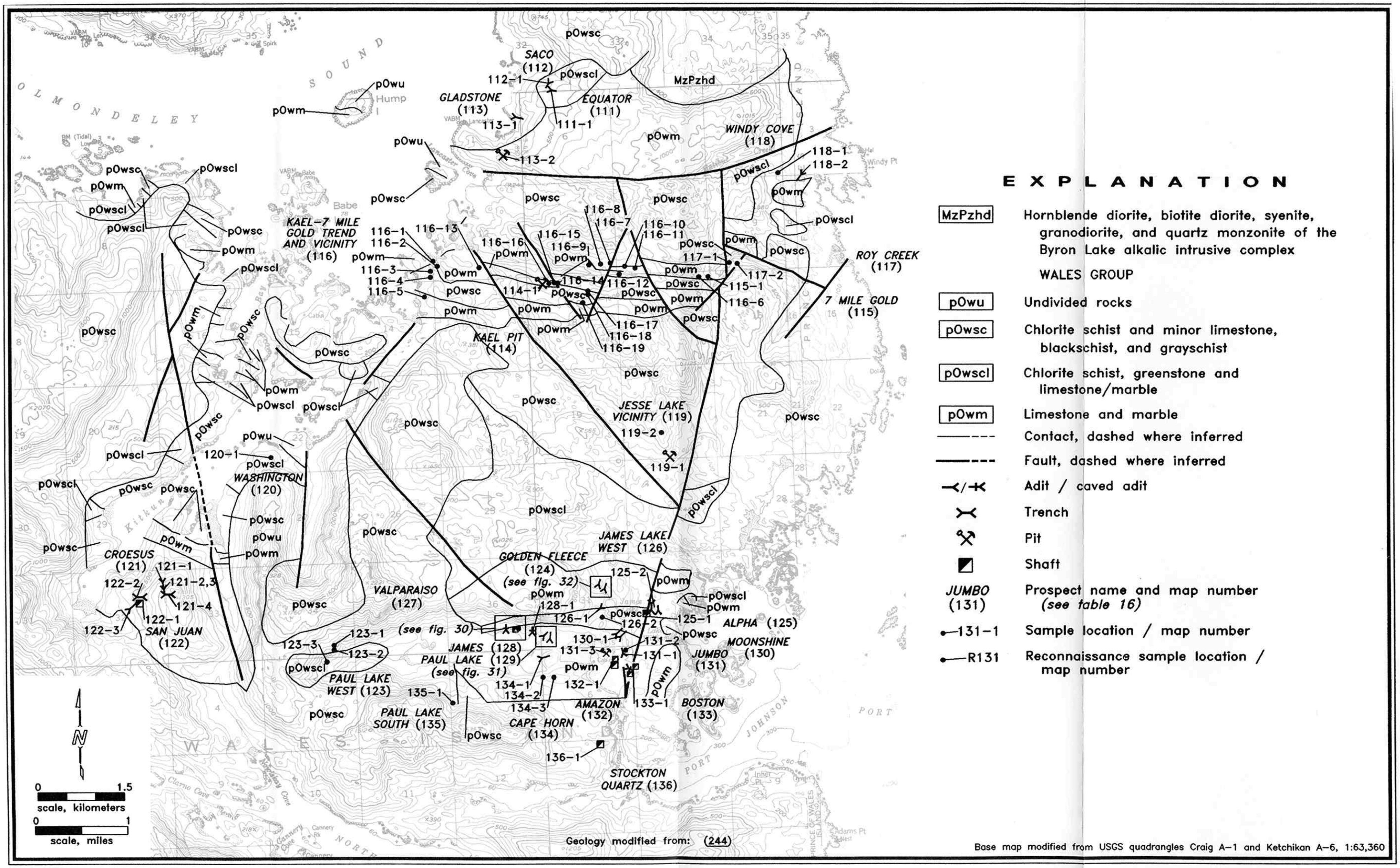

Figure 28. — Dolomi area, showning geology, mineral localities, and sample locations.

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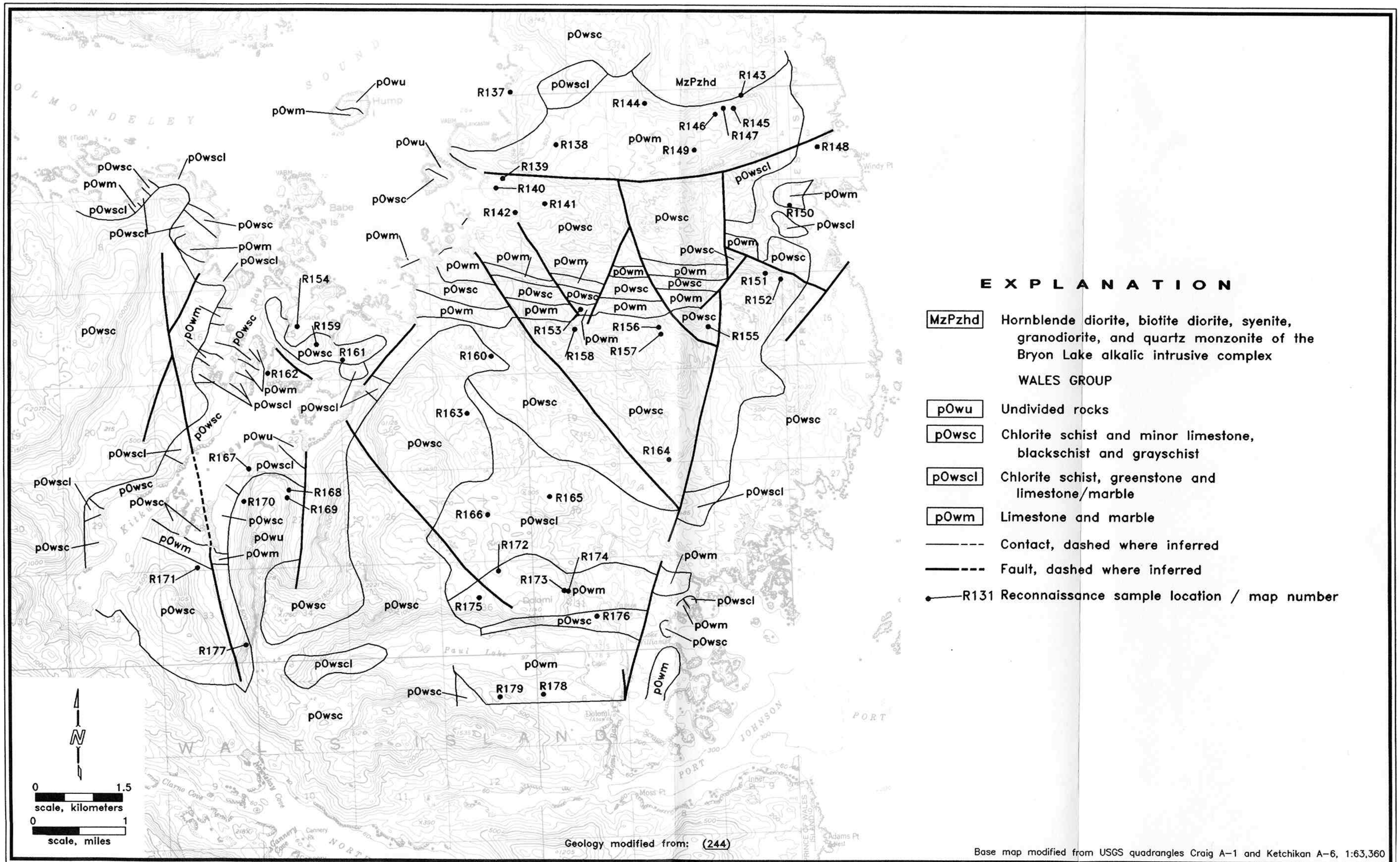

Figure 29. – Dolomi area, showing geology and reconnaissance sample locations.

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The Valparaiso (fig. 30), Paul Lake (fig. 31), and Amazon low-sulfide, gold-bearing, quartz and quartz-breccia vein deposits are all conformably hosted in marbles and schists on the north flank of the Paul Lake dome. These generally strike east-west and dip about 40° north. The veins have well-defined hanging walls and footwalls. Locally the veins are composed of quartz-marble breccia. These deposits contain less than 2% total sulfides consisting of pyrite, chalcopyrite, and tetrahedrite. Gold-silver ratios average about 2:1 (374).

Diamond drilling by HOMEC during 1983 and 1984 indicates that quartz-sericite schists in the vicinity of the above deposits are anomalous in gold. One drill hole contained 4.5 m assaying 2.0 ppm gold, while another had 6 m of 1.8 ppm gold. Because the schists are not veined and there are no dikes in the area, it is possible this gold mineralization is primary and exhalative (374). Diamond drilling indicates that the Paul Lake deposit extends for at least 1,036 m along strike and has a thickness from 0.6 to 3.4 m. Underground mapping indicates that the Valparaiso vein extends at least 330 m along strike and 47 m down dip. The Amazon deposit is too poorly exposed on the surface to determine the extent of mineralization.

It is possible that the aforementioned gold deposits formed during greenschist-facies regional metamorphism that locally reached the garnet isograd. The metamorphism remobilized primary gold from the schists and redeposited it with quartz and carbonate along the limbs of the dome in bedding plane shears, caused by the doming (243,374). Such metamorphic gold deposits can be large.

The Golden Fleece Mine (fig. 32) and Boston and Moonshine prospects are all unconformable, low-sulfide, gold-bearing quartz veins with well-defined hanging walls and footwalls. All are located within the north-trending Dolomi Bay fault zone shown by Herreid (249) cutting through Dolomi Bay and James Lake. Both the Golden Fleece vein and the Boston vein align with the fault zone. The Moonshine vein is on a 300° splay from the fault zone. The most extensive of these veins is the Boston, which was traced intermittently for 160 m along strike. The Golden Fleece is exposed in underground workings for 45 m along strike and is partly stoped out. A 1.0- to 1.3-m-thick vein was traced for 34 m along the surface and underground at the Moonshine and assays reveal low gold values whereas an adjacent narrow stringer, traced for 5 m, contains very high, but spotty gold values. Gold-silver ratios for these veins average 1:20, but vary greatly. In general, the unconformable veins are much less extensive than the conformable veins.

The Kael-7 Mile Gold Trend, Windy Cove, and Equator prospects all consist of conformable quartz- dolomite breccia zones bearing chalcopyrite and gold. The most significant is the Kael-7 Mile Gold Trend, which includes the Kael and 7 Mile pits. The trend extends for 5.6 km east from the western edge of the Dolomi Peninsula and consists of steeply dipping, brecciated, and silicified dolomite in a quartz matrix with variable pyrite, chalcopyrite. It has poorly defined hanging walls and footwalls and is hosted within a 250-m-thick marble unit. Gold-silver ratios average about 2:1. Pits and cuts, soil sampling, and shallow diamond drilling at scattered locations along this trend indicate an overall low level of gold-copper mineralization. Hedderly-Smith theorizes that these copper-gold deposits were formed by remobilization of local volcanogenic sulfide deposits by regional upper greenschist facies metamorphism or from hydrothermal fluids emanating from the Byron Lake intrusive complex (243).

Bureau Work

Bureau geologists mapped and sampled all the historic mines and prospects in the Dolomi area that could be located. This included the Valparaiso and Golden Fleece Mines; the Paul Lake, Boston, Amazon, Moonshine, Jumbo, Croesus, San Juan, Equator, Saco, Windy Cove, and Gladstone prospects; and numerous other occurrences and prospects. In all, 21 adits with a cumulative length of 1,374 m were located.

The newly discovered Kael-7 Mile Trend and other occurrences such as Roy Creek and Jesse Lake vicinity were under active exploration by Sealaska geologists and ACNC during 1990 and 1991 and Bureau work in this area was confined to reconnaissance and characterization sampling.

Significant Results/Mineral Resources

Bureau sampling from the conformable, low-sulfide, vein-gold deposits indicates that the lower level of the Valparaiso vein averages 6.5 ppm gold across a width of 1.5 m. A rubble crop sample from the Amazon vein contained 4.9 ppm gold (map No. 132-1, sample 5530) and a nearby diamond drill hole contained 2.4 m of 3.0 ppm gold (374). Sampling of the Paul Lake vein indicates a 67 m strike length that averages 10.6 ppm gold across 0.76 m (map Nos. 129-1 to 129-9). These results correlate with diamond drilling by HOMEC which indicated the Paul Lake vein contains an inferred resource of 320,000 mt averaging 7.54 ppm gold across 1.0 m along a 640 m strike length. The extent and grade of the conformable, low-sulfide, vein-gold deposits indicates they form an excellent exploration target. Geological mapping, geophysics, and drilling may reveal additional resources with sufficient extent and grade to attract development.

Bureau sampling from the unconformable, low-sulfide, vein-gold deposits indicated the highest average grade was found at the partly mined-out Golden Fleece vein. Samples taken here averaged 6.8 ppm gold (map Nos. 124-1 to 124-15). At the Moonshine, a vein traced for 34 m contained from 0.06 to 0.396 ppm gold and an adjacent stringer contained up to 2,167 ppm gold (map No. 130-1, sample 5036). The most extensive vein was found at the Boston prospect which averaged 2.7 ppm gold (map No. 133-1). The unconformable, low-sulfide, vein-gold deposits are of lower grade and less extensive than the conformable, low-sulfide, vein-gold deposits and present a less attractive exploration target.

Bureau samples from the Kael-7 Mile Trend indicated low, spotty gold values. Sampling across a 9-m-wide portion of the zone at the 7 Mile pit contained 105 to 566 ppb gold (map No.115-1, samples 5002-5008). A select sample of rubble crop contained 26.8 ppm gold and 1.0% copper (map No. 115-1, sample 5001). The best values along the trend were revealed by diamond drilling near the 7 Mile Pit, where 3.6 m averaged 4.35 ppm gold (243). The extent of the Kael-7 Mile Trend makes it an attractive exploration target. However, the gold-copper grades discovered to date are much too low to attract serious development interest.

Resource and Land Use Issues

There are five resource and land use issues identified in the Dolomi area. These relate to: 1) subsistence Sitka black-tail deer hunting, 2) anadromous fish streams, 3) timber management designations, 4) a minerals prescription designation, and 5) extensive native lands within the area.

Subsistence deer hunting pressure in the area is rated low. There are twelve anadromous fish streams identified in the area, two flow into Dolomi Bay, four flow into Clarence Strait, four flow into Cholmondeley Sound, and two into Kitkun Bay. One of these streams flows from Paul Lake to Dolomi Bay and is adjacent to an area of past mining and logging activity, which is presently undergoing intensive mineral exploration. If mining-related activities ensue, they could certainly affect this stream. Most of the land on the east side of the area is Native-owned, and the remainder is Forest Service land designated for timber management. The public lands within the area are designated for a mineral prescription. The area contains numerous logging roads that access both Native and Forest Service land.

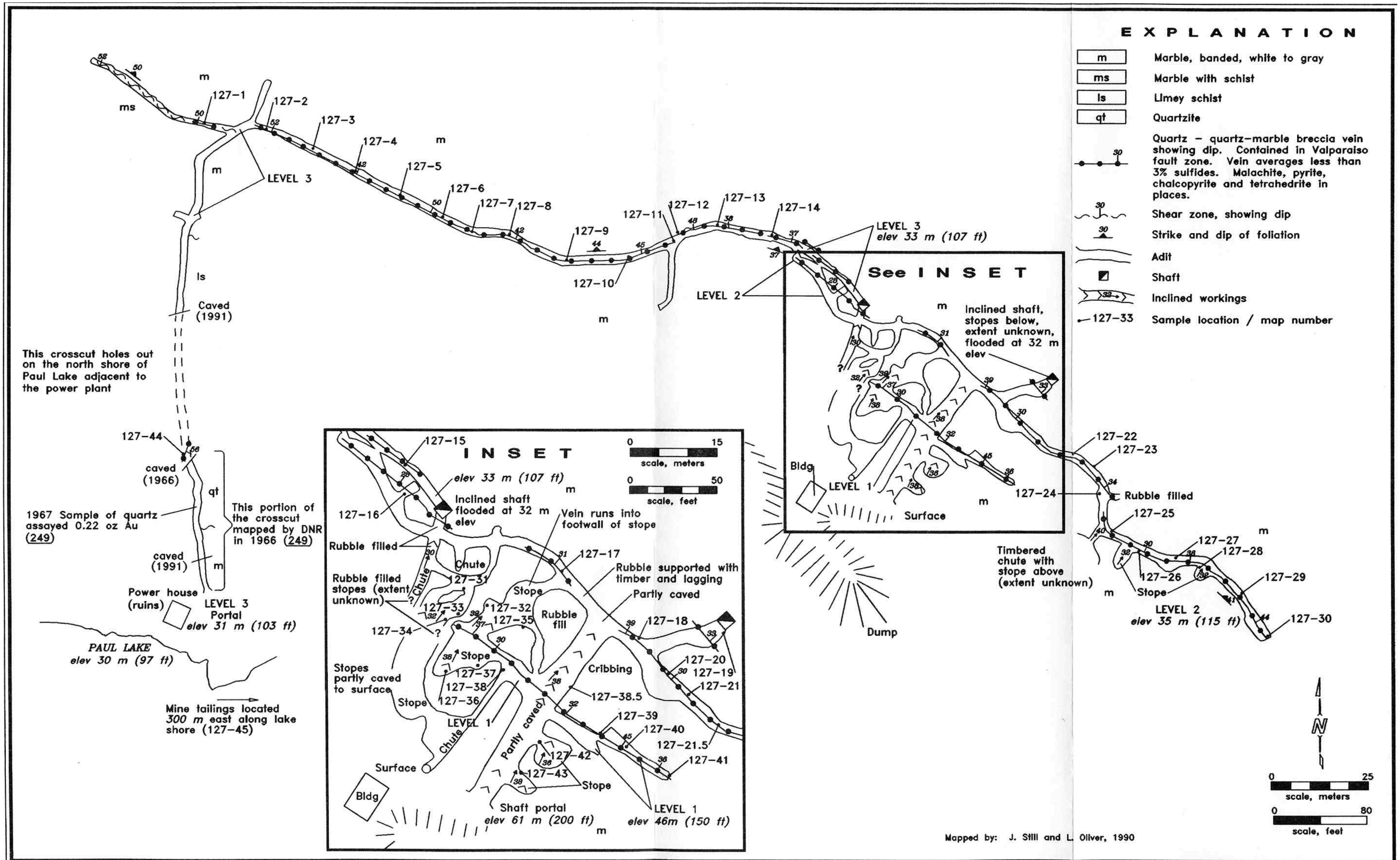

Figure 30. – Valparaiso Mine, showing geology and sample locations from main workings.

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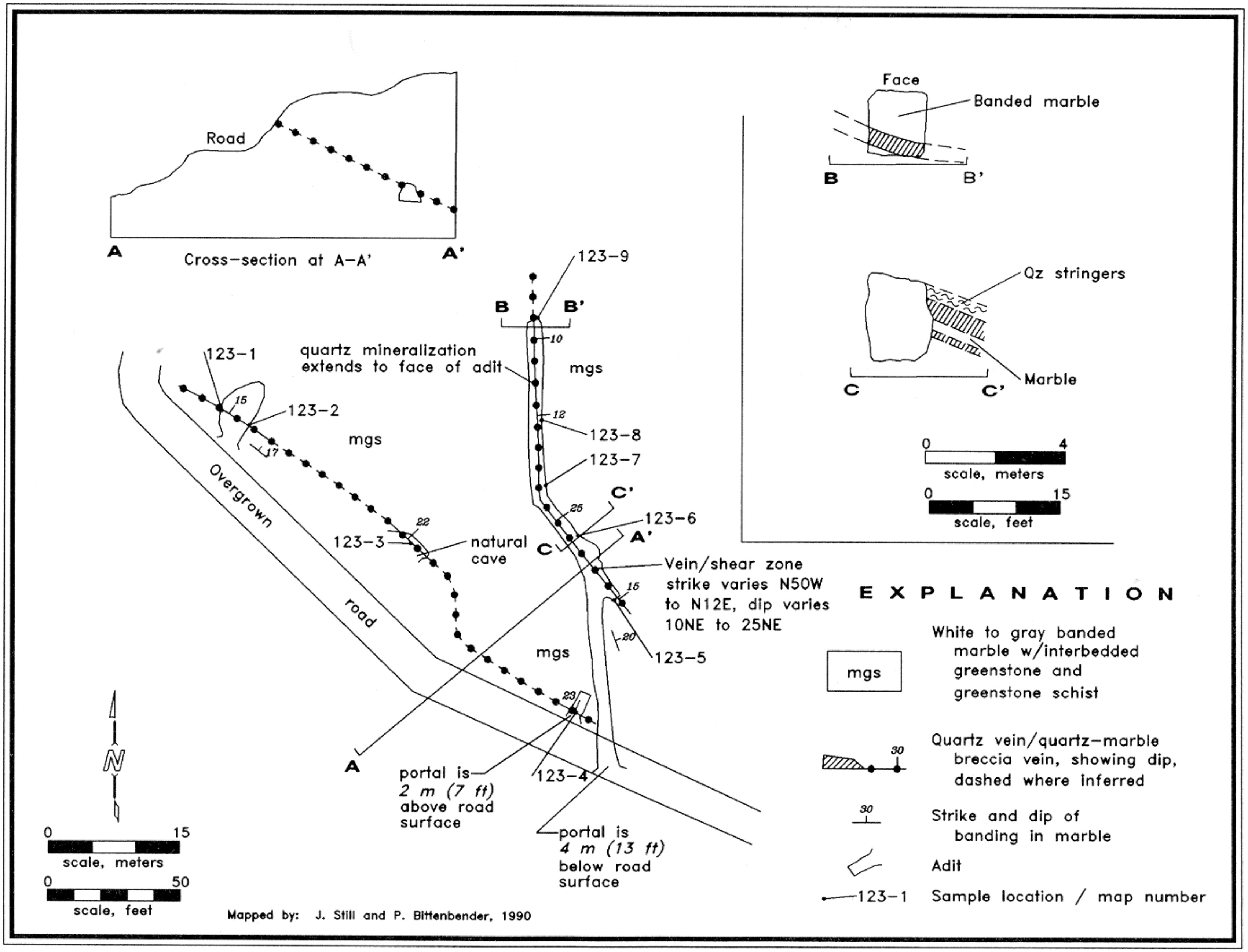

Figure 31. – Paul Lake prospect, showing geology and sample locations.

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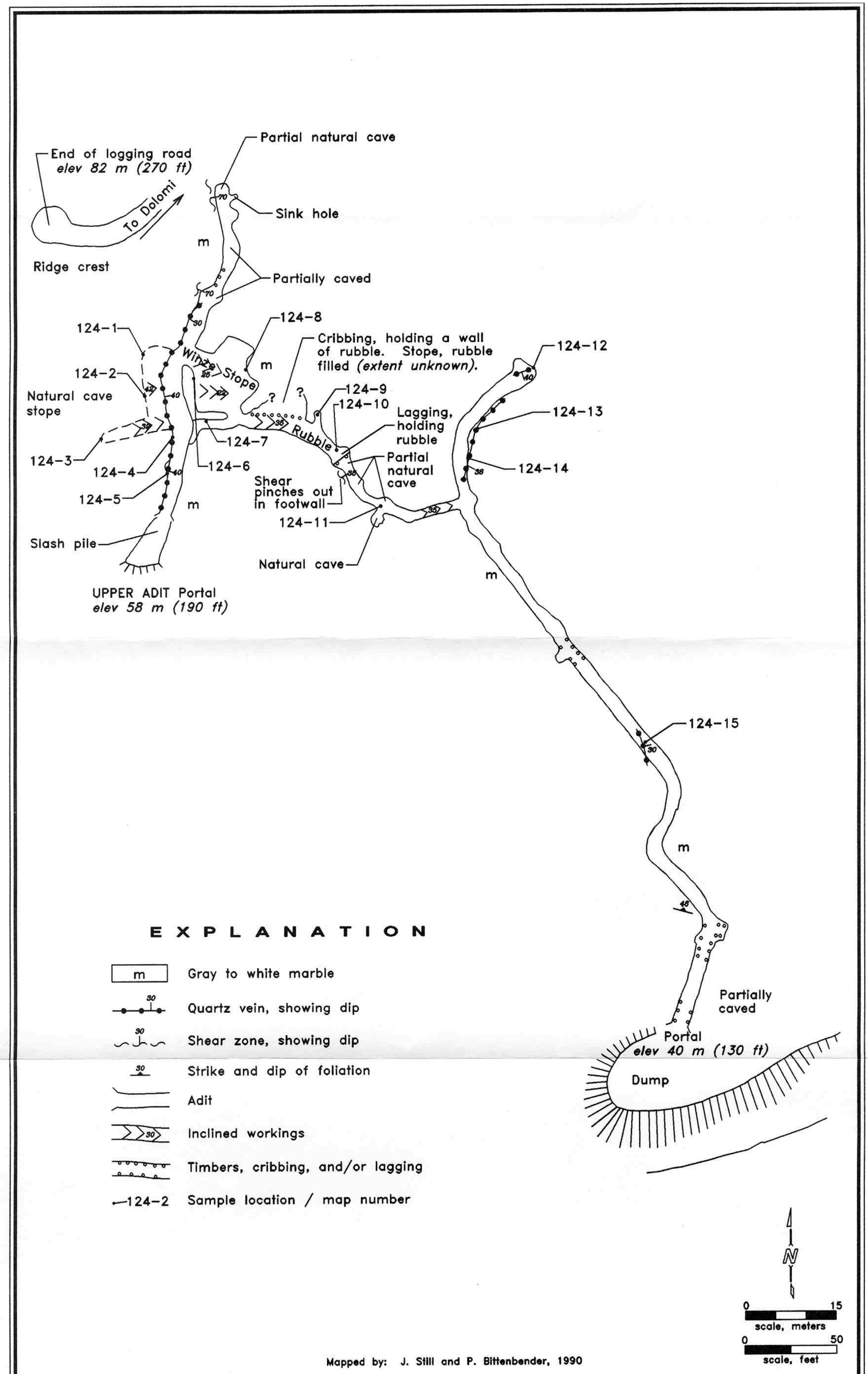

Figure 32. – Golden Fleece Mine, showing geology and sample locations.

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Table 16. Mineral locality information for the Dolomi area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
111	Equator	OF	SB: Cu	Adit: 19 m	NA	Sulf-bearing min marble zone traced for 15 m; 1.5-m sample contained 79 ppb Au, 16,128 ppm Cu	643	L
112	Saco	OF	V: Cu	Adit: 12m	NA	From 366 ppm to 5.68% Cu	643	L
113	Gladstone	OF	V: Au, Cu	Adit: 11m	NA	From 238 ppm to 4% Cu; up to 1,029 ppb Au	643	L
114	Kael Pit	OF	SB: Au, Cu	P	NA	Copper-gold-bearing qz-dolomite br zone up to 5 m wide; 2.5-m sample w/ 1.55 ppm Au and 2,018 ppm Cu	244	M
115	7 Mile Gold	N	SB: Au, Cu	P	NA	Copper-gold-bearing qz-dolomite br zone up to 10 m wide; 1.8-m sample contained 566 ppb Au, select sample contained 13.3 ppm Au and 2.18% Cu	244	M
116	Kael-7 Mile Trend	OF, N	SB: Au, Cu	P(s), C(s), T(s)	NA	Gold-copper min qz-marble-dolomite br zone extending for at least 5.6 km and includes the Kael and 7 Mile Gold prospects; Bureau samples contained up to 5,354 ppb Au and 2,591 ppm Cu	244	M
117	Roy Creek	N	V	C	NA	Narrow vein; best min portion contained 154.5 ppm Au and 2.24% Cu	244	L
118	Windy Cove	N	SB: Au, Cu	Adit: 9m, P, C	NA	Copper-gold-bearing qz and sil-dolomite zone; exposures scattered across 300 m; 1.8-m sample w/ 5.2 ppm Au, 1.26% Cu	244	L
119	Jesse Lake Vicinity	N	S: Au, Cu, Zn	P(s), C(s)	NA	Up to 6,243 ppm Au, 351 ppm Cu; Sealaska samples up to 6,280 ppm Cu and 8,630 ppm Zn	244	L
120	Washing-ton	OF	V	C(s)	NA	Up to 27 ppb Au	70	L
121	Croesus	OF	V: Au	Adits (3): 98m, 6m, 40m; 1 shaft: (caved)	NA	Vein exposed intermittently for 137 m along strike; up to 21.4 ppm Au	70	L

Table 16. Mineral locality information for the Dolomi area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
122	San Juan	OF	V: Au	Adit: 59m Shaft: caved, T	NA	Up to 860 ppb Au from adit; shaft dump sample contained 6,680 ppb Au	643	L
123	Paul Lake West	OF	NA	NA	NA	Float sample, 24 ppb Au, 5,209 ppm Pb, 9,673 ppm Zn	643	L
124	Golden Fleece	P, MS 540, 1581	V: Au, Ag	Adits (2): 130m, 59m; raise: 68m	Mill/stopes indicate production, none reported	Partly mined out vein exposed for 46 m along strike; averaged 6.8 ppm Au	, 70, 90	L
125	Alpha	N	V: Cu	Adit: 1.5m shaft: (plugged); T(s)	NA	Up to 62 ppb Au, 1.8% Cu	643	L
126	James Lake West	N	V: Au	Adit: 10m C(s), T(s)	NA	Qz vein 4 m thick traced 182 m; sulf-rich sample 8.1 ppb Au; measured samples less than 54 ppb Au	NA	L
127	Valparaiso	P, MS 766	V (SB): Au	Adit: 3 levels w/700 m of crosscuts, drifts, and stopes; shafts and raises	22.71 kg Au, 16.2 kg Ag; stopes indicate more production than reported	330 m of vein exposed that average 6.7 ppm gold across 1.5 m; partly stoped-out	, 200, 374	M
128	James	P, MS 766	V: Au	Adit: (caved)	NA	Dump sample contained 88.5 ppm Au	249	L
129	Paul Lake	P, MS760	V: Au	Adits: 55m, 8m, 3m; C(s)	NA	Vein traced on surface and underground for 67 m; averaged 10.6 ppm Au across 0.76 m; drilling indicates vein extends 1,036 m; of this 640 m has an inferred 320,000 mt that average 7.54 ppm Au across 0.97 m	374	M
130	Moonshine	P, MS789	V: Au, Ag	Adits: 18m, 22m; winze: (flooded), C(s)	NA	Main vein exposed 32 m; up to 396 ppb Au; narrow 18-m long vein at stope back contained from 24.8 to 2,167 ppm Au	NA	L
131	Jumbo	P, MS1058	V: Au	Adit: 41m; shaft; borrow pit	NA	Vein up to 9 m thick intermittently traced for 244 m; sample across 16 m contained 1,515 ppb Au	NA	L

Table 16. Mineral locality information for the Dolomi area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
132	Amazon	P, MS 790	V: Au	Shaft: (flooded); C(s)	NA	Vein rubble exposed at flooded shaft contained 4.9 ppm Au; dump sample 9.3 ppm Au. drill hole contained 3.0 ppm Au across 2.4 m		L
133	Boston	P, MS 1056	V: Au, Ag	Adit: (caved); shafts: (both partly caved)	NA	Vein up to 3.7 m thick traced intermittently for 162 m averaged 2.7 ppm Au		L
134	Cape Horn	P, MS 1055	V	Adit: 8m	NA	Up to 12 ppb Au, 421 ppm Cu	NA	L
135	Paul Lake South	N	VMS?: Cu	C	NA	6,464 ppm Cu	NA	L
136	Stockton Quartz	P, MS 587	V	Shaft: (flooded); T(s)	NA	26 ppb Au	NA	L

Niblack Area

General/Land Status

The Niblack area is located on southeast Prince of Wales Island, about 46 km southwest of Ketchikan and extends from Niblack Anchorage to the south end of Dora Lake (figs. 33 to 35). It contains the Niblack property, which includes the old Niblack Mine and the Snow Flake, Edith M, Mammoth, Lindsey, Beach, Lookout, Broadgauge, Trio, and Copper Cliff prospects. This property includes the sixteen patented Wakefield claims and the patented Trio and Broadgauge claims (MS644, 1438, 1585, 1437, 533, 1009). The Moira Copper prospect is covered with seven patented claims (MS744). Other area prospects are the Lucky Boy, Lady of the Lake, Cymru, Hope, and Blue Bird. The Miller Lake-Dora Lake part of the area is on Native land and the remainder of the area is Federal land open to mineral location. The highest point in the area is 1,070 m (3,515 ft). Most of the area above 610 m (2,000 ft) is alpine, and timber and brush cover lower elevation areas. Bays and lakes allow floatplane access to most of the area. A logging road system from Reid Inlet allows access to the occurrences in the north part of the area. Prospects off the beach are accessible via old trails, bushwhacking, or from prospect helipads.

History/Workings/Production

The Niblack is the most important property in the area. The first activity on this property was the 1899 discovery of the Niblack Mine, which produced 18,000 mt of ore averaging 4.9% copper, 2.3 ppm gold, and 34 ppm silver before it closed in 1908, reportedly due to a property dispute (319). All that remains is a waste dump and two flooded shafts. From 1908 to 1940 exploration in the Niblack vicinity resulted in the discovery and development of the Edith M, Mammoth, Lindsey, Beach, Lookout, Broadgauge, Trio, and Copper Cliff prospects. These prospects are developed by 12 adits, with an accumulated length of 374 m that remain open today. Between 1973 and 1983 Cominco, Anaconda, and then Noranda, explored the property and conducted some diamond drilling. From 1984 to 1990, LAC Minerals USA (LAC) conducted extensive exploration on the property with most of the effort on the Lookout prospect, located 900 m southeast of the historic Niblack Mine. Thirty-seven diamond drill holes totalling over 7,796 m explore the property. In 1992, LAC discovered massive sulfide mineralization at the Lindsey showing and in 1993, drilled 4,797 m near the Lindsey and Copper Cliff (Dama) prospect areas (501).

The Cymru Mine was discovered in 1899 and by 1909, workings consisted of two shafts with drifts, two adits, and numerous trenches. The extent of underground workings is 119 m, and 296 m of trenches were excavated. A 1,280-m-long surface tram connected the workings with ore bunkers at tidewater. By 1990, most of the surface improvements had disappeared, but the majority of underground workings remain open and accessible. Production in 1906 and 1915 was 68,615 kg copper, 46.2 kg silver, and 0.87 kg gold (331). The Lucky Boy prospect was discovered in 1933 and by 1950 workings consisted of a crosscut connected to a drift with stopes, a winze, a raise, and numerous surface trenches. The underground workings total 112 m and were open in 1990, but sloughing and slash from recent logging obscured most of the trenches. Other prospects in the area with less extensive workings are the Lady of the Lake, Blue Bird, Hope, and Moira Copper. These properties were developed between 1900 and 1940 and most of the adits remain open.

Geology

The area geology consists of pre-Ordovician Wales Group metasedimentary and metavolcanic rocks in fault contact with Descon Formation sedimentary and volcanic rocks. Silurian and Ordovician quartz diorite are present in the southeast corner of the area. All the area prospects are hosted in Wales Group rocks. Deposit types consist of volcanogenic massive sulfide (VMS) deposits (Niblack), polymetallic veins, and low-sulfide, vein-gold deposits.

The Moira Copper and Niblack deposits are both of volcanogenic origin. The most significant mineralized zones found at the Niblack property are hosted by a mafic to felsic volcanic to volcaniclastic sequence (fig. 36). Most of the other occurrences are within rhyolite flows and volcaniclastics, which have mafic flows and sediments on the hanging wall and amygdaloidal flows on the footwall (501). Most of the work up to 1990 was concentrated on the Lookout occurrence, where diamond drilling has revealed the following three types of stratiform mineralization (319):

1) classic VMS,

2) stringer-type sphalerite mineralization in altered crystal lithic tuff footwall, and

3) auriferous pyritic volcaniclastics and polylithic breccia.

In 1992, massive sulfide mineralization was discovered at the Lindsey and 88 showings approximately 760 m east of, and on strike with the historic Niblack Mine. The showings are hosted in coarse felsic volcaniclastics containing up to 20% massive sulfide fragments up to 1 m across. The Niblack Mine, Lindsey, and 88 occurrences all lie within an east-west striking gradient IP anomaly, which has a strike length of approximately 760 m. This anomaly is open in both directions and lies within approximately 3,050 m of felsic volcanic stratigraphy, which until 1993 had not been drilled (501).

In 1993 diamond drilling at the Copper Cliff (Dama) prospect, located 1,830 m east of the Niblack Mine, revealed gold-silver-copper-zinc mineralization similar to that found at the Lindsey and Lookout occurrences. In addition, a stockwork of gold-bearing, quartz-ladder veins was also found (319).

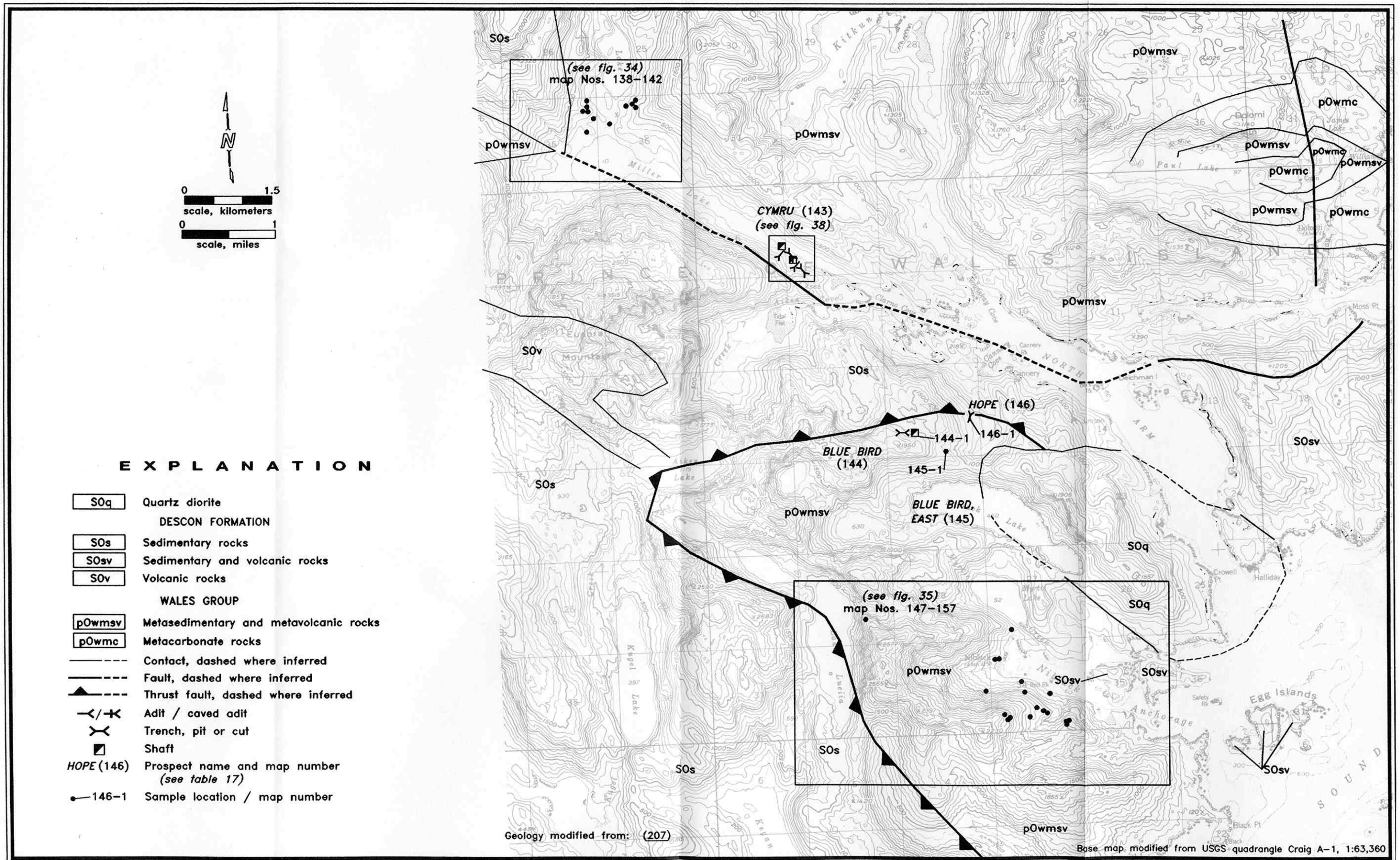

Figure 33. – Niblack area, showing geology, mineral localities, and sample locations.

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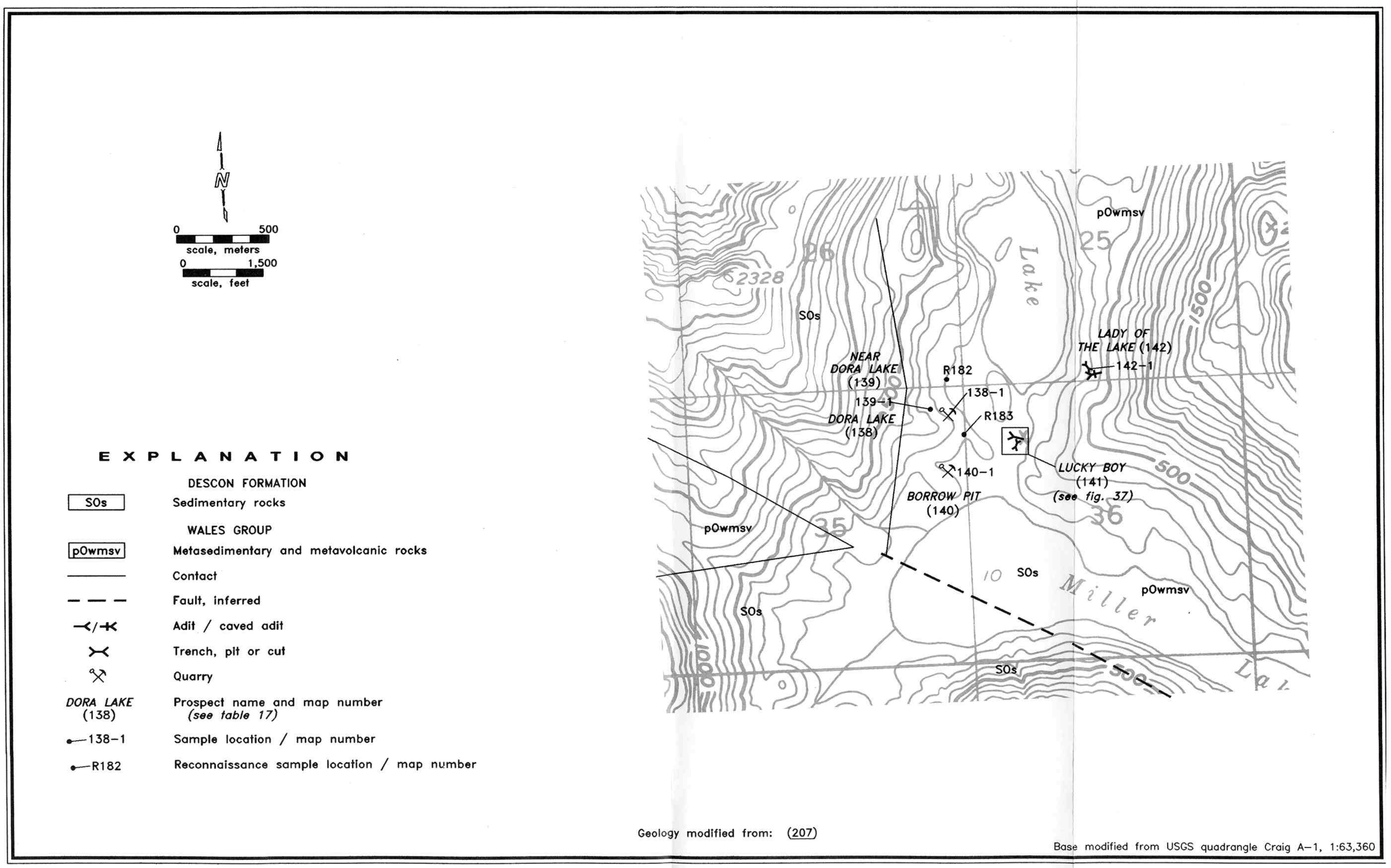

Figure 34. – Northern Niblack area, showing geology, mineral localities and sample locations.

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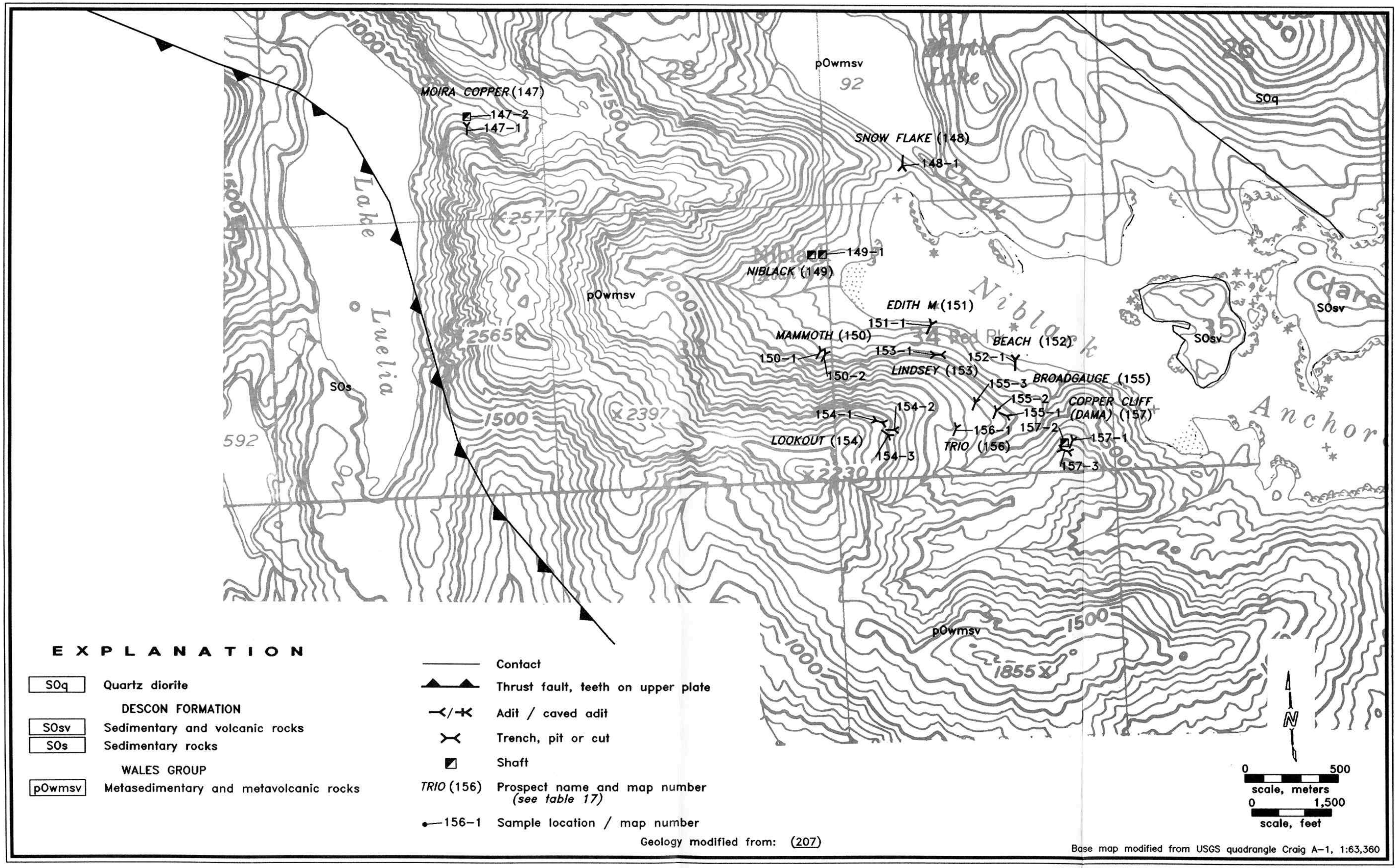

Figure 35. – Southern Niblack area, showing geology, mineral localities and sample locations.

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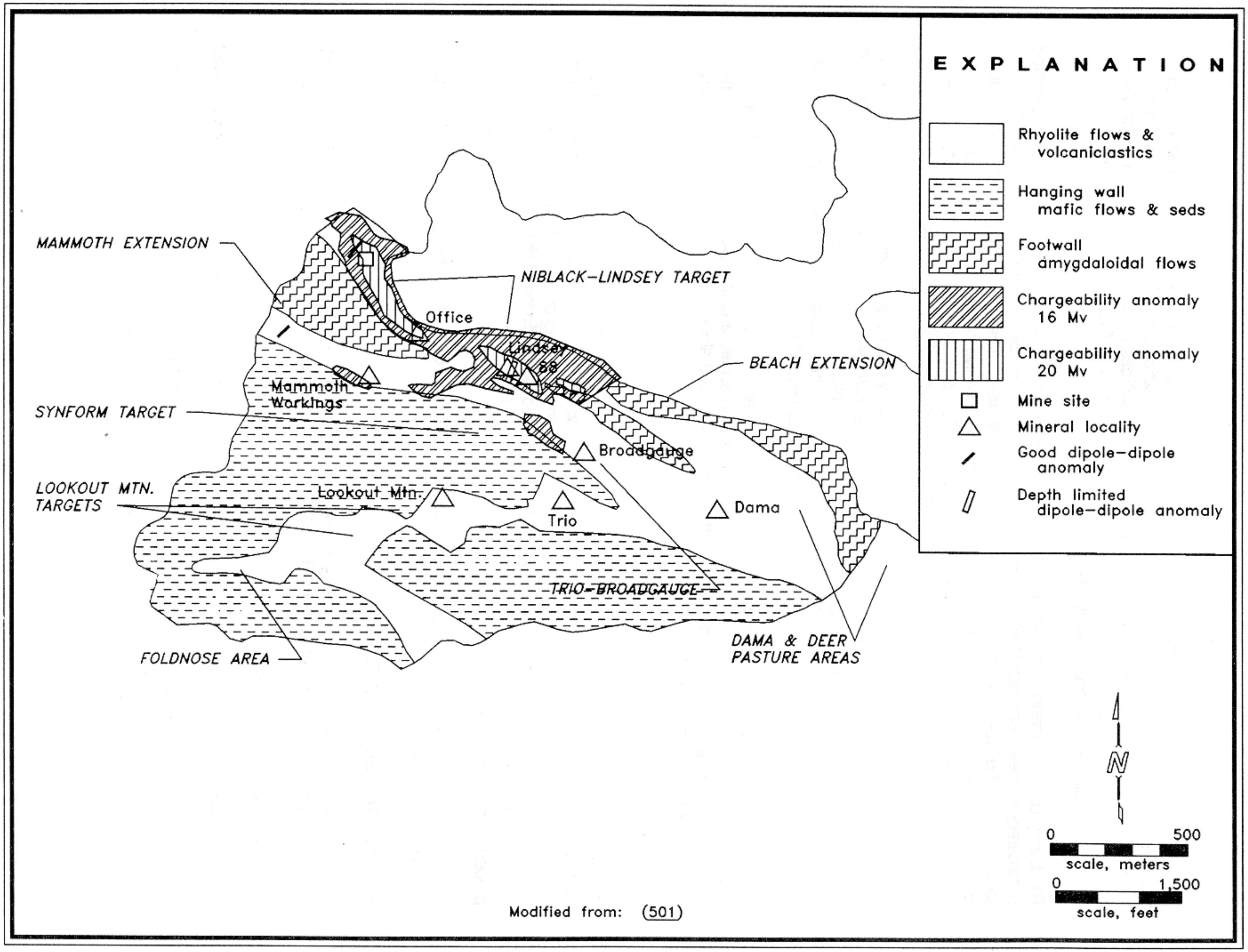

Figure 36. – Niblack property, showing geology, mineral localities, and exploration targets.

The Cymru Mine and Lady of the Lake, Lucky Boy, and Dora Lake occurrences are polymetallic vein deposits, located at or near the contact between Descon Formation and Wales Group rocks. The mineral source for each is likely disseminated volcanogenic sulfides remobilized by metamorphic fluids and emplaced along shears. Such a process was first described by Oliver (374) and Hedderly-Smith (243) for the similarly-hosted, nearby Dolomi occurrences.

The Lucky Boy occurrence consists of a discordant quartz-calcite breccia vein up to 2.6 m thick, hosted in calcareous greenstone schist with interbedded limestone. The vein strikes 025° and dips 40° southeast and the wall rock strikes 350° and dips 75° southwest. The vein contains pyrite, sphalerite, galena, silver, and gold and is traced for 122 m by underground workings and trenches (fig. 37). Similar, though less extensively exposed mineralization is found at the Lady of the Lake occurrence located 150 m northeast and at the Dora Lake occurrence located 200 m to the west.

The Cymru Mine consists of subparallel shear- and bedding-controlled quartz-calcite veins up to 2 m thick hosted in marble with interbedded chlorite schist. The wall rock and veins strike 307° and dip 70° southwest. These concordant veins contain disseminations, blebs, and bands of pyrite and chalcopyrite. Underground and surface workings expose intermittent copper mineralization for over 360 m of strike length (fig. 38). Most of the copper ore has been mined out.

The Hope and Blue Bird occurrences are both low-sulfide, vein-gold deposits. The Blue Bird vein strikes 295°and dips 45° southwest, is conformably hosted in schist, and is exposed in pits for 23 m. The Hope vein strikes 020° and dips 80° southeast and is hosted along a shear in blocky greenstone. It is exposed in a drift for 30 m.

Bureau Work

Bureau of Mines (Bureau) engineers examined all the historic prospects at the Niblack property and took character samples from the accessible workings. Examination of these workings revealed broad discontinuous zones of base metal-gold-silver mineralization extending over 1,800 m but the values were subeconomic. Significant mineralization has been exposed by diamond drilling (319,501). Although drilling data were not made available for Bureau publication, company summaries of the property work were made available (319,501).

Bureau engineers mapped and sampled the Lucky Boy, Dora Lake, Lady of the Lake, Cymru, Hope, Blue Bird, and Moira Copper prospects.

Significant Results/Mineral Resources

At the Niblack property company geologists are exploring disseminated and massive copper-gold-silver-zinc mineralization in an area that extends 1,800 m (6,000 feet) and is many hundreds of meters wide.

Diamond drilling revealed the following intercept values (319):

1) massive sulfides up to 6 m thick with 4.9% copper, 8.0% zinc, 9 ppm gold, and 158 ppm silver

2) stringer type sphalerite mineralization up to 1.7 m thick that average 0.7% copper, 10.2% zinc, 5.1 ppm gold, and 34 ppm silver

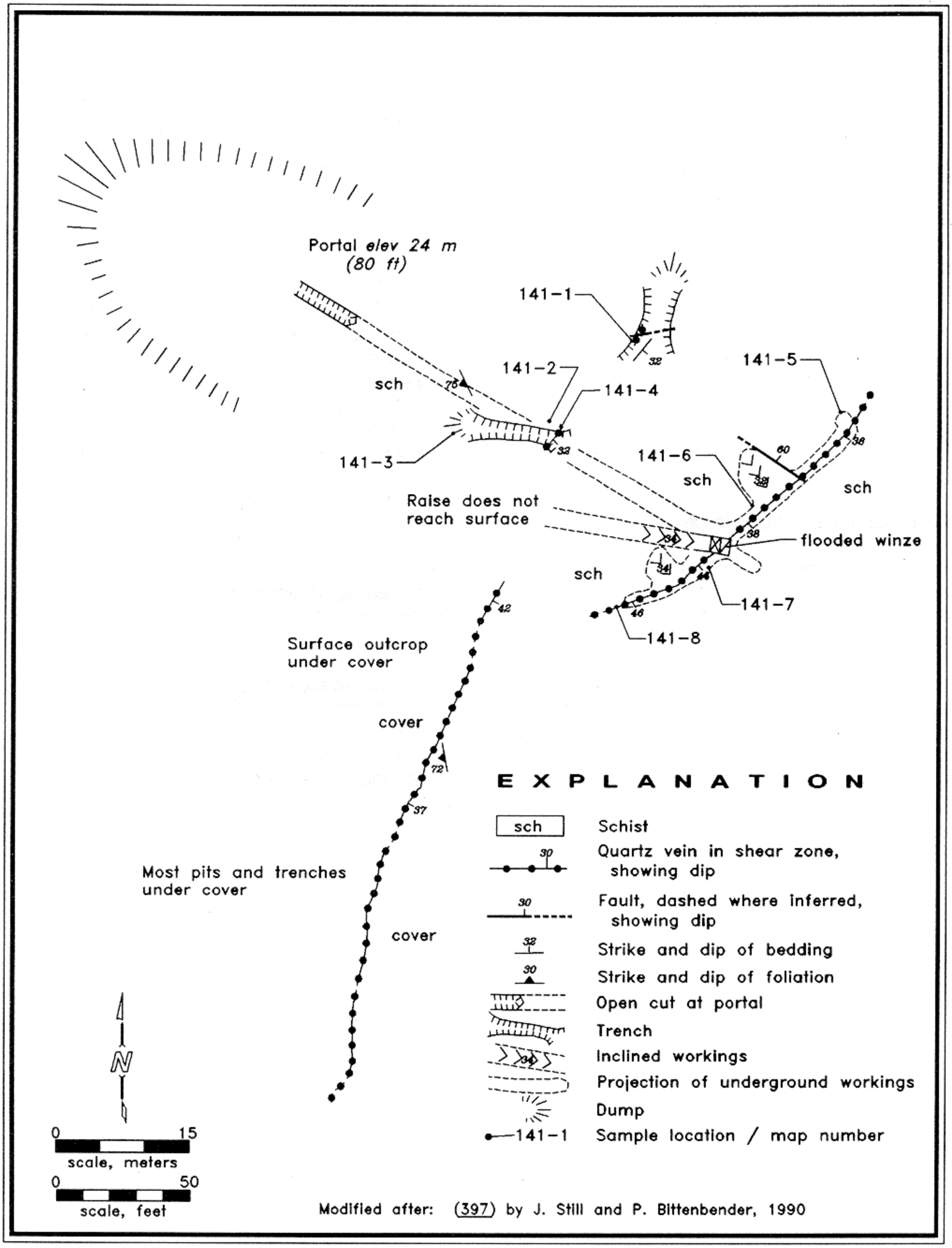

Figure 37. – Lucky Boy prospect, showing geology and sample locations.

3) volcaniclastics and breccia over 15 m that average 1.7 ppm gold, 17 to 34 ppm silver, and 1% combined copper-zinc

Based on diamond drill data, geophysical anomalies, extent of known mineralization (1,800 m), and analogies with other similar massive sulfide deposits an aggregate of 2 to 5 M mt of high-grade polymetallic massive sulfide ore in two or more underground minable deposits is considered a realistic exploration target at Niblack (319). There is potential for other similar deposits in the Wales Group rocks comprising the Niblack area.

Bureau sampling of the polymetallic vein and low-sulfide, vein-gold occurrences indicated that the best mineralized zone was at the Lucky Boy, where samples across the main mineralized zone contained from 84 to 6,017 ppb gold and from 0.18% to 20.35% zinc (map Nos.141-1 to 141-8). Robinson estimates that this zone contains 1,360 mt at 3% zinc (399). Samples collected at the Cymru Mine from an ore remnant at the west shaft wall averaged 3.98 percent copper and 77.7 ppm silver over 1.3 m (map No. 143-6). Samples collected across the vein at the Blue Bird prospect contained from 6 to 228 ppb gold (map No. 144-1) and those collected at the Hope prospect contained from 739 to 3,105 ppb gold (map No. 146-1). These occurrences are all small, narrow and too low grade to be considered attractive development targets. However, the known deposits and the contact between Descon Formation and Wales Group rocks should be considered a target for additional polymetallic vein and low-sulfide, vein-gold deposits.

Resource and Land Use Issues

There are five resource and land use issues identified in the Niblack area. These relate to: 1) subsistence Sitka black-tail deer hunting, 2) anadromous fish streams, 3) timber management designations, 4) a minerals prescription designation, and 5) the presence of a significant block of Native land.

Subsistence deer hunting pressure in the area is rated low. There are six anadromous fish streams in the area. Three flow into North Arm and three flow into Niblack Anchorage, which is the most promising area for mining-related activity. The northwest part of the area is Native land or is designated as a maximum utilization timber management unit. The rest of the area, which includes Niblack Anchorage, is slated for timber management in the modified landscape designation. All public lands in the area have been incorporated into a minerals prescription designation.

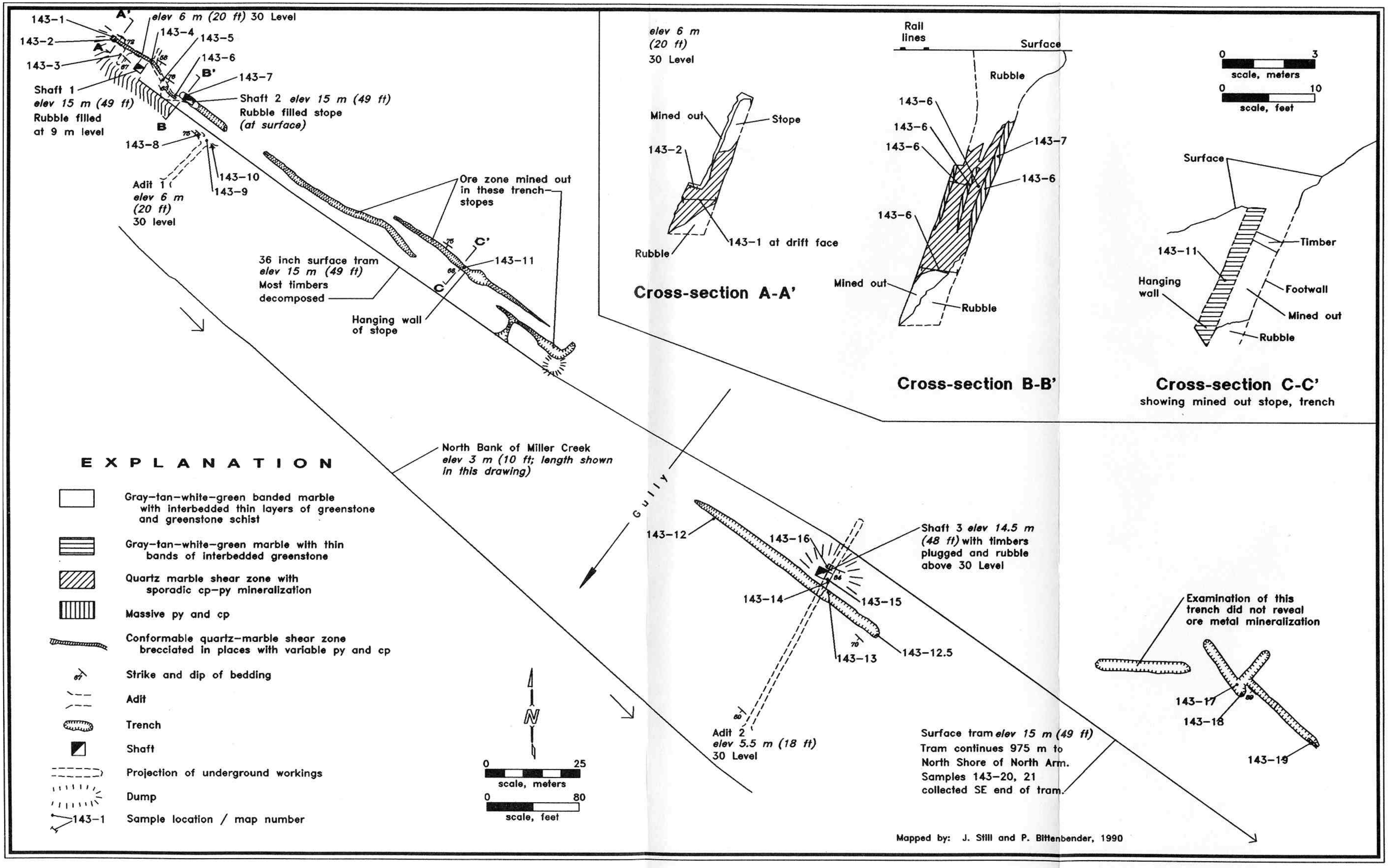

Figure 38. – Cymru Mine, showing geology and sample locations.

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Table 17. Mineral locality information for the Niblack area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
138	Dora Lake	N	PV, SB: Au, Pb, Zn	Borrow pit	NA	18-m-wide stringer zone w/ from 10 to 1,109 ppb Au; select sample 5.5 ppm Au, 4.9% Pb, 21.74% Zn	NA	L
139	Near Dora Lake	N	PV: Au, Zn	NA	NA	63 ppb Au, 786 ppm Zn	NA	L
140	Borrow Pit	N	?	Borrow pit	NA	498 ppb Au, 422 ppm Cu	NA	L
141	Lucky Boy	N	PV: Au, Ag, Cu, Pb, Zn	Adit: 112m; winze: (flooded); raise	Test shipment, attempt to mill ore	Vein traced for 130 m; samples contained 84 to 6,017 ppb Au, up to 47.0 ppm Ag, 1.176% Cu, 1.1% Pb, 27.65% Zn; Robertson estimates 1,360 mt at 3% Zn	399	L
142	Lady of the Lake	N	PV: Au, Pb, Zn	Adit: (caved); C(s), P(s)	NA	Vein exposed intermittently for 73 m; 1.5 m at 1.37% Pb and 9.01% Zn; Robertson estimates average 0.33% Zn, 1% Pb and minor Au, Ag	399	L
143	Cymru	OF	SB, PV: Ag, Cu	Adits: 63m, 36m, 20m w/ stopes; shafts: partly open; P(s), C(s),	68,615 kg Cu, 46.22 kg Ag, 0.87 kg Au	Erratic Cu exposed for 365 m; 4.3-m sample at 1,700 ppm Cu; 0.3-m sample at 19.08% Cu and 258.9 ppm Ag	90, 638	L
144	Blue Bird	OF	V: Au	Shaft: (flooded); T(s), P(s)	NA	Vein traced for 22 m; measured samples contained from 6 to 228 ppb Au; grab sample 65.2 ppm Au	643	L
145	Blue Bird East	OF	V: Au	NA	NA	Dissem py in granite porph	643	L
146	Hope	OF	V: Au	Adit: 27m, T	NA	Vein traced 27 m; samples ranged from 739 ppb to 3,105 ppb Cu; select sample 51 ppm Au	643	L
147	Moira Copper	P, MS744	VMS: Cu	Adit: 4.5m, shaft: (flooded); C(s), T(s)	NA	Cu exposed intermittently for 304 m; up to 1,732 ppb Au, 47.2 ppm, Ag and from 851 ppm to 6.57% Cu.	NA	L
148	Snow Flake	P, MS1436 MS644	NA	Tunnel: 28m	NA	Water diversion tunnel	NA	L

Table 17. Mineral locality information for the Niblack area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
149	Niblack	P, MS1438 MS644	VMS: Au, Ag, Cu	Shafts: 98m, (flooded); UG workings: (flooded)	18,000 mt at 4.9% Cu, 2.3 ppm Au, 34.2 ppm Ag	Dump samples up to 7.6 ppm Au, 29.5 ppm Ag, 8.76% Cu, 1,437 ppm Zn; Cominco drilled 6 holes in 1973, data not available	248, 319	M
150	Mammoth	P, MS1437 MS553	VMS: Cu	Adits: 11m, 4m, 2m	NA	Up to 302 ppb Au, 1.43% Cu	319	M
151	Edith M	OF	VMS	Adit: 73m	NA	6-m sample at 83 ppb Au, 232 ppm Zn	319	L
152	Beach	OF	VMS	Adit: 12m	NA	Up to 43 ppb Au, 225 ppm Zn	NA	L
153	Lindsey	OF	VMS	C(s)	NA	Sample contained 915 ppb Au, 225 ppm Zn	NA	M
154	Lookout	P, MS553	VMS: Cu, Zn, Au	Adits: 18m, 54m; C(s)	NA	Samples from 25 to 2,002 ppb Au, 87 to 12,250 ppm Cu, and 122 to 16,900 ppm Zn; diamond drilled	319	H
155	Broadgauge	P, MS1009	VMS	Adits: 10m, 1.5m, 1.5m	NA	From 32 to 209 ppb Au, up to 519 ppm Cu	NA	L
156	Trio	P, MS1009	VMS: Cu	Adit: 15m	NA	From 25 to 215 ppb Au, up to 7,874 ppm Cu, 418 ppm Zn	NA	M
157	Copper Cliff (Dama)	OF	VMS: Cu, Zn	Adit: 172m; C(s)	NA	From 17 to 843 ppb Au, up to 1.84% Cu, 2,203 ppm Zn	NA	M

Hetta Inlet Area

General/Land Status

The Hetta Inlet area is located in south-central Prince of Wales Island (POWI), about 50 km west of Ketchikan and 20 km east of the native village of Hydaburg. The area includes the southern half of Hetta Peninsula, and extends east to include Keete and Nutkwa Inlets. The POWI road system connects to Hetta Inlet at Deer Bay to the north and small boats can be launched there to access the mineralized areas. Mineral deposits in this area include the Marion, Copper City Mine, Lime Point, Keete Inlet, and Hozer. A previously unreported copper occurrence was sampled along the east shore of Nutkwa Inlet.

Topography along Hetta Inlet is gentle, but forest cover is thick and effectively conceals outcrops outside the intertidal zone and along streams. The area north and west of Keete Inlet rises more abruptly, reaching a maximum elevation of nearly 700 m (2,292 ft). Selective logging has occurred in Nutkwa Inlet, thus no large-scale clear cuts are present in the area.

Land ownership in the area is split between the Forest Service and Sealaska Native Corporation; the division occurs along the township line separating R85E and R86E. Most of the Forest Service land is open to mineral entry. A patented mineral survey is located at Lime Point (MS1430, ownership unknown).

History/Workings/Production

The Copper City Mine was originally discovered in 1898 by E. E. Wyman (90) and the first load of ore was shipped south by 1901 (458). The mine was under lease by 1903 and production continued with ore being sent to the smelter in Crofton, B.C. Operations lasted until 1907, when falling prices of copper forced the mine to close. Several people attempted to reopen the mine after 1908 because the concentration of metals present (copper, zinc, gold, and silver) made this a very attractive deposit. An errant drill hole from the 91-m-deep main shaft penetrated Hetta Inlet below the 30.5-m level and flooded the mine in 1910 (90). The mine has not operated since. Approximately $60,000 worth of ore was mined through 1905 (642) and Bureau of Mines (Bureau) records reveal that an additional 77 mt copper, 146 kg silver, and 10.6 kg gold were produced from 1906-08 (585). A partially caved adit (50 m long) and a second shaft are located on the property in addition to the 91-m main shaft (with several development levels).

The Lime Point barite deposit was discovered in 1912 and a test shipment of ore was sent in 1915 (251). Several workers have subsequently examined this deposit as the high quality of barite present and its close proximity to tidewater make it an attractive prospect (181,193 ,581). Two adits with a cumulative length of 11 m were driven to undercut the barite outcrops.

The Marion and Keete Inlet prospects were discovered sometime prior to 1915 (112). The Marion was developed by a 120-m adit with a 15-m winze, and an inclined shaft was sunk to explore the ore zone at Keete Inlet. The Marion produced 0.16 kg gold, 0.09 kg silver, and 16.3 kg lead in 1938 (632). There was no production from Keete Inlet.

Private industry explored the Hetta Inlet/Keete Inlet area looking for volcanogenic massive sulfide (VMS) type deposits during the 1980's. The Hozer occurrence was discovered during this effort. Sealaska Corporation examined the Copper City deposit during their area-wide reconnaissance effort in 1990 (241).

Geology

The Hetta Inlet area is underlain predominantly by Wales Group tuffaceous chlorite schists (pOwg), with less abundant silicified and sericite schists (pOws), phyllite (pOwp), and marble (pOwm) (251). These rocks generally strike north-northwest with dips to the southwest. Devonian volcanic and sedimentary rocks as well as Descon Formation conglomerates crop out along the east shore of Keete Inlet (251). The Keete Inlet Thrust Fault juxtaposes Wales Group rocks with these Devonian and Descon Formation rocks along the east shore of Keete Inlet. This extensive structure is not directly related to any known mineralization. The most proximal deposit location to the fault is the Keete Inlet prospect (fig. 39, map No. 168) which is a VMS deposit. The mineral deposits found within the Hetta Inlet area consist of stratiform copper-zinc (+/- gold and silver) hosted in tuffaceous chlorite schist (metakeratophyre and related flow rock) and siliceous schist packages, a quartz vein deposit hosted in greenstone schist, and a barite deposit at Lime Point (map No. 169) hosted in marble.

The Copper City Mine (map No. 166) is a VMS deposit closely associated with metakeratophyre, tuffaceous metabasalt, gray-red quartz-sericite schist, and quartz-chlorite schists with abundant quartz veining. The

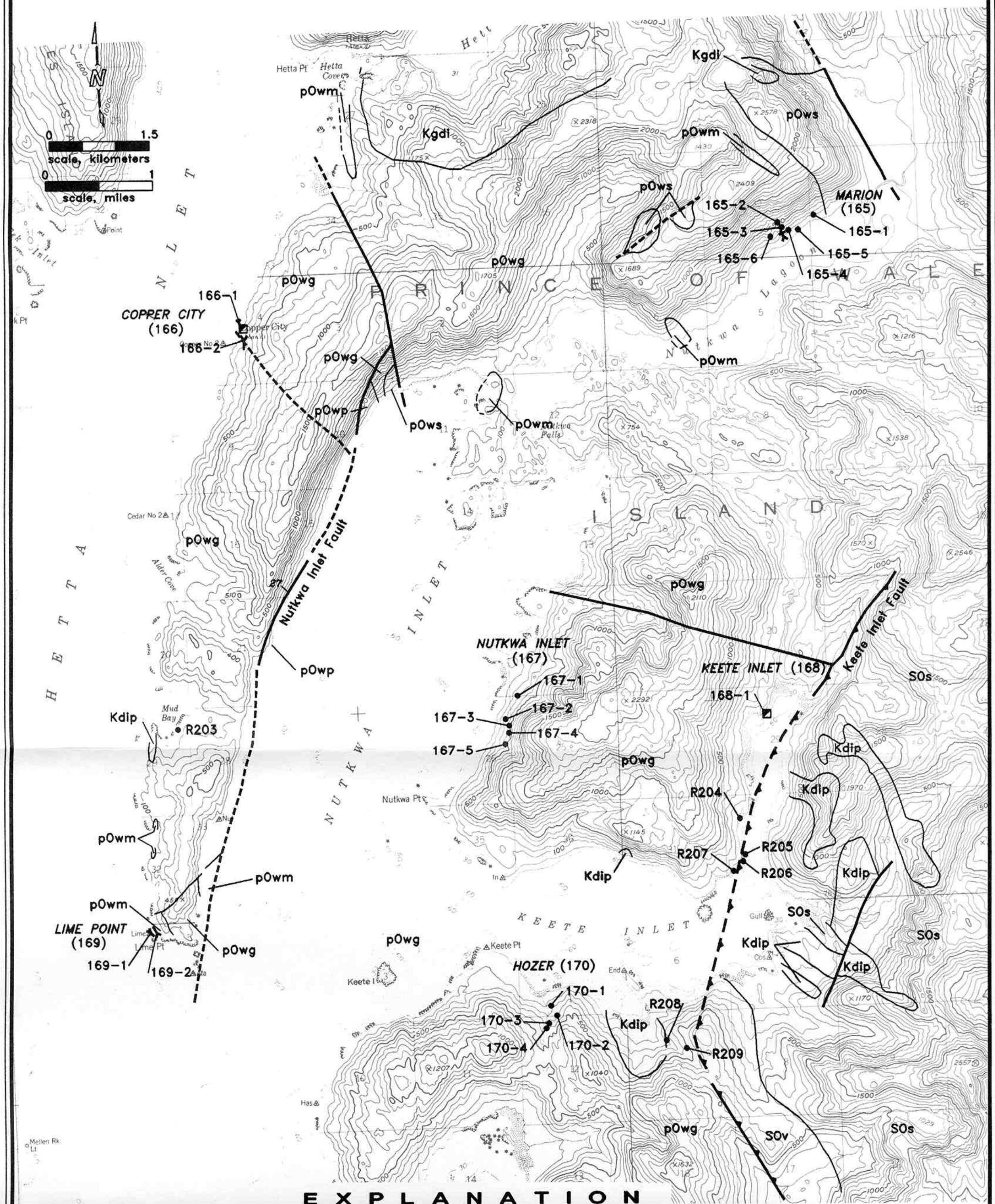
massive sulfide orebody strikes from 025° to 040°, dips 40° to 50° northwest, and is parallel to the enclosing rocks. Diabase dikes crosscut the local foliation and consequently postdate the mineralization. This structural information essentially places the main orebody underneath Hetta Inlet. The orebody, as seen in the shaft, is from 15 cm to 1.2 m wide to the 30-m level below which it was reported to get wider (643). Smaller sulfide zones were exposed by surface cuts and trenches elsewhere on the property (643), but these were sloughed at the time of this investigation. Ore minerals include chalcopyrite and sphalerite; however the gold and silver content of the ore was valued between $4 and $10/ton (639). It is not clear whether these precious metal values are associated with the primary ore zone or from quartz veining and silicification manifested during the regional metamorphism of Wales Group rocks.

The Keete Inlet prospect is another copper-bearing VMS deposit hosted in Wales Group rocks. The ore zone as exposed across the top of the inclined shaft is between 0.3 and 0.6 m thick and strikes 020°, dipping 50° southeast. An altered chlorite schist hanging wall and tan, quartz-sericite schist footwall host the deposit. Disseminated pyrite occurs in the wall rocks here in contrast to Copper City where pyrite is less abundant. The sulfide zone crops out south of the shaft toward the beach, but similar outcrops are not found to the north. Occurrences of massive pyrite mineralization and VMS-style alteration have been found upstream from the lake draining into Keete Inlet (fig. 39) and provide an exploration target (331).

Disseminated and stringer pyrite and sphalerite were found in intercalated greenstone breccias, chloritic and quartz-rich metatuffs, and metabasite at the Hozer occurrence on the south shore of Keete Inlet (map No. 170). This sequence of pyritic rocks strikes roughly 030° to 060° with local variation, dips from 16° southeast to 25° northwest and extends for nearly 1 km across strike.

The Lime Point barite deposit is most likely an epigenetic replacement pod of nearly pure barite hosted in banded gray and buff marble. Dolomite, greenstone flows, and talc schist are all found in the immediate area. The barite is exposed above tide line to heights between 6 and 15 m, with widths ranging from 3 to 12 m along a 30 m length. The deposit is discontinuous along strike as pods of barite occur to the south, submerged in Nutkwa Inlet. Small, irregular stringers of barite occur in the marble north of the main pod.

Mineralization at the Marion prospect (map No. 165) is markedly different than that seen elsewhere in the Hetta Inlet area. Here a quartz-calcite fissure vein system contains sphalerite, chalcopyrite, and galena. Veins are concordant with hornblende diorite and mafic dikes which have intruded the greenstone and chlorite schists host rocks in the area. The vein strikes 330° to 340° and dips 70° to 80° southwest in underground workings (429). The underground workings were caved when Bureau geologists visited the property, but the mineralization is evident in the creek adjacent to the abandoned workings. Several anastomozing shear zones exposed in the creek strike from 300° to 325° and dip 61° to 75° southwest. Shears zones are up to 3 m across and some contain mafic dike rock in addition to quartz vein material. Vein width and content is highly variable along strike ranging from an unmineralized gouge zone less than 1 cm wide to a thick quartz-calcite vein up to 2 m thick. Concentrated sulfide mineralization is found in thin (1 to 2 cm), quartz-rich portions along of the footwall of hornblende diorite dikes, but the middle portions of the vein are mainly barren. The calcite is generally barren of sulfide minerals. A similar, but smaller shear zone occurs in the drainage just



EXPLANATION

Kgdi	Granodiorite		Contact, dashed where inferred
Kdip	Altered diorite porphyry	27	Fault, showing dip, dashed where inferred
SOs	Argillite siltstone, pebble conglomerate, graywacke		Thrust fault, teeth on upper plate, dashed where inferred
SOv	Andesitic, volcaniclastic rocks, argillite		Adit / caved adit
	WALES GROUP		Shaft
pOwp	Phyllite	*HOZER*(170)	Prospect name and map number *(see table 18)*
pOws	Quartz sericite schist/silicified schist	170-1	Sample location / map number
pOwm	Marble	R104	Reconnaissance sample location / map number
pOwg	Tuffaceous chlorite schist		

Geology modified from: (251)

Base map modified from USGS quadrangle Craig A-2, 1:63,360

Figure 39. - Hetta Inlet area, showing geology, mineral localities, and sample locations.

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west of this occurrence, but it contains pyrite and no base metals.

Bureau Work

Bureau geologists visited the known mines and prospects in the area and mapped and sampled accessible workings. The main shaft at the Copper City Mine is flooded. The adit is partially open, but the precarious state of the adit portal prohibited prolonged underground examination. A single chip sample was taken across the ore zone in a stope wall underground (map No. 165-1, sample 4085) and two others were taken from a mineralized zone exposed on the surface along strike of the vein. A high-grade sample was also taken from the dump. This limited sampling pointed out a positive correlation between copper and gold concentration.

The inclined shaft at the Keete Inlet prospect is flooded, but the mineralized zone is still accessible adjacent to the shaft and on the beach. Several samples were taken between the shaft and the beach and one of these across a 1 m width contained 1,230 ppb gold, 10.7 ppm silver, and 2,891 ppm copper (map No. 168-1, sample 4100). Bornite was found in dump rock but not observed in outcrop, so it is presumed to have come from the shaft. Bornite has not been identified at other VMS deposits in the district, although it does occur in magmatic segregation deposits at Salt Chuck and at the Lakeside prospect on Sukkwan Island (fig. 5, map No. 164). The west shore of Keete Inlet contains an extensive sequence of tuffaceous chlorite schist, pyroclastic breccias, greenstone flows, and metabasalt with up to 8% pyrite. The area was sampled and no significant metal values were found (map. Nos. R204-R207).

The barite deposit at Lime Point was mapped and sampled. The current investigation corroborated grade and tonnage estimates provided by previous workers. Bureau geologists also examined shoreline outcrops surrounding Lime Point and the small islands to the south searching for additional barite exposures. None were found, although several pods of white material were observed under water up to 200 m south of Lime Point.

The east shore of Nutkwa Inlet was prospected during a search for an adit that was not found. However, copper mineralization grading up to 1,022 ppm across 0.91 m was discovered from sampling (map No. 167-2).

The adit at the Marion prospect in Nutkwa Inlet was buried by a recent landslide that tore up the creek adjacent to the reported adit location. Bureau personnel were able to sample the shear zones found in the gully between elevations 35 m (125 ft) and 130 m (430 ft). The shear zones contained thin zones of quartz and sulfides; wallrock adjacent to these zones was usually silicified and iron stained. Sulfide zones are discontinuous and the richest zone occurred at elevation 70 m (250 ft) where a 10-cm-thick vein on the footwall of a larger 3.3-m zone contained up to 3,828 ppb gold, 12.6 ppm silver, and 5,590 ppm zinc (map No. 165-3, sample 1662). Stream sediment samples were taken from three small creeks draining into Nutkwa Inlet east of the prospect. No anomalies were discovered.

Significant Samples/Mineral Resources

Fowler has estimated nearly 13,000 mt of barite resources at Lime Point above the low tide line (193). The deposit grades 91% $BaSO^4$ and the only impurity present is calcite (36). Barite grades up to 96.6% $BaSO^4$ were obtained during this study (map No. 169-2, sample 4111).

A chip sample taken across the 0.91-m-thick ore zone at Copper City contained nearly 66 ppm silver, 3.3% copper, and 2.81% zinc (map No. 166-1, sample 4085). A dump sample contained 9.44% zinc, 4.96% copper, 101.5 ppm silver, and 6,511 ppb gold (map No. 166-1, sample 4121).

Roehm was able to sample the underground workings at the Marion prospect in 1939 (429). Although assay results from this work confirm the overall low grade present, one of his samples across 1.45 m contained 22.6 ppm gold. The current investigation provides insight into this sample grade. A thin, high-grade portion of sulfide-rich quartz included in the larger sample width elevated the gold value for the entire sample.

Resource and Land Use Issues

There are five resource and land use issues which may affect future minerals development in the Hetta Inlet area. These issues include: 1) restricted development regions identified as LUD II, both north and south of Nutkwa Lagoon, 2) a semi-primitive recreation area surrounding the abandoned Copper City Mine, 3) Native lands surrounding Nutkwa Inlet, 4) subsistence hunting pressure for Sitka black-tail deer along Hetta Peninsula and the shorelines surrounding Nutkwa and Keete Inlets; and 5) several anadromous fish streams concentrated mainly on the east shore of Nutkwa Inlet, but also on the south shore of Nutkwa Lagoon, at the head of Keete Inlet, near Mud Bay and north of Copper City (590).

Intensive timber management areas are identified north of the Keete Inlet prospect (map No. 168) and along the south shore of Keete Inlet near the Hozer occurrence (map No. 170). This management designation probably would not conflict with minerals development. Development will be more closely monitored in the LUD II areas, where management objectives preserve wildland character and restrict road building. The Hetta Peninsula area has a moderate level of subsistence hunting pressure for deer, whereas the rest of the area is classified as low level to no designation. The anadromous fish stream at the head of Keete Inlet is several kilometers long and supports a substantial salmon population which could ultimately restrict development, at least during certain times of the year.

Table 18. Mineral locality information for the Hetta Inlet area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
165	Marion (Nutkwa Lagoon)	CF	V: Au	Adit: 120 m w/15-m winze (caved)	0.16 kg Au, 0.09 kg Ag, 16.3 kg Pb	Highest values underground were 22.6 ppm Au, 13.7 ppm Ag (429); Bureau surface samples contained to 3,828 ppb Au, 12.6 ppm Ag and 0.56% Zn across 0.1 m	112, 429, 581	L
166	Copper City (Red Wing)	CF	VMS: Cu, Zn, Ag, Au	Shafts (2): 100 m (flooded); adit: 50 m (partially caved)	77 mt Cu, 146 kg Ag, 10.6 kg Au	3.3% Cu, 2.81% Zn, 66 ppm Ag, and 5,658 ppb Au across 0.91 m in UG stope; higher grades obtained from surface samples (251)	90, 251, 331, 639	M
167	Nutkwa Inlet	N	V: Cu	OC	NA	1,022 ppm Cu, 218 ppm Zn, 1.1 ppm Ag across 0.91 m	331	L
168	Keete Inlet	OF	VMS: Cu, Zn	Inclined shaft: (flooded)	NA	Values to 1.75% Cu, 7.1 ppm Ag, and 291 ppb Au across 0.61 m	78, 112, 331	L
169	Lime Point	P: MS 1430	Replacement: $BaSO^4$	Adits (2): 9 m, 2 m; OC	test shipment (181)	Samples from adits ranged from 22 to 96.6% $BaSO^4$; reserve estimate - 13,000 mt (193)	112, 181, 193, 331, 581	L
170	Hozer	OF	VMS: Zn, Cu	OC	NA	Samples contained to 7,662 ppm Zn, 987 ppm Cu, 302 ppb Au	331	L

Bokan Mountain Area

General/Land Status

The Bokan Mountain area is located on the east side of southern Prince of Wales Island, about 55 km southwest of Ketchikan (fig. 40). The entire area is National Forest land open to mineral entry. Topography is characterized by rounded hills and the maximum elevation is 762 m (2,500 ft). Timberline is roughly at 450 m (1,470 ft) and heavy timber and brush dominate the landscape below. The area contains the Ross-Adams Uranium Mine and a number of rare-earth-element (REE) deposits covered by unpatented mining claims. Travel to and from the area requires a boat or floatplane and most of the prospects are accessible by the Ross-Adams Mine road or by trail.

History/Workings/Production

Radioactivity in the area was first detected at the Ross-Adams property by an airborne radiometric survey conducted by Don Ross of Ketchikan, Alaska, during 1955. High-grade uranium mineralization was subsequently confirmed through ground prospecting by Kelly Adams, also of Ketchikan. Open pit production from the mine by Climax Molybdenum started in July 1957. The open pit workings, located at an elevation of 275 m (900 ft), are between 8 and 23 m wide and 8 m deep and were closed in October 1957. Bay West Inc. leased the property in May, 1961 and started underground production. The 213-m-(700 ft) elevation haulage level was driven and mining started upward on the ore toward the south end of the surface pit. Standard Metals Corporation operated the property after April 1963, and later Newmont Exploration Ltd. became the operator. A 91-m- (300 ft) elevation haulage level was established and underground mining between the 91-m and 213-m levels was completed by 1971. Between July, 1957 and 1971 a total of 79,500 mt of ore at an average grade of 0.76% U3O8 was mined from the property. Reportedly, a substantial quantity of thorium was associated with the ore, but it was not recovered (599).

Between 1955 and the present, geiger counter- and/or scintillometer-armed prospectors have discovered concentrations of uranium, thorium, and columbium in the Bokan Mountain area. The most determined of these prospectors are Red and Irene Dotson of Ketchikan, Alaska, who have worked the area for over two decades. The most important prospects are the IML, Dotson, Cheri, Upper Cheri, Geoduck, and Geiger. A number of researchers described the area's mineral deposits including MacKevett in 1959 (336) and 1964 (337), Staatz in 1976 (537) and 1978 (538), and Thompson in 1980 (564).

Geology

The Bokan Mountain area consists of a crudely circular, multiple-phase peralkaline granite intrusion of Jurassic age, that covers an area of approximately 3.2 square km over a relief of 670 m. It forms a ring dike complex consisting of riebeckite- and aegerine-bearing granite, surrounded by aegerine granite, which in turn is surrounded by aegerine granite and porphyry, and finally a border zone of pegmatite. Syenite occurs at depth and aplite occurs on the south and north perimeter. The Ross-Adams orebody is located on the southeast edge of the peralkaline granite intrusion (599).

The rocks near Bokan Mountain are cut by a variety of dikes including andesite, dacite, basalt, lamprophyre, quartz monzonite, rhyolite, aplite, and quartz latite. Some of the more felsic dikes are radioactive, contain large amounts of columbium, REE, thorium, and zirconium minerals, and are related to the peralkaline granite intrusion. Many of the area prospects are located on such dikes (599).

The Bokan Mountain mineral deposits are grouped into four general types: 1) shear zone deposits like the Ross-Adams Mine; 2) pegmatite deposits like the ILM; 3) mineralized dike deposits like the Geiger; and 4) placer deposits like the Kendrick Bay Placer (599).

The Ross-Adams Mine is an irregular, steeply-dipping, fracture-controlled pipe hosted in peralkaline granite. The ore minerals are uranium, thorium, and the uranium species metamict uranothorite, uranoan thorianite, and coffinite in a gangue of quartz, feldspar, hematite, and chlorite (599).

Pegmatite deposits in the area are hosted in peralkaline granite and range from being short rods to convoluted sheets or pods. They are principally composed of quartz, albite, aegirine, and zircon with beryllium, columbium, REE, hafnium, tantalum, thorium, uranium, yttrium, and zirconium (599).

Andesite dikes in places form narrow extensive deposits that contain columbium, REE, yttrium, and zirconium. The ore minerals are complex rare-earth minerals (euxenite-polycrase, thalenite, tengerite, xenotime, bastnaesite, parisite, and synchysite) and zircon. Dike deposits form the most significant resources in the area (599).

Placer deposits are located in Kendrick Bay and Moira Sound. These are infilled by glaciofluvial sediments and by fine-grained, organic-rich sediments. The sources for a portion of these sediments are the various Bokan Mountain area deposits. While lower-grade enrichment of these placers has been established, no resources have been determined (599).

Bureau Work

Bureau of Mines work in the Bokan Mountain area was conducted as part of a critical and strategic metals program for columbium, REE, uranium, and zirconium from 1984 to 1987. This program included shallow diamond drilling, detailed mapping, and sampling. The report describing this work is the area's most important and is the basis of much of this information (599). Reconnaissance examination of the various deposit types was conducted during this study.

Significant Results/Mineral Resources

Mineral resources were found in nine deposits in the Bokan Mountain area. These are the Ross-Adams, Sunday Lake, ILM, Geiger, I&L, Dotson, Cheri, Upper Cheri, and Geoduck. These deposits are almost all long and narrow, dip steeply, and will require underground mining techniques for development. Indicated and inferred resources from these deposits are given by Warner (599):

figure 40 (foldout)

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A total of approximately 43,600 mt Cb_2O_5 (43% of the tonnage at a grade exceeding 0.125% Cb205), 5,300 mt U_3O_8, 12,700 mt ThO_2, 60,300 mt Y_2O_3, 289,200 mt ZrO_2, and 109,000 mt REE are estimated to be contained within nine deposits totalling 34.3 M mt (at least 80% of resource tonnage also exceeds 0.5% Y_2O_3 + rare earth oxides). Generally, half of the REO content is composed of the heavy, yttrium subgroup. Several deposits also contain beryllium and tantalum; 1,900 mt of Ta_2O_5 and 8,100 mt of BeO were estimated. These estimates would likely be substantially increased with additional exploration.

See table 19 for additional information.

Resource and Land Use Issues

There are six resource and land use issues identified in the Bokan Mountain area. These include: 1) a wild and scenic river candidate, 2) subsistence Sitka black-tail deer hunting, 3) the presence of anadromous fish streams, 4) an important tourism area, 5) a timber management designation, and 6) a minerals prescription designation.

The northeast corner of the area has two streams that flow into an unnamed lake and then into Johnson Cove. These streams and lake are designated as wild and scenic river candidates. The deposits with the most significant mineral resources are outside the watersheds of the wild and scenic river candidates. The area around Kendrick Bay is rated moderate for subsistence deer hunting pressure; a three-km mine road from Kendrick Bay provides access to meadows around Bokan Mountain. The remainder of the area is rated low for hunting pressure. Anadromous fish streams are identified at eleven locations; six flow into the southeast side of South Arm, four flow into Kendrick Bay, and one into Johnson Cove. A tributary to one of these streams flows past the portal of the Ross-Adams Mine and contains waste rock from the mine. Mine waste rock contains some uranium mineralization and was used as fill in the road connecting the Ross-Adams Mine to Kendrick Bay. The northeast and southwest portions of the area are considered important tourism areas as they are used as sightseeing corridors, and the remainder is designated as a timber management unit. The entire area is within a minerals prescription designation.

Table 19. Mineral locality information for the Bokan Mountain area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
182	Geiger	OF	Dike REE	P(s)	NA	Indicated and inferred resources: 15,600 mt Cb_2O_5, 940 mt ThO_2, 1,530 mt U_3O_8, 14,700 mt Y_2O_3, 181,000 mt ZrO_2, 33,200 mt REO, 612.2 mt Ta_2O_5 (599)	599	L
183	NW Bokan Mountain	OF	Peg REE	NA	NA	Occurrence too small to represent a significant resource	599	L
184	South Arm, Moira Sound	OF	PV: Cu	C	NA	0.2-m sample contained 34 ppb Au, and 2.48% Cu	599	L
185	Sunday Lake	OF	Shear, REE	P, T	NA	24,500 mt at 0.27% REE	599	L
186	I&L No. 1 & Wennie	OF	Shear, REE	C	NA	Too small for significant resource	599	L

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
187	Little Jim	OF	Peg, REE	NA	NA	Too small for significant resource	599	L
188	Little Joe	OF	Peg, REE	NA	NA	914-m by 0.9-m zone w/ REE, very low grade	599	L
189	Bokan Mountain Summit	OF	V: REE	NA	NA	Too small for significant resource	599	L
190	Irene D	OF	Peg, REE	NA	NA	Values too low to constitute resource	599	L
191	Purple Pieper	OF	Peg, REE	NA	NA	Too small for significant resource	599	L
192	ILM	OF	Peg, REE	T(s)	NA	Inferred resources: 685 mt Cb2O5, 63.5 mt U3O8, 422 mt Y2O3, 12,400 mt ZrO2, 1,470 mt REO (599)	599	L
193	I&L	OF	Dike REE	P(s)	NA	Indicated and inferred: 163 mt Cb2O5, 218 mt ThO2, 18 mt U3O8, 6,740 mt ZrO2 (599)	599	L
194	Dotson Shear	OF	Shear, REE	C(s)	NA	Too low grade to be considered resources	599	L
195	Ross-Adams	OF	Mag. Seg., shear	2 Adits: stopes crosscuts, P	79,500 mt at 0.76% U3O8	Indicated resources: 1,520 mt ThO2, 562 mt U3O8, 1,320 mt Y2O3, 1,070 mt ZrO2, 290 mt REO (599)	599	L
196	Dotson	OF	Dike, REE	P(s), T(s)	NA	Indicated and inferred resources: 9,480 mt Cb2O5, 5,298 mt ThO2, 1,050 mt U3O8, 12,800 mt Y2O3, 20,400 mt ZrO2, 18,700 mt REO (599)	599	L
197	Kendrick Bay Placer	OF	Placer REE	NA	NA	Sampling did not determine resource	599	L
198	Cheri	OF	Dike, REE	T(s)	NA	Indicated and inferred resources: 5,750 mt Cb2O5, 1,460 mt ThO2, 676 mt U3O8, 8,260 mt Y2O3, 19,230 mt ZrO2, 21,610 mt REO, 1,270 mt BeO (599)	599	L
199	Upper Cheri	OF	Dike, REE	P(s)	NA	Inferred resources: 431 mt Cb2O5, 109 mt ThO2, 59 mt U3O8, 694 mt Y2O3, 2,000 mt ZrO2, 1,790 mt REO (599)	599	L

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
200	Shore	OF	Dike REE	NA	NA	No significant resource; 2.5% REE	599	L
201	Goeduck	OF	Dike REE	P(s)	NA	Indicated and inferred resources: 11,500 mt Cb_2O_5, 2,210 mt ThO_2, 1,230 mt U_3O_8, 27,600 mt Y_2O_3, 41,800 mt ZrO_2, 32,000 mt REO, 2,740 mt BeO (599)	599	L

McLean Arm Area

General/Land Status

The McLean Arm area is located near the southeast end of Prince of Wales Island about 64 km southeast of Ketchikan. The area contains the Nelson and Tift Mine, the Apex and Bug prospects, and the Stone Rock Bay rare-earth element (REE) deposits (fig. 41). Only the Hillside and Wano claims are patented (MS 971). Maximum elevation in the area is 518 m (1,700 ft) and timber and brush cover most of the area. Access is possible via boat or floatplane from Ketchikan. A brush-choked road provides access to the Apex prospect, and the Nelson and Tift Mine is on the beach, as are most of the Stone Rock Bay prospects. Access to the Bug and other area prospects is through the brush without benefit of a trail.

History/Workings/Production

The only producer in the area was the Nelson and Tift Mine which was discovered in 1935. Surface mining was performed from a 23 by 9 by 3 m sulfide lens by Nelson and Tift, and Anaconda from 1935 to 1942, resulting in the production of 108.26 kg gold, 19.72 kg silver, 32.3 mt copper, and 315.3 kg of lead from 2,271 mt of ore. Between 1935 and 1942 exploration with trenches and four diamond drill holes failed to find additional ore (426).

The Apex and the Hillside and Wano prospects were discovered in 1908. By 1944, the Apex was explored with three adits (98 m, 17 m, and 5 m in length) and a series of cuts and trenches. The Hillside and Wano was explored by three short adits (one presently caved) and a series of trenches. During 1944, the Bureau of Mines (Bureau) mapped and sampled the Apex prospect in detail (583). Diamond drilling by U. S. Borax during the 1970s was accomplished, but details were not available for this study.

Exploration in the mid-1970's of the Bug prospect and the Stone Rock Bay North prospect is reported. The former underwent detailed geologic mapping and soil sampling by Cities Service Mineral Corp. (393) and the latter underwent diamond drilling by U.S. Borax, but the details of this work were not available for this report. Two shafts, now flooded, and a caved adit explore the Veta prospect, which was originally discovered in 1908 (337). An adit was found at the Stone Rock Bay West prospect, as were two flooded shafts and an adit at the Stone Rock Bay Central prospect, but none of these workings are mentioned in the literature.

Geology

Intrusive rocks dominate the McLean Arm area. To the north of McLean Arm, Ordovician diorite and leucogranodiorite dominate. To the south of McLean Arm and to the west of Stone Rock Bay, Silurian and/or Late Ordovician quartz monzonite, granite, and quartz syenite dominate (212). Early Silurian and/or Late Ordovician pyroxenite is found to the south of Mallard Bay. Three northwesterly-striking faults cut the area. The westernmost of these faults is offset by a north-trending fault that crosses the area (fig. 41).

Quartz syenite and granite host porphyry deposits at the Apex, Bug, and Stone Rock Bay North prospects. A small marble inclusion in the leucogranodiorite hosts the skarn deposit at the Nelson and Tift Mine. REE zones at Stone Rock Bay are hosted in andesite dikes intruding quartz syenite and granite. Pyroxenite hosts quartz-carbonate veins and sulfide disseminations at the Veta and Stone Rock Bay Central prospects.

Soil sampling of the Bug porphyry prospect by Cities Service in 1976 indicated copper-molybdenum anomalies with a gold halo covering many hundreds of meters. Copper values were up to 440 ppm, molybdenum values up to 130 ppm, and gold values up to 0.93 ppm (393). Information is lacking on the diamond drilling at the Stone Rock Bay North porphyry deposit but Bureau examination revealed disseminated pyrite, chalcopyrite, and molybdenite exposed intermittently over an area of 100 m2. The Apex prospect consists of gold-bearing pyrite and chalcopyrite disseminated and localized along fractures within a zone that is 300 m long and 24 to 91 m wide (583).

The Nelson and Tift copper-gold mine was high grade but very small, and was hosted in a thin marble band in the Ordovician leucogranodiorite on the north side of McLean Arm. It is a skarn deposit which is usually found along contacts between calcareous sediments and limestone or marble, and silicic intrusive rocks. Only four such rock units are mapped in the area. They are small (less than 30 by 300 m) and are located in the leucogranodiorite on the north side of McLean Arm. Limited host rock exposure greatly limits the potential for finding additional skarn deposits.

Pyroxenite hosts disseminated sulfides and quartz-carbonate sulfide vein occurrences. The Veta and Stone Rock Bay Central prospects are such occurrences. Mineralization at the Veta prospect is exposed through cover at scattered locations along a distance of 335 m. At the Stone Rock Bay Central prospect underground workings and outcrops expose mineralization for 21 m. The presence of palladium at the latter prospect suggests that these prospects are magmatic segregation deposits.

Carbonatites and REE-bearing dikes are reported on the east shore of Stone Rock Bay (24). The carbonatite occurrences, which also host REE, are too small to be considered economic however the dike occurrences have the potential to form larger deposits. At the Stone Rock Bay East occurrence, a 1.12-m-wide REE-bearing dike is exposed along the beach for 8 m. Similar dikes at Bokan Mountain extend for kilometers.

Bureau Work

During 1944, Bureau engineers established resources at the Apex prospect by detailed sampling. During 1986 and 1987, Bureau crews examined the Stone Rock Bay vicinity for REE deposits as part of the Critical and Strategic Minerals Program. As part of this study Bureau geologists mapped and

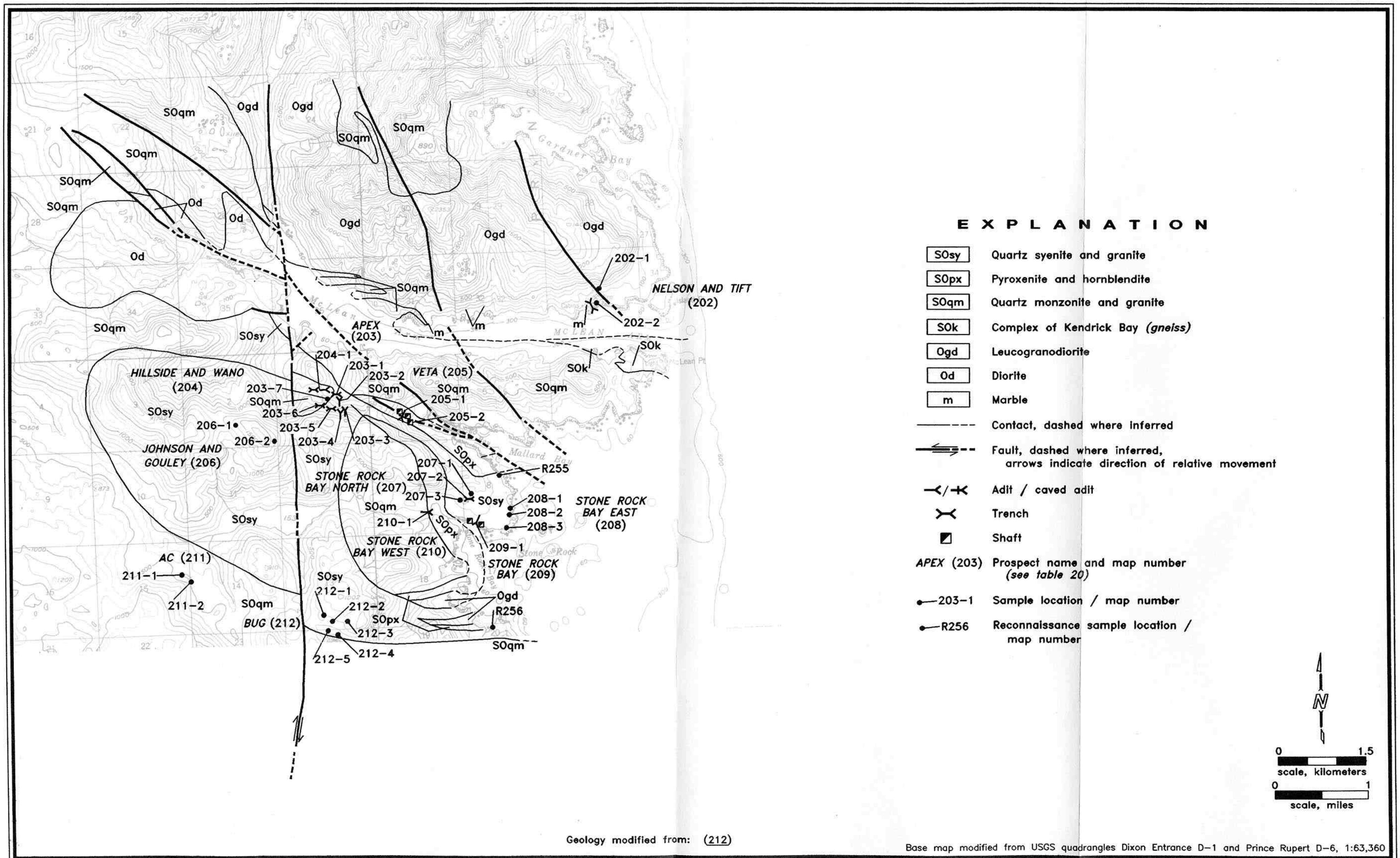

Figure 41. – McLean Arm area, showing geology, mineral localities, and sample locations.

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sampled the Hillside and Wano, Veta, Stone Rock Bay Central, and Stone Rock Bay West prospects and reconnaissance sampled the Apex, Johnson and Gouley, Stone Rock Bay North and Stone Rock Bay East occurrences.

Significant Results/Mineral Resources

Bureau sampling at the Bug deposit revealed values of up to 369 ppm copper, 234 ppm zinc, and 31 ppm molybdenum (map Nos. 212-1, 212-5) and up to 402 ppb gold, 6,206 ppm copper, and 259 ppm molybdenum (map No. 207-2) at the Stone Rock Bay North prospect. Bureau work at the Apex prospect revealed a large area of copper-gold mineralization. A select sample taken to characterize the mineralization contained 51.5 ppm gold and 7.68% copper (map No. 203-3, sample 5120). Previous Bureau war mineral studies established resources of 1.8 M mt that average 0.51% copper, 0.34 ppm gold, and 227 ppm silver (583). Samples collected from a 300-m-long zone at the Veta prospect contained from 94 to 7,258 ppb gold, and from 1,833 ppm to 6.41% copper (map Nos. 205-1, 205-2). At the Stone Rock Bay Central prospect, samples contained up to 268 ppb gold, from 298 to 6,949 ppm copper, from 5 to 928 ppm molybdenum, and from 14 to 315 ppb palladium (map No. 209-1). These prospects currently lack the extent and grade to be considered for development, but are exploration targets.

A sample from a REE dike at the Stone Rock Bay East occurrence contained 96.8 ppm uranium, 1,830 ppm cerium, and 858 ppm lanthanum across a 1.12-m width (map No. 208-1).

Resource and Land Use Issues

There are three resource and land use issues identified in the McLean Arm area. These relate to: 1) subsistence Sitka black-tail deer hunting, 2) the presence of anadromous fish streams, and 3) a semi-primitive recreation designation.

Subsistence deer hunting pressure is rated as moderate throughout the area, which is related to tidewater access through McLean Arm and Stone Rock Bay. Anadromous fish streams are identified at four locations. Three flow into the south side of McLean Arm and one into the west side of Stone Rock Bay. The entire area is designated semi-primitive recreation, which permits road building to create recreational access.

Table 20. Mineral locality information for the McLean Arm area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
202	Nelson and Tift	OF	S: Au, Ag, Cu, Pb	C(s), T(s)	108.26 kg Au, 19.72 kg Ag, 32.3 mt Cu, 3,153 kg Pb from 2,271 mt of ore	Sulf lens mined out and no others in sight; select sample contained 104.4 ppm Au and 10.48% Cu		L

Table 20. Mineral locality information for the McLean Arm area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
203	Apex	OF	P: Au, Ag	Adits: 98m, 17m, 5m	NA	1,800,000 mt resources that average 0.51% Cu, 0.34 ppm Au, 227 ppm Ag		M
204	Hillside and Wano	P: MS 971	PV: Au, Cu	Adits: 3m, 2m, (caved), c(s)	NA	Select dump sample contained 2.79% Cu, 7,150 ppb Au	NA	L
205	Veta	OF	?	Shafts (flooded); C(s), P(s)	NA	Dissem sulf in sil carbonate altered gs; samples contained from 94 to 7,258 ppb Au and from 1,833 ppm to 6.41% Cu	337	L
206	Johnson and Gouley	OF	PV: Cu	NA	NA	3-m long qz-calc vein; up to 0.04 m thick, contained from 1.25 to 7.54% Cu	583	L
207	Stone Rock Bay North	OF	P: Cu, Mo	P(s), diamond drill holes	NA	Select samples of sil monz contained up to 214 ppb Au, 6,206 ppm Cu, and 259 ppm Mo	NA	L
208	Stone Rock Bay East	OF	Dike REE	NA	NA	Up to 1,445 ppb Au, 7,800 ppm Cu, 1,080 ppm U, 14,400 ppm Ce, 7,230 ppm La	24	L
209	Stone Rock Bay Central	OF	V: Au, Cu, Mo, Pd	Adit: 21m shafts: (both flooded)	NA	Vein contained up to 208 ppb Au, 6,949 ppm Cu, 928 ppm Mo, 315 ppb Pd	NA	L
210	Stone Rock Bay West	OF	P: Cu, Mo	Adit: 3.7m	NA	Up to 113 ppb Au, 238 ppm Cu and 17 ppm Mo	NA	L
211	AC	OF	P: Cu, Mo	P(s)	NA	NA	393	L
212	Bug	OF	P: Cu, Mo	P(s)	NA	Bureau bedrock samples up to 369 ppm Cu, 234 ppm Zn, 1,100 ppm Ba, 588 Ce; Cities Service soil sampling contained up to 440 ppm Cu, 130 ppm Mo, 0.93 ppm Au	393	L

Nichols Bay Area

General/Land Status

The Nichols Bay area is located at the southeast tip of Prince of Wales Island, approximately 72 km from Ketchikan. It extends from Cape Chacon to Brownson Bay and consists of gentle timbered hills that reach a maximum elevation of 558 m (1,830 ft) (fig.42). This area, which includes the Nichols Bay Shaft and Lucile prospects, contains no active claims. Prospects and occurrences are located near

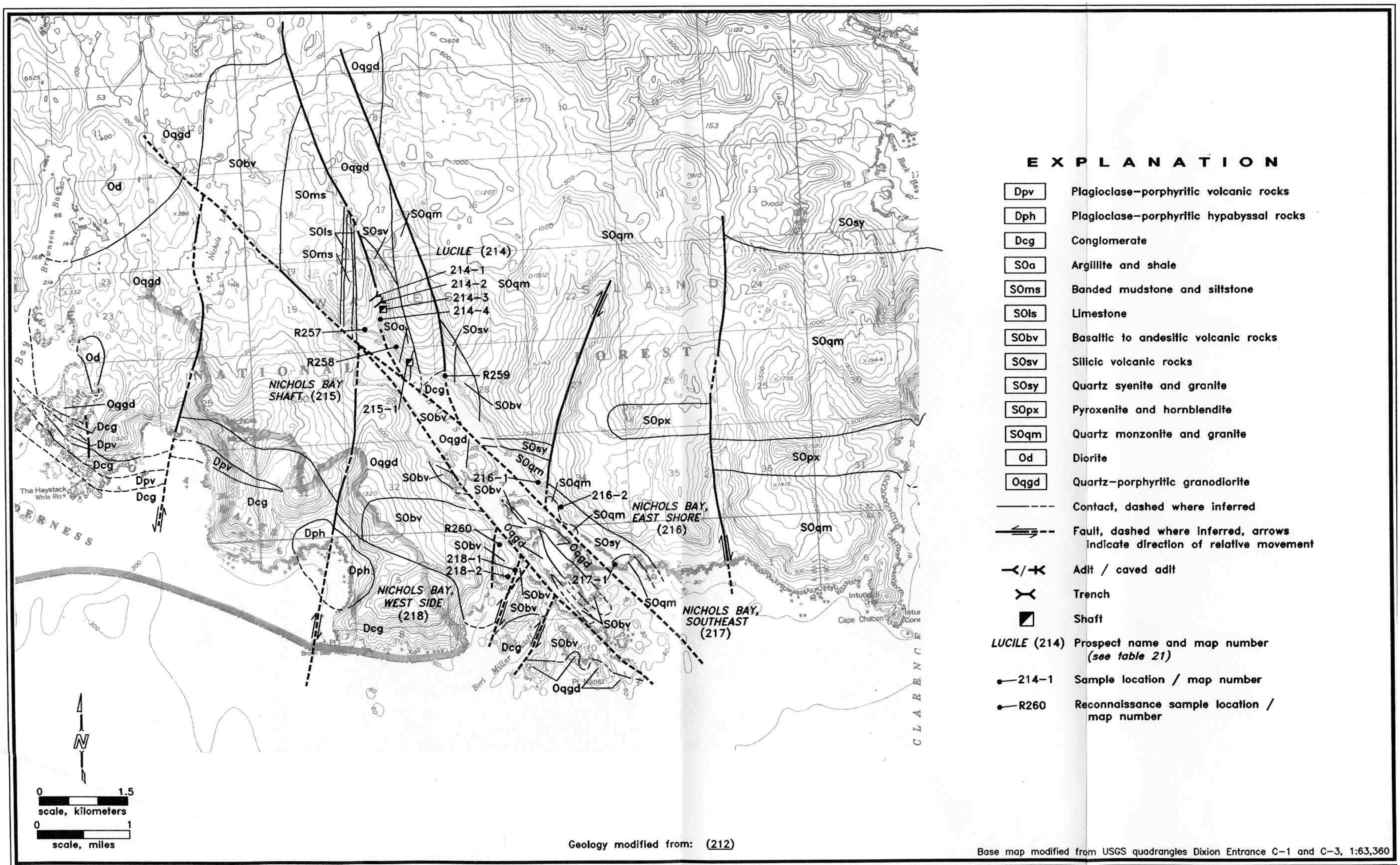

Figure 42. – Nichols Bay area, showing geology, mineral localities, and sample locations.

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tidewater and are easily accessed from the beach. The area can be reached via boat or floatplane.

History/Workings/Production

The Lucile prospect was staked in 1916 and consists of 2 adits (5 m and 5.5 m long), and a flooded shaft. By 1916, the Nichols Bay Shaft prospect was developed with a short shaft (now flooded) (38). In addition, a number of occurrences were examined along the east shore of Nichols Bay sporadically between 1916 and 1990. There were no active claims as of 1991, and only two small cuts indicate past activity here. The area has no record of past production.

Geology

Nichols Bay is underlain by Early Silurian to Ordovician Descon Formation volcanic and sedimentary rocks, Ordovician diorite and quartz diorite, and Early Silurian to Ordovician quartz monzonite, granite, and syenite. Intrusive relationships indicate that Descon volcanics are coeval with the Ordovician plutonic rocks. Four northerly trending faults traverse the area. These are offset by a northwesterly trending fault that runs the length of Nichols Bay and continues to the northwest (214).

Descon volcanics host volcanogenic sulfide deposits and polymetallic vein occurrences. The most prominent of these are the Nichols Bay Shaft prospect and Lucile prospect, respectively. The Nichols Bay Shaft prospect consists of an 18-m band of gray and green silicified volcanics and cherts that locally host disseminations and masses of pyrite, pyrrhotite, and magnetite with sphalerite. This band strikes to the north with a steep dip, and is exposed in the intertidal zone for 30 m. The Lucile prospect consists of narrow quartz-calcite veins exposed in two adits and a shaft, over a distance of 200 m. The workings and veins approximately align with each other along a 330° strike direction.

The quartz monzonites, granites, and syenites along the east shore of Nichols Bay host zones of disseminated sulfides and some polymetallic veins. The most significant of these is the Nichols Bay East Shore occurrence, where adjacent open cuts expose narrow sulfide-bearing quartz stringer zones and lenses bearing pyrite, chalcopyrite, galena, and sphalerite. These are hosted in silicified syenite near a contact with greenstone, which strikes northwest and dips steeply. The cuts expose the zone for about 3 m.

Bureau Work

Bureau of Mines engineers mapped and sampled the Lucile and Nichols Bay Shaft prospects and briefly examined the Nichols Bay East Shore, Nichols Bay Southeast, and Nichols Bay West Side occurrences. A magnetometer survey was conducted over the Nichols Bay Shaft prospect.

A total field magnetometer survey was taken in five lines across the north-striking Nichols Bay Shaft prospect. Two lines were located in the intertidal zone across the mineralized zone. The remaining three were located 6 m, 21 m, and 37 m north of the beach exposure in heavy timber and cover. The three southernmost lines gave magnetic anomalies from 7,000 to 9,000 gammas over the mineralized zone and its northern projection. The line 21 m north of the mineralized zone gave a 750 gamma anomaly while the line 37 m north of the mineralized zone was flat indicating that the zone ends between 21 and 37 m from the beach.

Samples of a 10.7-m-wide zone of silicified andesite at the Nichols Bay Shaft prospect averaged 0.55% zinc (map No. 215-1, samples 5745-5747). Samples of narrow polymetallic veins at the Lucile prospect contained up to 415 ppm copper, 3,870 ppm lead, and 4,865 ppm zinc (map Nos. 214-1, sample 5578; 214-2; and 214-4). A 0.2-m sample across a polymetallic vein at the Nichols Bay East Shore prospect contained 122 ppb gold, 913 ppm copper, 530 ppm lead, and 550 ppm zinc (map No. 216-1, sample 5115).

Significant Results/Mineral Resources

Sampling and mapping indicates that the Nichols Bay area prospects and occurrences lack precious metal values and are small and discontinuous. Base metal values are inconsistent. Such occurrences are individually insignificant, but may spur examination of Descon Formation rocks for more extensive mineralized zones.

Resource and Land Use Issues

There are five resource and land use issues identified in the Nichols Bay area. These relate to: 1) a wilderness designation, 2) a semi-primitive recreational designation, 3) subsistence Sitka black-tail deer hunting, 4) the presence of anadromous fish streams, and 5) an area considered important to tourism.

The western part of the area is designated wilderness and the remainder is classified as semi-primitive recreation. The subsistence deer hunting pressure is designated as moderate on the northwest corner of Nichols Bay. The remainder of the area is designated as low. Anadromous fish streams are identified at six locations, three flowing into Nichols Bay, two into Brownson Bay, and one into Clarence Strait. The region surrounding Nichols Bay is considered important to tourism.

Table 21. Mineral locality information for the Nichols Bay area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
214	Lucile	OF	PV: Pb, Zn	Adit: 5m, 5.5m; shaft: (flooded)	NA	Up to 9 ppb Au, 415 ppm Cu, 3,870 ppm Pb, 4,865 ppm Zn		L
215	Nichols Bay Shaft	OF	VMS: Zn	Shaft: (flooded)	NA	10.7 m of sil andesite averaged 0.55% Zn		L
216	Nichols Bay East Shore	OF	PV: Pb, Zn, Cu	C(s)	NA	9.1 m of sil syenite contained 541 ppb Pb; select sample of qz-carbonate vein contained 172 ppb Au, 1,400 ppm Cu, 9,813 ppm Pb, and 3,213 ppm Zn	NA	L
217	Nichols Bay Southeast	OF	PV: Cu	NA	NA	Up to 1,282 ppm Cu	NA	L
218	Nichols Bay West Side	OF	VMS	NA	NA	Up to 84 ppb Au, 261 ppm Cu, 405 ppm Zn		L

McLeod Bay Area

General/Land Status

The McLeod Bay area is located on Southern Dall Island and includes the land between Security Cove and Datzkoo Harbor extending south to include Cape Muzon. The area is about 100 km southwest of Ketchikan. Known prospects and mineral occurrences are mostly near shore and easily accessible.

Mineral deposits in the area include the McLeod Bay prospect (Elk and Virginia claims), and occurrences at Security Cove, Datzkoo Harbor, and Little Daykoo Harbor (Koo/Precious occurrences).

Topography in the area is generally of gentle to medium relief, although Stripe Mountain rises to 683 m (2,240 ft) elevation on the west side of the area. The majority of the area is densely vegetated with conifers and thick brush, except for Stripe Mountain which is dominated by scrub and small bushes. Muskeg is prevalent around the main trunk of Wolk Creek, which drains into Wolk Harbor. The McLeod Bay/Virginia claims are located in this drainage.

Land status in the area is dominated by Forest Service land open to mineral exploration and development. There is a parcel of Native land (interim conveyance) at the head of McLeod Bay extending east through Little Daykoo Harbor, and two smaller parcels on both shores of Datzkoo Harbor (fig. 2). Unpatented mining claims are currently maintained at the Kaigani prospect (includes McLeod Bay Elk and Virginia claims) and on Little Daykoo Creek.

History/Workings/Production

The earliest mineral discovery in the area occurred on the south side of McLeod Bay (Elk claims) around 1900 (90). Reports suggest that 4 adits were driven on the Elk Claims, between elevations of 24 m (80 ft) and 122 m (400 ft), but only two of these have been referred to in more recent industry reports and only one was found open during the current investigation. Several hundred meters of trenches were also dug to expose veins on the property. The claims were worked intermittently until 1944, but did not produce ore. Two short shafts were sunk on the east side of Wolk Creek and many open cuts were excavated in the creek banks to expose mineralization at the Virginia claims, on the northwest end of the McLeod Bay claims. This property was abandoned after 1906 and restaked by H. Gould in 1935 (612). There are two adits reported at the Datzkoo Harbor prospect (Dakoo Gold). These developments consist of a 61-m adit at 122 m (400 ft) elevation and an 81-m adit at 67 m (220 ft) elevation (612). There are no workings at any of the other occurrences in the McLeod Bay area.

There are active mining claims at Little Daykoo Creek which were originally staked in 1967. There has been no significant development on these claims. Resource Associates of Alaska staked the Koo claims in 1976. Bear Creek Mining Co. discovered mineralization in Security Cove prior to 1978, but it is unknown whether their discovery is the same as that by the Bureau of Mines (Bureau) in 1990 (36). Noranda Exploration staked the Precious claims over the Little Daykoo Islands in 1983 (584). The McLeod Bay prospect was restaked in the early 1980's by Noranda Exploration and worked in the late 1980's by LAC Minerals, USA. The prospect is currently held by Boomer and Associates, Anchorage, AK.

Geology

The geology of Southern Dall Island consists mainly of Wales Group metavolcanic and metasedimentary rocks. The volcanic rocks are mainly metadacites and meta-andesites, but a thick pile of siliceous, pyritic metarhyolite crops out between the north shore of Little Daykoo Harbor and the south shore of Datzkoo Harbor. These pyrite-rich metarhyolites have been recently prospected. The Wales Group rocks have been intruded by Early Cambrian metaplutonic bodies (554 +/- 4 my) ranging from granodiorite to gabbro in composition, and a Cretaceous granodiorite body (204). The Wales Group rocks on this part of Dall Island are metamorphosed to at least greenschist facies, substantiated by metamorphic hornblende found near Cape Muzon. The structural grain in the area is to the northwest with dips mainly to the northeast, but local variations are common. A southeast-plunging syncline has been mapped just south of Datzkoo Harbor (fig. 43).

Mineralization in the area is concentrated in two mapped units. A northwest-trending band of undifferentiated metadacite, marble, graywacke and phyllites extends from Cape Muzon through Security Cove and hosts the McLeod Bay polymetallic quartz vein deposits and the Security Cove volcanogenic massive sulfide (VMS) occurrence. The metarhyolite hosts the Koo/Precious occurrences and the Datzkoo Harbor prospect. The Stripe Mountain granodiorite is a semi-foliated, unmineralized intrusive located on the west side of the area. It is unknown whether this intrusive has any genetic relation to the McLeod Bay mineralization. There is topographic and structural evidence of a lineament/fault stretching northwest from Cape Muzon, through Wolk Creek to Security Cove, which could have channeled hydrothermal fluids from this intrusive into the McLeod Bay showings.

The underground workings at McLeod Bay/Elk claims were inaccessible during the current investigation but a property description can be synthesized from previous work and the current investigation. The host rocks for quartz vein mineralization are volcaniclastic rocks consisting mainly of a graywacke and chlorite schist footwall and a marble hanging wall with the contact striking approximately 315°, dipping 30° to 45° northeast. The strike of the anastomosing veins at the Elk claims (fig. 43, map No. 225) is reportedly parallel to these enclosing rocks (78), but trench and stripped exposures of veins reveal local crosscutting relations. Trenches expose the vein set for at least 243 m along strike (90). The veins appear to fill cross fractures oblique to the 315°-striking fault structure. Veins are brecciated and bounded by gouge zones up to 1 m wide and parallel gouge zones are found in the hanging wall of the vein (78). The veins were discontinuous at depth and this characteristic precluded successful underground exploration and development of the property. Quartz veins are mineralized with chalcopyrite, galena, sphalerite, and pyrite with rare visible gold.

The structure of the quartz veins at the Virginia claims (fig. 43, map No. 223) is similar to that seen at the Elk claims. Small, discontinuous veins are both subparallel to and oblique to the foliation (e.g. vein strike: 330°, 290°, and 250°) of the silicified graywacke and quartz-chlorite schist host rocks. There are local concentrations of sulfide mineralization (galena) present in some of these veins, but there is no regularity or continuity to these shoots . A 10-m-long trench perpendicular to the creek exposes solid quartz with local shoots of sulfide mineralization. This is the largest vein exposed in Wolk Creek and its structural orientation (250°) is inferred from the fact that the vein does not show up in a trench directly downstream (southwest) from this cut. This vein exhibits the overall unpredictable nature of mineralization at the McLeod Bay prospects.

The Security Cove occurrence (fig. 43, map No. 221) consists of a 3-m-wide zone of massive pyrite bands up to 10 cm thick intercalated with siliceous chlorite-sericite schist, and marble. The VMS zone is bounded on the west by metabasalt, and on the east by marble. The strike of these units and stratiform mineralization is roughly 315°, dipping 82° southwest. The mineralization crops out in the intertidal zone along the north side of Security Cove, near the entrance to the cove, and continues intermittently for over 100 m, thinning along strike to the northwest. At its widest, the horizon containing massive pyrite layers comprise nearly 33% of the 3.5-m-thick zone, whereas 61 m to the north the zone is characterized by a 15- to 20-cm-thick section composed of 50% galena, sphalerite, and pyrite. The VMS showing disappears under forest cover northwest of this location. The rock package containing this VMS horizon has been mapped on the south side of Security Cove. Three zones of pyritic quartz-sericite schist interbedded in metadacite have been mapped. These zones do not contain massive pyrite mineralization or base metal sulfides.

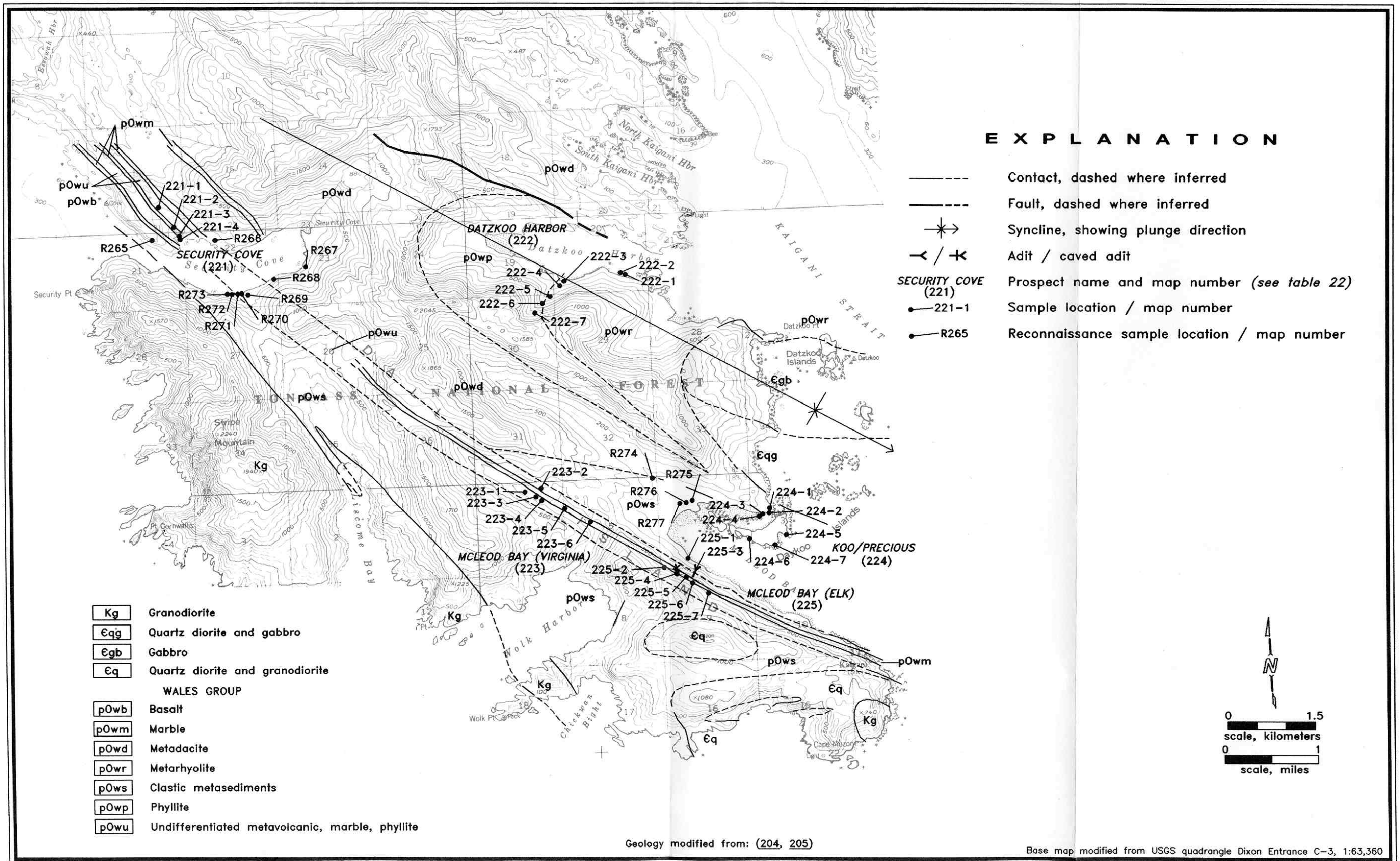

Figure 43. – McLeod Bay area, showing geology, mineral localities, and sample locations.

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The metavolcanics cropping out along Datzkoo Harbor (fig. 43, map No. 222) and near Little Daykoo Harbor (pOwr) generally strike 300° to 320° with steep dips. Rock types consist of quartz-sericite schist, graphitic quartz-sericite schist, meta-andesites (amphibolite schist), and silicified volcaniclastic sediments (talc schists and biotite-feldspar-quartz schist). Pyrite is ubiquitous in these rocks, both in disseminated form and in stringers up to 2 mm thick. The unit contains concordant quartz veins, of probable metamorphic origin, that are generally not mineralized. The unit is very extensive, but there is no indication of large fragmental volcanic piles that are usually significant in large VMS deposits.

Bureau Work

Bureau geologists examined the McLeod Bay workings at both the Elk and Virginia claims. The lower adit at the Elk claims was open but this adit did not intersect the mineralized zone found farther up the hillside. Rock types in the adit include metagraywacke and greenstone schist with local concentrations of quartz veinlets near shear zones. Assays from samples taken in this adit were not encouraging. Several outcrops containing quartz veins were found at elevation 140 to 150 m (475 to 500 ft) and one of these contained significant sulfide mineralization and visible gold. Strike of the vein was 253° which is oblique to the foliation of the enclosing tan sericite schist host. This vein was undoubtedly explored at depth by an adit as no other veins found in the area were as mineralized. The adit was not found during this work. Several trenches were found around 140 m (475 ft) elevation in the area and quartz veins were sampled when visible. Most of these veins were not mineralized.

The entire perimeter of Security Cove was prospected for sulfide mineralization. Noteworthy VMS-style mineralization was found adjacent to a drainage on the north shore, near the mouth of the cove. Bureau geologists sampled this mineralization and followed it along strike until it disappeared under cover. The drainage was walked and float and stream sediment samples were taken in search of parallel mineralized zones. None were found. Much of the remainder of the cove is underlain by unmineralized dacitic metavolcanics.

The pyritic felsic schists cropping out along the shore of Little Daykoo Harbor were sampled but no base metal sulfides were observed. Zinc values over 0.5% were returned in a few of the analyses (map Nos. 224-4, 224-5, samples 1642, 4003).

Placer samples, pan concentrates, and moss mat samples were taken along the lower stretches of Little Daykoo Creek to confirm the presence of gold. Six samples were taken and no significant gold was recovered (R274-R277).

Significant Samples/Mineral Resources

Samples taken from the McLeod Bay/Elk claims corroborate the presence of gold and base metals in one of the quartz veins exposed in a surface cut near elevation 150 m (500 ft). Samples across the 0.46- to 0.61-m-thick vein contained up to 117.1 ppm gold, 510.2 ppm silver, 1.1% copper, and 2.17% lead (map No. 225-6, sample 4021). This sample verifies that high grades are present at the Elk Claims, but quartz vein mineralization is more commonly low grade.

Five samples taken from the McLeod Bay/Virginia claims contained over 1,455 ppb gold. The highest value was 4,827 ppb gold with 33.9 ppm silver from a representative chip sample of quartz exposed throughout the 10-m-long trench along the west side of Wolk Creek (map No. 223-4, sample 4202). Previous reports suggest high-grade ore (21 ppm gold) was found in dump rock adjacent to the short shafts on the east side of the creek (90).

Samples from the VMS zone at Security Cove contained up to 3,647 ppm zinc, 1.9 ppm silver, and 210 ppb gold across an 8-cm-thick sulfide band (map No. 221-4, sample 4023). A continuous chip across a 1.52-m portion of the zone contained 1,240 ppm zinc. A continuous chip across the northwest extension of the zone contained 1,400 ppm zinc, 885 ppm lead, 263 ppm copper, and 3.5 ppm silver across 0.21 m (map No. 221-3, sample 1627).

No resources have been identified at any of these prospects.

Resource and Land Use Issues

There are four resource and land use issues that may have an effect on future mineral development in the McLeod Bay area. These issues include: 1) the designation of the area for semi-primitive recreation, 2) anadromous fish streams, fisheries areas, and waterfowl migration routes, 3) subsistence Sitka black-tail deer hunting, and 4) small private inholdings (590).

The entire area is designated as a semi-primitive recreation area that allows for road building to accompany mineral development and access for recreational activities, but restricts logging to salvage operations only. There are several important salmon spawning streams in the area, including Little Daykoo Creek and Wolk Creek. The State of Alaska has classified the outer part of Datzkoo Harbor and areas around McLeod Bay as important salmon rearing areas (3). This may have a seasonal effect on mineral development in these particular areas. The largest commercial harvest of abalone in the State occurs off the west coast of Dall Island from Cape Muzon north to Sakie Bay (3). Similarly, a major commercial seine and troll fishery occurs in the same area (3). Kaigani Strait, located on the east side of the area, is a very high-density use area for waterfowl and shorebirds and may serve as an important overwintering area for birds breeding on Forrester Island Wildlife Refuge, 40 km to the west (3). Subsistence deer hunting pressure has been categorized as moderate around Security Cove and low throughout the remainder of the area. Small parcels of Native land are located at the head of McLeod Bay and on both shores at Datzkoo Harbor.

Table 22. Mineral locality information for the McLeod Bay area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
221	Security Cove	OF	VMS: Zn, Pb, Ag, Ba	OC	NA	1.5 m sample contained 1.9% Ba, 1,652 ppm Zn; others contained to 6.3 ppm Ag	,	L
222	Datzkoo Harbor	OF	VMS: Au, Ag	Adits (2): 61 m, 81 m (both caved); OC	NA	Values to 12 ppm Au, 57 ppm Ag reported (612); Bureau samples contained to 241 ppb Au, 1.6 ppm Ag	, , ,	L
223	McLeod Bay/Virginia claims	OF	V: Au, Ag, Cu, Pb, Zn	Shafts (2): <6 m; T, P (2)	NA	Rep sample from trench across 4.6 m contained 33.9 ppm Ag, 4,827 ppb Au	, , , ,	L
224	Koo/ Precious	OF	VMS: Zn, Cu	NA	NA	Zn values to 6,503 ppm; Cu values to 483 ppm	,	L
225	McLeod Bay/Elk claims	OF	V: Au, Ag, Cu, Pb, Zn	Adits (2): 53 m (open), 78 m (caved); T, P (2), drill pads	NA	Visible gold found; select samples averaged 96 ppm Au, 415 ppm Ag, with Cu, Pb, Zn; many barren qz veins	, , , ,	L

Mount Burnett Area

General/Land Status

The Mount Burnett area is located west of Vixen Inlet and east of Union Bay on the northwest corner of Cleveland Peninsula, approximately 60 km northwest of Ketchikan. The community of Meyers Chuck is located 1.5 km west of Union Bay in a small embayment on Lemesurier Point. The area contains four known mineral localities and a potential target for a platinum group metal (PGM) deposit. These locations include Union Bay Iron, Mount Burnett Chromite, Alaskite Nose, Vixen Inlet, and a portion of the main stream draining the west side of Dunite Peak.

Topography in this area varies as low to moderate gradient slopes rise to the top of 876-m-high Mount Burnett, the highest point in the area. Vegetation is sparse over the ultramafic rocks that cover most of the area, but thickens on the peripheral bedded rocks. Outcrop is generally good along ridges radiating from the peaks, but glacial till largely conceals bedrock in the valleys. There are no logging roads in the area.

Land status in the area is mainly Forest Service land open to mineral exploration. There are two patented mineral surveys covering Union Bay Iron (MS2202, MS2203), but current ownership is unknown. The State of Alaska asserted a community grant land selection for 2 sections surrounding Vixen Harbor. This selection is still pending. There is also private land (homestead sites) in the Meyers Chuck area.

History/Workings/Production

The discovery of chromite in the Mount Burnett area was made by J. C. Roehm of the Territorial Dept. of Mines in 1938 (423). After this discovery, local prospectors became interested in the area and sampling began by 1942. The USGS sent two geologists to briefly examine the geology and take representative samples of the ultramafic rocks in 1941 (Reed and Gates). In 1943, Kennedy and Walton prepared the first comprehensive geologic map of the area (300). These two authors mapped the entire area, and spent considerable time examining the chromite deposits associated with the dunite core in the eastern part of the ultramafic complex. There have been no mining claims staked over the chromite-bearing dunite since its discovery in 1938 (584). By 1954, Columbia Iron Mining Co. (subsidiary of U. S. Steel Corp.) was staking claims on the iron deposits west of the chromite and conducting extensive surface and subsurface investigations, continuing their work until 1970. They acquired patent to 18 claims over a large iron deposit located in the western portion of the complex in 1967 and 1969 (MS 2202, 2203). As a consequence of this work, Ruckmick and Noble published a detailed geologic map of the area in 1959 (469) that is still the most comprehensive report on the area.

Clark and Greenwood of the USGS took samples from the peridotite/dunite and hornblendite/pyroxenite rock packages at Union Bay to determine the presence of platinum group metals (PGM) and their correlation with the different rock types, oxide and sulfide phases, and major and trace elements. Their work at Union Bay was part of a larger project attempting to correlate the presence of platinum in Alaska-type ultramafics to that found in the Ural Mountains in Russia (127).

Mining engineers from the Bureau of Mines (Bureau) took a 204-kg random sample of chromite ore from the dunite core in 1979 and sent it to Albany, Oregon for metallurgical testing (156). Bureau geologists sampled Mount Burnett in 1989 as part of a southeast-Alaska-wide program to determine the presence of lode PGM deposits in Alaska-type ultramafic complexes (190). Results from this work support the relationship between magnetite-rich pyroxenite and PGM initially noted by Clark and Greenwood (127). Bureau geologists took placer and pan concentrate samples from several of the drainages emanating from Mount Burnett and Dunite Peak in 1992 and 1993 as part of the present study. This will be discussed in more detail in the section on Bureau work. et pr

The Vixen Inlet prospect was staked in 1964 and worked until 1967 (584). Bureau geologists found two short prospect pits alongside the creek containing this prospect. The Alaskite Nose prospect was rediscovered in 1992 by Bureau geologists during shoreline reconnaissance along Vixen Inlet. An abandoned trench and a 4-m-deep shaft was found behind beach outcrops of mineralized alaskite dikes. No reference to this prospect was found in the literature, so a discovery date is not known.

Geology

The Mount Burnett area is composed of a Cretaceous Ural-Alaska type, concentrically-zoned ultramafic body that has intruded a series of Jurassic to Cretaceous schists, phyllites, and minor conglomerate (207). The zoned ultramafic is essentially composed of a central core of dunite rimmed by progressively less magnesium-rich shells of peridotite, olivine pyroxenite, wehrlite (pyroxenite), hornblende pyroxenite (hornblendite), and gabbro. The dimensions of the composite mass are about 11.5 by 2.5 km with an extensive gabbroic shell bordering to the south (176). There are numerous basaltic and pegmatitic hornblende dikes within the marginal pyroxenite and hornblendite zones (300). Several faults striking 315° and 030° have been mapped within the complex and offset individual units up to 150 m (fig. 44).

The schists and phyllites at Union Bay are compositionally diverse metapelitic rocks generally striking from 280° to 340° with steep dips to the north-northeast. The strike of these rocks near the outfall of Vixen Creek changes to 030° to 060° with dips to the southeast. Rock types examined include chlorite schist, amphibolitic greenstone schist, thinly bedded pelitic phyllites, and biotite quartz schists. There is very little contact metamorphism of these sediments due to the shielding effect of the surrounding gabbro shell, and the anhydrous nature of the ultramafic magma which would absorb volatiles rather than expel them (469). Local areas of hornfels were observed in the metasedimentary rocks cropping out in the drainages emptying into Vixen Inlet.

There are two types of mineral deposits in the Mount Burnett area. Magmatic chromite and magnetite deposits with associated PGM are linked to the various phases of the ultramafic complex, whereas alaskite dikes host quartz veins containing variable amounts of galena, sphalerite, and pyrite at the Alaskite Nose prospect (fig. 44, map No. 228). This prospect is hosted in the phyllite zone north of the ultramafic complex. The Vixen Inlet prospect (fig. 44, map No. 229) reveals numerous barren to slightly mineralized quartz veins exposed in the creek bed and two prospect pits adjacent to the creek at an elevation of 49 m (160 ft). These veins are subparallel to regional foliation, striking 120° and dipping 70 to 75° northeast. Host rocks include banded black and green phyllites that have been intruded by diabase and granodiorite dikes. Quartz veins are spatially associated with the granodiorite dikes.

The magmatic chromite deposits are mainly concentrated in the dunite core on the east side of the complex (Dunite Peak). There are few, if any, sulfides associated with the chromite. The chromite bands and clots are usually small (2 to 5 cm by 8 to 12 cm) but one pod was measured to be 4 m long and 0.45 m wide. Bureau engineers sampled this large pod in addition to an area with several smaller ones to obtain a representative sample. The amount of total chromium in the samples (1.13%) did not justify additional work (156).

Magmatic iron (magnetite) deposits with associated titanium are found in the western-northwestern part of the complex, concentrated mainly in the pyroxenite and hornblendite units. Minor magnetite is associated with the gabbro units of the border zone. The majority of the magnetite is found disseminated throughout the pyroxenite units (469). Magnetite also occurs as veinlets, bands, and irregular clots, some of which crosscut the pyroxenite, suggesting late-stage emplacement. Other parallel bands of magnetite (0.5 to 4.0 cm thick) can be traced continuously for 50 to 75 m (469).

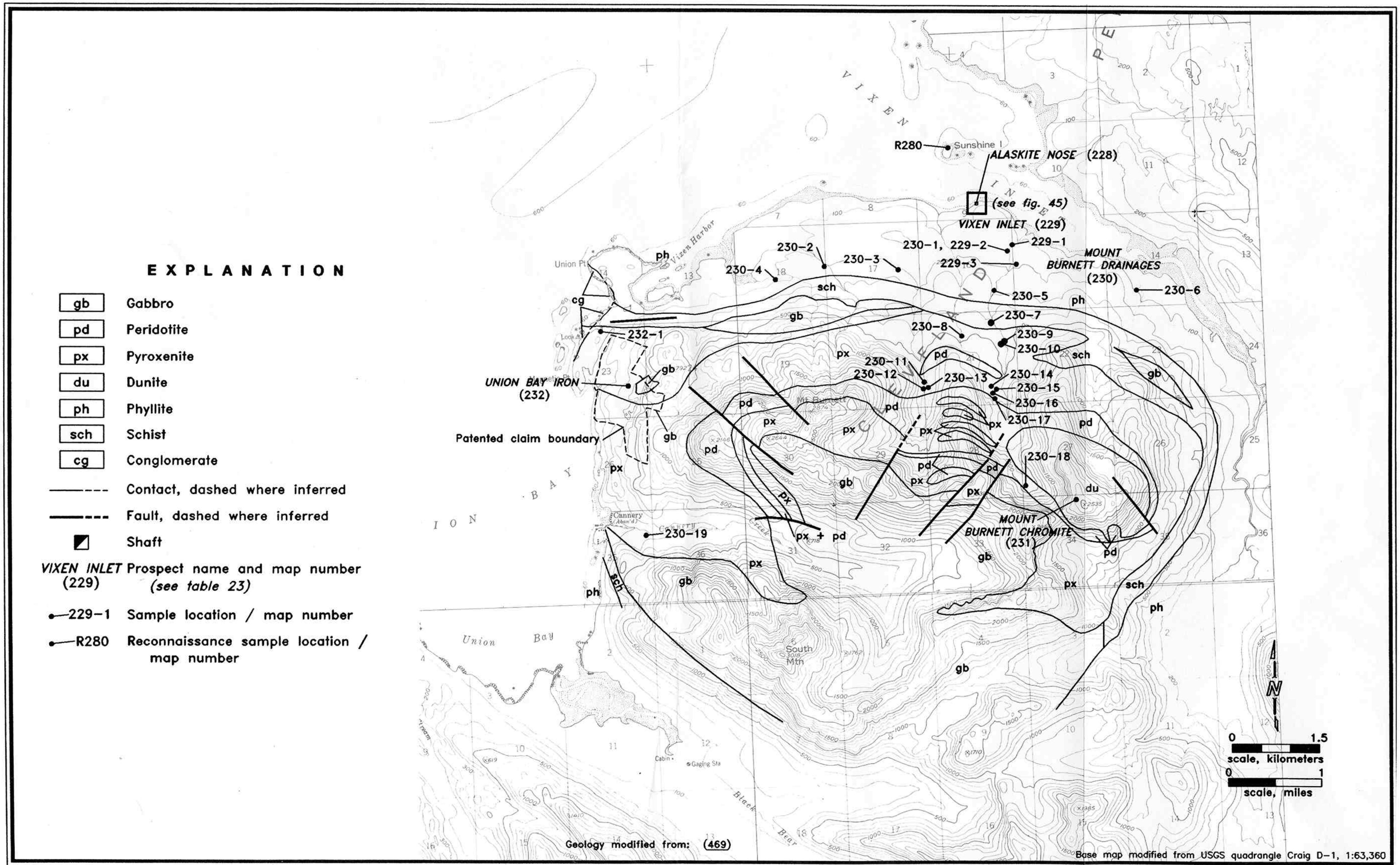

Figure 44. – Mount Burnett area, showing geology, mineral localities, and sample locations.

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There is no apparent structural control to the location of magnetite, although physiochemical control is implied.

Bureau Work

Bureau geologists tried to determine the presence of elevated platinum-palladium in the ultramafic complex by taking placer and pan concentrate samples from the drainages crossing the northern portion of the Mount Burnett area (fig. 44, map Nos. 230-1 to 230-19). An initial reconnaissance effort consisting of six placer concentrates (fig. 44, map Nos. 230-1 to 4, 230-6, 230-19) processed through a 1.2-m-long sluice box, revealed a high platinum value of 3,166 ppb, with 35 ppb palladium and 2,016 ppb gold. This sample came from the drainage emanating from Dunite Peak (sample 230-1). Bureau workers took 8 additional samples (both placer and pan concentrate) from this drainage in an attempt to locate a source area for the PGM. Four of these samples (map Nos. 230-7, 230-9, 230-10, 230-14) contained platinum values in excess of 3,376 ppb with the high value being 19,440 ppb (map No. 230-10). These sample locations were concentrated between elevation 138 m and 182 m (450 ft and 600 ft) in a shallow-gradient creek that is not confined within steep bedrock walls. This setting increases the potential for creek migration throughout a broad floodplain, thus supporting the presence of additional platinum in the area. Three samples from this drainage contained gold values in excess of 3,135 ppb.

Three additional samples were taken from the long drainage west of that just described to try to determine the source area for the platinum. Of these 3 samples, sample 230-11 contained 2,777 ppb platinum. Although the current sampling effort did not positively identify a source area, the fact that sample 230-18 contained the most chromite, but relatively little platinum (9 ppb), suggests the occurrence of platinum outside the dunite/chromite core. Bureau work suggests the possibility that platinum may be localized along the east-west-striking peridotite/pyroxenite contact zones trending perpendicular to the sampled drainages. More work is certainly justified in this area.

Scanning electron microprobe analyses performed by Cannon Microprobe, Seattle, on crushed separates from two of the samples identified ferroan-platinum, native osmium, osmium-iridium and hollingworthite, a rhodium mineral (105). This work clearly supports the presence of a suite of PGM and not just platinum in the Mount Burnett area.

Bureau geologists rediscovered the Alaskite Nose prospect along the shores of Vixen Inlet and mapped and sampled the mineralization and workings (fig. 45). An outcrop of alaskite contains two sets of fracture-hosted quartz veins mineralized with galena, sphalerite, and pyrite. These fractures strike 035° and dip 75° northwest and also strike 330° and dip 72° northeast. A 4-m-deep shaft explored mineralization 35 m away from the beach exposures. Sulfide mineralization is spotty and occurs within and on the margins of the 0.4-m-thick quartz veins (0.4 m). A select sample across a well-mineralized intercept on the vein contained over 88 ppm Ag and 2.35% Pb (map No. 228-2). The shaft does not expose abundant mineralization, although abundant limonite staining was observed.

The Vixen Inlet prospect was briefly examined and sample analyses do not justify additional work.

Significant Samples/Mineral Resources

The pyroxenite/hornblendite portion of the Mount Burnett Complex has been sampled several times and reserves of 900 M mt grading 18% to 20% iron with up to 2% titanium have been estimated (369) . Different workers have estimated the total magnetite content within the pyroxenites as 20% to 30% of the rock mass (189,469). Clark and Greenwood established an average platinum value of 0.093 ppm and a maximum value of 1.6 ppm from 50 samples taken throughout the complex. These samples also contained up to 0.2 ppm palladium, 0.062 ppm rhodium, and 0.215 ppm iridium (127). These numbers corroborate the microprobe work performed on splits from the placer concentrates that identify PGM.

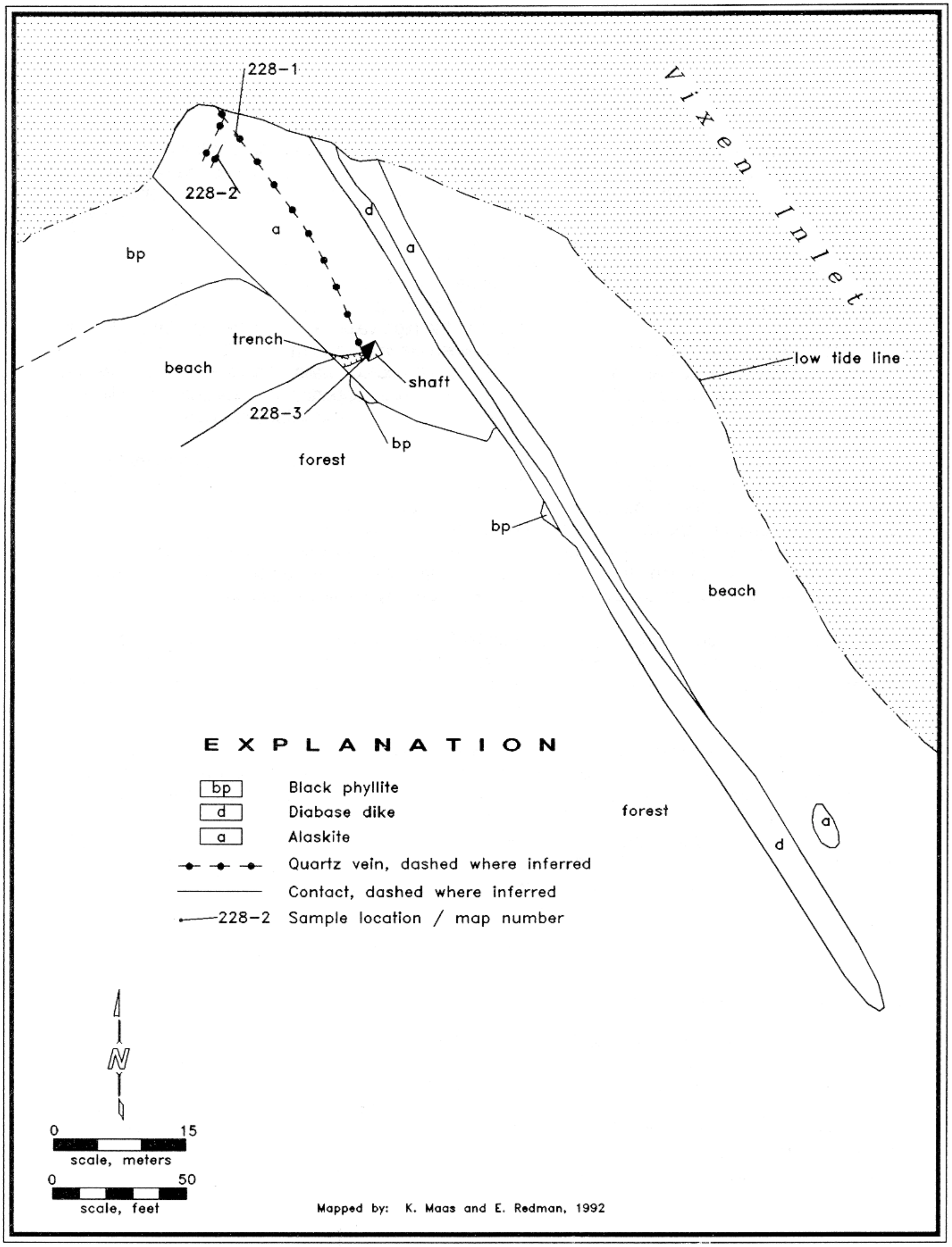

Figure 45. – Alaskite Nose prospect, showing geology and sample locations.

Bureau Research Center laboratories performed gravity concentration and magnetic separation tests on chromite concentrates (156). These tests determined that the chromite concentrates did not satisfy any commercial chromite specifications.

Platinum values up to 19,440 ppb were obtained from placer sample concentrates (map No. 230-10). Placer and pan concentrate samples from the main drainage emanating from Dunite Peak reveal elevated levels of PGM and gold and justify additional work in the area.

Resource and Land Use Issues

There are six resource and land use issues identified in the Mount Burnett area. These issues include: 1) management designations for both intensive and medium-level timber harvesting, 2) the presence of several anadromous fish streams, 3) tourism corridor areas, 4) subsistence Sitka black-tail deer hunting, 5) likelihood to receive minerals prescription in final Tongass Land Management Plan (TLMP) document, and 6) the presence of small private parcels and state selections (590).

The area is nearly bisected by a north-south line that distinguishes between high-level and medium- level timber harvesting. The east side of the area, including Dunite Peak, has been identified for timber harvest, the only caveat being that the area is covered by thin stands of timber, probably related to the ultramafic rocks which underlie this area. There are significant anadromous fish streams identified at Cannery Creek and Vixen Creek (drains into the head of Vixen Inlet) as they are lengthy and of low relief, while several smaller creeks draining the north portion of the area probably support smaller fish populations. Tourism corridors have been identified over Vixen Inlet and Union Bay proper. A moderate level of subsistence hunting pressure has been identified around the periphery of the area, while a low intensity level has been identified in the more mountainous core of the area. The entire Mount Burnett area is a minerals prescription candidate. This designation would facilitate mine development after a plan of operations was approved. The final issue deserving mention is the State land selection in Vixen Harbor which, if approved, may limit infrastructure development for mining operations in this particular area. The location of private parcels is given in the land status section provided earlier in this writeup and shown on figure 44.

Table 23. Mineral locality information for the Mount Burnett area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
228	Alaskite Nose	OF	PV: Ag, Pb, Zn	Shaft: 4 m; OC	NA	Select sample contained 88.5 ppm Ag, 2.35% Pb and 0.3% Zn across 0.4 m		L
229	Vixen Inlet	OF	V: Cu	T, P (2)	NA	Cu values to 109 ppm, Ag values to 1.3 ppm	,	L
230	Mount Burnett Drainages	OF	Mag Seg, PL: PGM, Au	Stream channels	NA	1 placer sample with 19.44 ppm Pt, 5 placer/pan concentrate samples with 2,777 to 4,809 ppb Pt; 4 placer/pan concentrate samples with 2,016 to 4,887 ppb Au		M
231	Mount Burnett Chromite	OF	Mag Seg: Alaska-type zoned ultramafic; Cr, PGM	OC	NA	Average Pt values in chromite @ 0.093 ppm (127); Cr >18% across 0.4 m (300)	, , , ,	L
232	Union Bay Iron	OF, P: MS 2202, 2203	Mag Seg: Alaska-type zoned ultramafic; Fe	OC	NA	Estimated reserve of 900 M mt @ 18-20% Fe, 2% Ti (369)	, ,	L

Helm Bay Area

General/Land Status

The Helm Bay/Smugglers Cove area is located near the tip of Cleveland Peninsula, about 40 km north of Ketchikan, Alaska. There are several historic gold mines and prospects concentrated in the northwest part of Helm Bay surrounding the Gold Standard Mine, in addition to several others located between Gold Mountain and the head of Smugglers Cove. There is also an antimony prospect at Camaano Point, located about 10 km south of Smugglers Cove.

Land status in Helm Bay is largely Forest Service land open to mineral exploration and development. There is a patented claim block consisting of 9 claims in the area north of Smugglers Cove which is presently owned by the State of Alaska (MS 2011). A portion of this acreage has been converted to a State Recreation Site closed to mining activities. A large group of unpatented mining claims is held by the Stensland family in the area surrounding the Gold Standard Mine. Smaller claim blocks exist in the Smugglers Cove area and on the north part of Gold Mountain.

The area is roadless and access is limited to boat, floatplane, or helicopter from Ketchikan. There are abundant timber and water resources in the area. Old mining trails and numerous game trails facilitate access through the area. The terrain in the area ranges from low-lying muskeg to steep mountainous areas approaching 620 m (2,032 ft) elevation on Gold Mountain.

History/Workings/Production

The earliest documented mineral discovery in Helm Bay/Smugglers Cove was made in 1897 at the mouth of the creek draining the Gold Standard Mine. Thomas F. Johnson and C.F. Dyer discovered placer gold at the mouth of Mill Creek and followed this upstream to veins occurring at the present site of the lower Glory Hole and the upper Gold Standard veins. The upper veins were extensively developed over the next ten years, while the lower workings were mined sporadically between 1915 and 1942. The upper workings consist of 2 adits with over 305 m of workings (mostly flooded, as is a 46-m-deep shaft). The lower workings consist of two glory holes and an adit with 436 m of workings. Although credible production figures are not available, USGS reports and historic newspaper articles suggest that nearly 310 kg gold were produced at the Gold Standard Mine. The mine was worked on a lease basis for a number of years. This scenario did not encourage exploration of the deposit and ultimately led to closure of the mine (48).

Numerous other prospects in the area had been discovered by 1901 (70). Notable discoveries were made at the Portland (previously the Blue Jay), Annie, Old Glory, Keystone, Mary T, and US properties. These locations were worked intermittently until 1941. The discoveries at the Portland, Annie, Old Glory, Free Gold, and Keystone resulted in extensive developments (total workings: 2,102 m of crosscuts and drifts in 12 adits, 5 shafts, and over 33 trenches/pits), but gold production amounted to only 10.5 kg. A more detailed summary of workings and production can be found in table 26. Recorded production from all mines in the Helm Bay area exceeded 320 kg gold with minor silver credits between 1899 and 1942 (see table 3) (48).

During the 1980's and early 1990's, the Helm Bay/Smugglers Cove area was covered by two large claim blocks. One of these blocks is still active (1993) and encompasses the Gold Standard Mine area extending north to the Sleeping Beauty prospect. These claims are held by the Stensland family. The Smugglers Cove area was worked extensively in the 1980's, originally by Duval Corp. (383), and then by Kennecott Exploration Ltd., who subsequently relinquished the property (256, 293). Antilles Resources reevaluated the Smugglers Cove area under a joint agreement with Kennecott in 1987 (294). The State of Alaska Division of Geological and Geophysical Surveys mapped the geology of Helm Bay/Smugglers Cove in 1992 as part of a cooperative agreement with the Bureau of Mines (Bureau) in conjunction with the current study (131). Their final product is in the publication process.

Geology

The Helm Bay/Smugglers Cove area is underlain by a northwest-trending series of Upper Paleozoic to Triassic metamorphic rocks intruded by dioritic plutonic rocks of Cretaceous to Tertiary age (176). The metamorphic rock packages in the Helm Bay area consist, from east to west, of: 1) intercalated dark colored metasiltstone, metagraywacke, green phyllite, felsic schist, chlorite schist, and massive greenstone; 2) a nearly 2-km-thick sill of hypabyssal greenstone/diorite; and 3) a package of light colored metasedimentary rocks (fig. 46).

Rocks in the Helm Bay area have been subjected to a greenschist facies metamorphic event. Amphibolite-grade rocks containing hornblende and garnet index minerals are found 1 to 2 km east of Helm Bay. Foliation of the rocks generally trends 140° to 160°, dipping steeply to the northeast, but local variations are common. All rock units in the area are folded. Scale of folding varies from the large anticline-syncline sequence on Gold Mountain and Boulder Creek (kilometer scale) to local small-scale crenulations (centimeter scale). Folds plunge moderately northwest, but southeast plunges are also common.

Most gold deposits in the Helm Bay area are emplaced in faults, fractures, and shear zones. All mineralized systems (except Puzzler) strike parallel to the surrounding foliation with crosscutting dip directions. The faults and anastomosing shear zones are up to 0.9 m wide and contain quartz veins and stringer zones with gold, pyrite, and minor chalcopyrite. Wallrock and schistose partings adjacent to these zones are usually pyritic with the intensity of alteration varying between deposits. Zones of bleached, pyritic, schistose rocks up to 1.5 m wide have been observed at the Gold Standard Mine (fig. 47) and Old Glory prospect (fig. 48), whereas other deposits display thinner zones.

The Helm Bay/Smugglers Cove area contains essentially gold deposits with no byproduct metals of any significance. An antimony prospect containing small high-grade pods with up to 44.8% antimony occurs near Camaano Point, on the southernmost point of Cleveland Peninsula (171). The presence of polymetallic veins hosted by silicic intrusives at the Rainy Day and Wixon prospects are more a curiosity than a significant show. Bureau sampling from most of the Helm Bay deposits reveals a gold to silver ratio of about 6.5:1; there is virtually no lead and zinc, and only minor copper. Though most deposits are very similar, distinct styles are present. These include: 1) faults with large quartz veins and pyritic alteration, 2) quartz vein swarms, 3) quartz veins with little or no wallrock alteration, 4) faults with both quartz veins and stringers, 5) exhalative gold-copper, and 6) polymetallic veins.

Faults with large quartz veins were found at the upper Gold Standard Mine (fig. 46, map No. 237), Portland Mine (map No. 235), Free Gold prospect (map No. 236), and Old Glory Mine (map No. 254). These deposits are all hosted in massive greenstone which is foliated and pyritic adjacent to the faults. Quartz vein swarms are found at the lower Gold Standard, Beulah, and Snowstorm prospects. Quartz veins with no wallrock alteration were found at the Lakeview prospect. Ribbon texture was common along the footwall of the Lakeview vein. Fault zones with quartz veins and stringers were found at most of the Gold Mountain deposits including the Keystone, Old Glory, American Eagle, Annie, Lone Jack, Jewel, and Novatney. Exhalative deposits occur along the shore of Smugglers Cove at the Blue Bucket prospect and continue northwestward toward the Mary T and US prospects. Polymetallic veins are found at the Rainy Day and Wixon prospects.

Several of the deposits contain ore zones concentrated in distinct shoots rather than evenly disseminated within the vein structure. Though the deposits in the Helm Bay area are controlled by faults, some of the deposits are localized within the faults by bends or warps of the fault plane. This localization is best shown at the Portland Mine. Here the fault plane changes in dip from 70° to 45°. It is inferred that the fault resumes its 70° dip below the adit level. This warping created a pocket for quartz deposition. A similar warp-control of veins is also present at the Sleeping Beauty, Free Gold, and Annie deposits. The Annie deposits are controlled by vertical warps in the faults; the Free Gold and Sleeping Beauty veins are apparently controlled by subhorizontal bending.

The large quartz lens exposed in the stopes at the Portland Mine plunges northwest at about 25°. This same general plunge direction is apparent at the Free Gold. Sampling at the lower Gold Standard Mine has revealed a distinct northward plunge to the ore zone that is cut off by a 055°-striking, 45° southeast-dipping fault. The continuation of the ore zone past this fault has not yet been determined.

A bleached, chlorite-sericite-quartz schist with variable pyrite crops out along the northeast shore of Smugglers Cove. An adjacent schistose unit contains more chlorite than sericite, but taken together these two units are up to 30 m wide with a northwest strike length of nearly 1,400 m (256). A gold-bearing horizon occurs near the contact of these two units. These rocks exhibit variable degrees of deformation and metamorphism ranging from intense penetrative deformation to simple folding and fracturing.

The metallogenesis of the Helm Bay/Smugglers Cove mineral deposits is uncertain. Mineralization as evidenced by old workings, geochemical anomalies, quartz veins, and zones of alteration and sulfide impregnation are found in several different stratigraphic horizons. Mineralizing fluids may have been generated during greenschist facies metamorphism or from local magmatism. Preliminary fluid inclusion studies performed by Fluid Inc., (Denver, CO) on quartz vein material from several deposits in the area suggest a mesothermal environment of formation. The quartz contains millions of crisscrossing, healed microfractures, and variable amounts of H^2O-CO^2 liquid and vapor. Homogenization temperatures are predicted to be in the range of 125°C to 325°C, not corrected for pressure effects which would necessarily increase these temperatures. These characteristics are definitely not found in epithermal deposits (395).

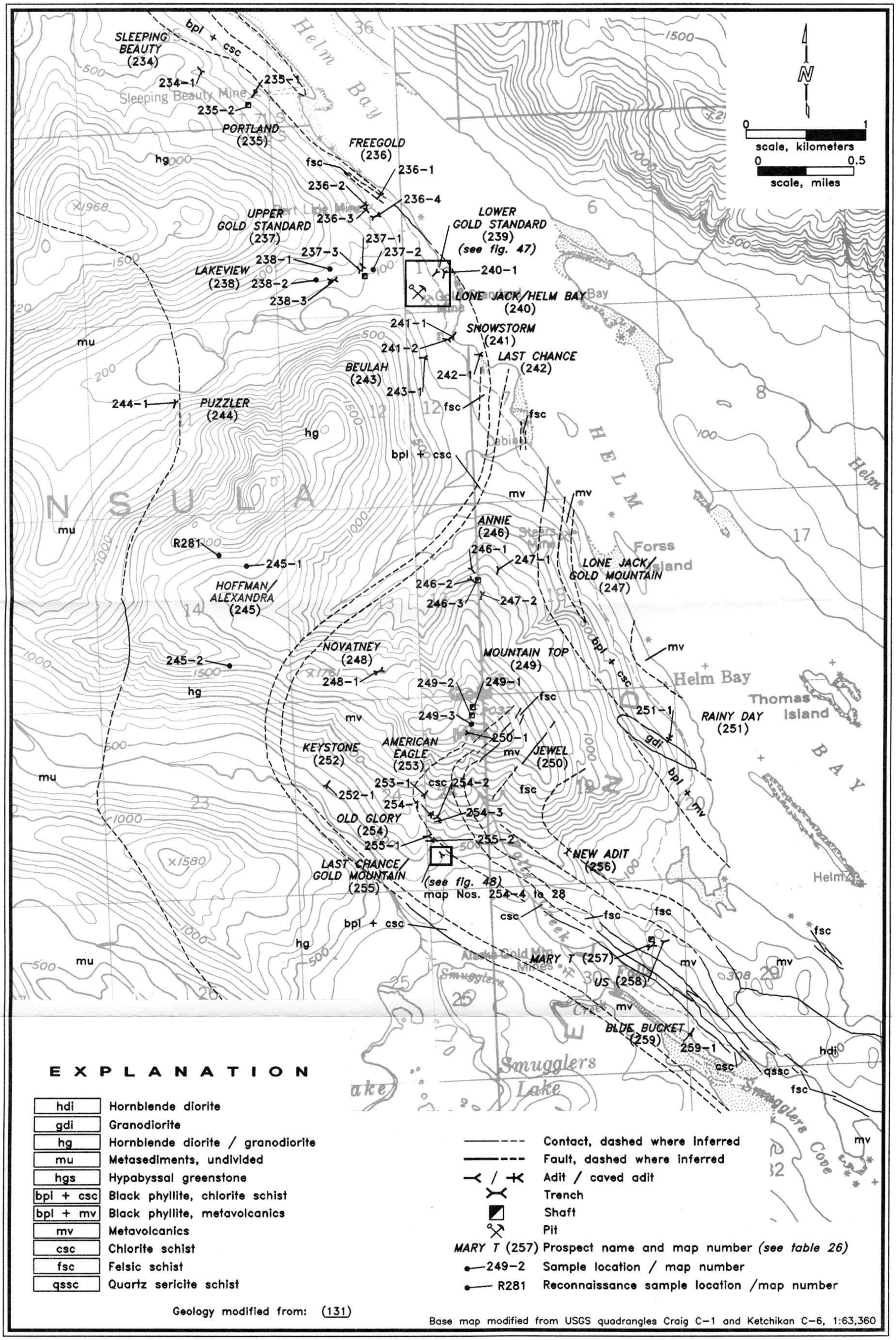

Figure 46. - Helm Bay area, showing geology, mineral localities, and sample locations.

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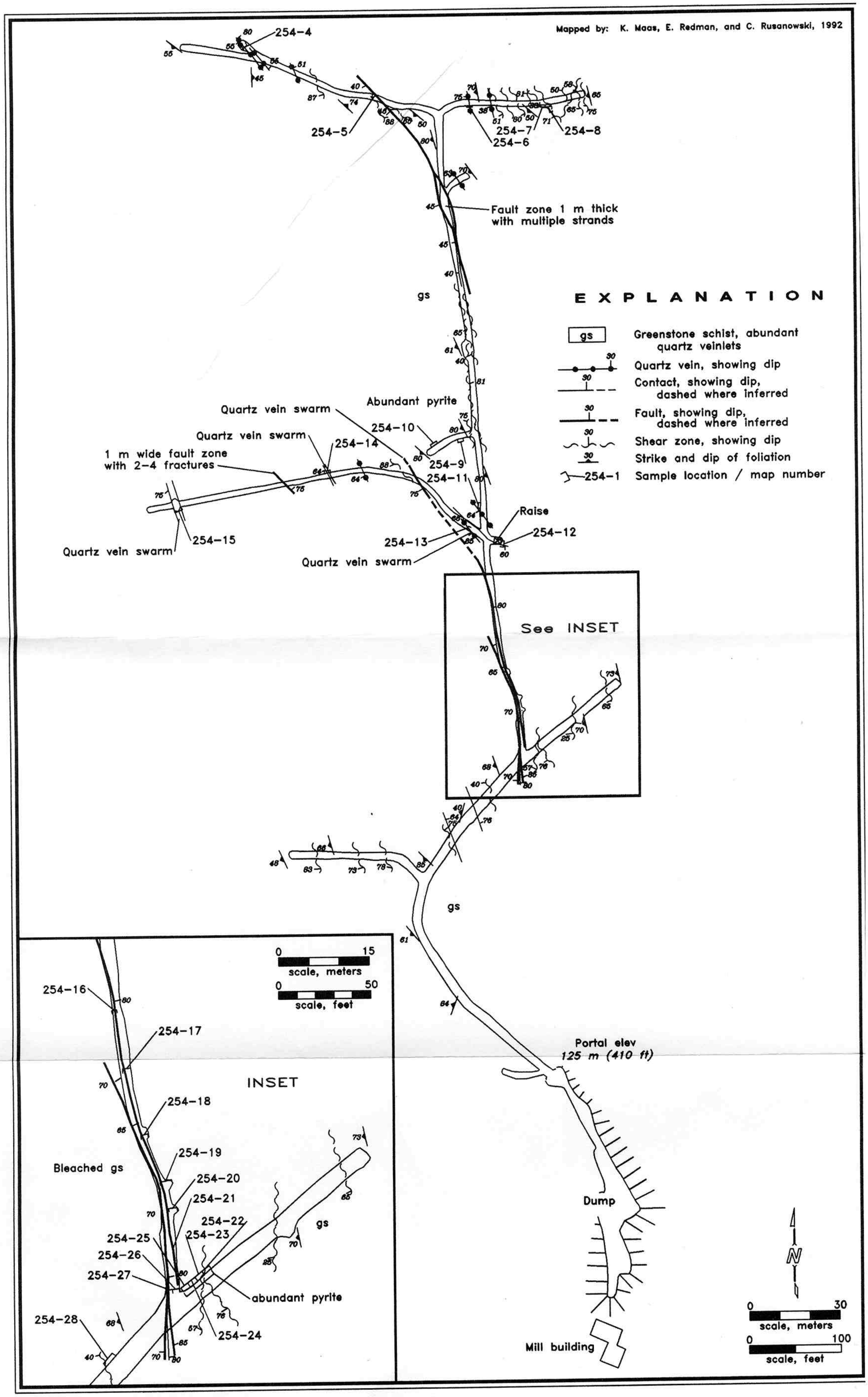

Figure 48. - Old Glory Mine main adit, showing geology and sample locations.

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The two polymetallic deposits in the area, the Rainy Day and Wixon, are distinctive. These deposits are separated by nearly 7 km, but both contain galena, sphalerite, chalcopyrite, and pyrite hosted in fissure veins associated with silicic intrusive rocks. These same intrusive rocks may be genetically related to the other gold deposits, but the sulfide mineralogy present does not support this. The mineralogy of the gold deposits more closely resembles the exhalative horizon found at Smugglers Cove. However, there is a poor spatial relation between this unit and the deposits in northern Helm Bay.

Bureau Work

Bureau investigations at Helm Bay/Smugglers Cove were accomplished over a 5-week period and included visiting 27 mines, prospects, and occurrences, taking 323 samples, and mapping nearly 2,600 m of underground workings in addition to all trenches, pits, and shafts that were accessible. A metallurgical sample was taken at the Gold Standard Mine for beneficiation testing conducted at the Bureau's Salt Lake City Research Center. Results from this test show that Gold Standard ore would release 73% of its gold when crushed to minus 10-mesh and leached with cyanide. Recovery would increase to 90% if the ore was crushed to minus 150-mesh.

In the Helm Bay area, most of the mineral deposits are associated with faults or shear zones. Sampling at these prospects revealed significant gold mineralization related to quartz veins and pyritic alteration zones surrounding these veins. Free gold was observed along vein margins but rarely in the middle of a quartz vein. The wallrock and schistose partings are usually pyritic although concentration varies widely. Pyritic schists can contain between 0.5% and 20% disseminated pyrite cubes and extend from several centimeters to nearly a meter from the veins.

Of 18 veins systems in the Helm Bay area, 12 had strikes between 345° and 025°, 5 others had strikes between 280° and 325°, and 3 had strikes between 210° and 230°. Veins commonly contain minor pyrite (up to 5%) but rare chalcopyrite. Pairs of adjacent continuous-chip samples taken from quartz and pyritic schist localities yielded the results in table 24. The average gold to silver ratio from Helm Bay deposits is nearly 6.5:1 and there is virtually no lead or zinc and only minor copper (table 25).

Table 24. - Comparison of gold values from quartz and pyritic schist in selected Helm Bay deposits.

Location	Quartz, Au in ppm	Pyritic schist, Au in ppm
Lower Gold Std	8.71	35.9
Lower Gold Std	8.12	17.0
Portland U/G	2.5	14.9
Portland U/G	5.7*	9.6
Portland/Shaft	6.57*	18.9
Free Gold	6.27	17.3
Old Glory	1.7	17.6

* includes thin bands of pyritic schist in the quartz

Table 25. - Average metal content in samples from Helm Bay deposits[8].

Location	Au, ppm	Ag, ppm	Cu, ppm	Pb, ppm	Zn, ppm	Te, ppm	Sn, ppm
Wixon	2.48	1.65	154	376	10	-	-
Sleeping Beauty	5.38	0.18	65	6.0	52	0.25	13
Portland	7.01	0.80	97	13.0	34	0.3	8.0
Free Gold	1.49	0.66	42	8.9	33	2.2	8.7
Lakeview	4.22	2.72	51	9.2	5	4.5	13.0
Upper Gold Standard	11.2	2.19	36	7.4	16	3.7	8.2
Lower Gold Standard	10.4	1.94	99	7.4	48	2.3	9.6
Snowstorm	1.20	0.06	33	3.1	9		
Beulah	0.62	0.16	30	6.3	25		
Puzzler	0.02	0.04	78	5.8	75		
Annie	4.92	0.92	82	10.4	88		
Lone Jack (Gold Mountain)	1.00	0.27	125	8.1	78		
Novatney	1.27	1.76	16	6.3	25		
Mountain Top	0.45	0.2	45	5.0	57		
Jewel	6.73	0.97	73	6.0	61		
Rainy Day	6.28	13.2	48	732	14		
Keystone	2.09	0.27	92	14.0	85		
American Eagle	1.86	0.12	157	11.2	71		
Old Glory Upper	4.32	0.35	128	12.0	67		
Old Glory Main	2.29	0.30	143	14.0	83		
Last Chance (Gold Mountain)	6.73	1.26	1,338	13.5	43		
Mary T	0.95	2.89	2,698	7.0	117		
US	1.45	0.15	45	67.8	124		
Blue Bucket	1.68	2.3	4,367	10.2	97		

8 Average metal content as determined from mathematical average of all samples taken at an individual property.

Significant Samples/Mineral Resources

Samples from the Gold Standard Mine, both in the lower glory holes and underground workings, identified several mineralized areas. A series of chip samples across a 5.6-m zone in the west glory hole yielded a weighted average of 9.1 ppm gold (fig. 47, map Nos. 239-5 to 239-9). Samples from a separate zone in the east glory hole gave a weighted average of 33.6 ppm gold across 7.5 m (map Nos. 239-17 to 239-23). Significant gold values were found in samples taken underground near intersecting faults and quartz veins. This premise holds true on the surface at the Lakeview prospect where a sample taken at a vein intersection contained 12.7 ppm gold (map No. 238-3, sample 7122). Other samples along the same vein contained a maximum of 8.7 ppm gold.

The entire lower Gold Standard adit was sampled by private industry as recently as 1993, and gold values were insufficient to encourage further work. The north-northwest plunge of the orebody may not have been considered during this evaluation.

Antilles Resources conducted a drill program peripheral to the Blue Bucket prospect (also known as the Beach Adit) in 1989. Five holes were drilled with a cumulative core length of 354.4 m. Location maps, core logs with geologic sections, and assay maps from the drilling are available for inspection at the Bureau office in Juneau. Duval Corp. performed soil geochemical testing and VLF and magnetometer surveys with hopes of identifying a sulfide-bearing horizon adjacent to the known prospects in the Smugglers Cove area. This work identified large inferred zones of gold-bearing strata. Kennecott reevaluated the area in the mid-1980's and after extensive mapping and soil and rock geochemistry outlined a zone 4.6 to 6.1 m wide and 38 m long containing 3.4 ppm Au, open in both strike directions. This horizon was part of a larger zone 12 m wide and 152 m long along strike that contained 1.7 ppm gold (256). Unexplored geochemical anomalies at least 610 m to the northwest suggest continuity to the zone and potential for a large tonnage, bulk mineable gold target (294).

Resource and Land Use Issues

There are six resource and land use issues present in the Helm Bay area that may affect future mineral development. These issues include: 1) establishment of a scenic viewshed and tourism corridor along the eastern part of the area, 2) timber management designation for the western part of the area, 3) subsistence hunting pressure for Sitka black-tail deer, 4) the presence of four anadromous fish streams, 5) State of Alaska inholdings at the head of Smugglers Cove, and 6) the presence of a Forest Service recreational cabin (590).

The scenic viewshed/tourism corridor extends the entire length of the area from Smugglers Cove to the head of Helm Bay. This corridor has been established to improve the view for small planes leaving Ketchikan for points north. The western part of the Helm Bay area has been designated for timber management and road building, although currently there is no logging on the west side of Helm Bay. There is low subsistence deer hunting pressure in the area, although Forest Service cabins on both sides of Helm Bay are used as staging areas for bear hunting. Falls Creek, located at the head of Smugglers Cove, is the longest anadromous fish stream in the area, whereas shorter streams are found at Mills Creek (near the Gold Standard Mine, map No. 102) and an unnamed creek near the Portland prospect (map no. 99). Mills Creek may pose a seasonal influence on development at the Gold Standard Mine as it traverses a gentle gradient and bisects the property.

Table 26. Mineral locality information for the Helm Bay area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
234	Sleeping Beauty	OF	V: Au	Adit: 10.5 m (open); T, P (4)	NA	Chip samples with 2,255-7,737 ppb Au; 13.61 ppm Au across 0.61 m	48, 402, 410	L
235	Portland	OF	V: Au	Adit: 146 m (open); 11-m shaft: (flooded); T,P	2.5 kg Au, 1.2 kg Ag, 11 kg Cu	Weighted average: 5,962 ppb Au across 1.48 m along 82 m strike length	48, 402, 424	L
236	Freegold	OF	V: Au	Adits (3): 529 m, 18 m, 13 m (open); shafts (2): flooded; T, P (30)	NA	Main adit weighted average: 2,056 ppb Au across 1.04-m width along 20m strike length; select sample across 0.76 m contained 17.31 ppm Au, 7.7 ppm Ag	48, 153, 402, 415, 426	L
237	Gold Standard, Upper	OF	V: Au	Adits (2); 305 m (caved), 23 m (open); shaft: 46 m (flooded); T,P	310 kg+ Au, 33 kg+ Ag	Au values to 23 ppm; Upper adit: weighted average 3,713 ppb over 0.73m for 40m; Folwarzny vein contained 5,550 ppb Au across 0.43 m	48, 90, 416, 498, 643	M
238	Lakeview	OF	V: Au	T, P (9)	NA	Weighted average: 3,103 ppb Au over width of 0.53 m and length of 170 m	48, 153,	L
239	Gold Standard, Lower	OF	V: Au	Adit: 436 m (open); glory holes (2)	see above	West workings: weighted average- 9.1 ppm Au over 5.2 m; East workings - weighted average- 36.3 ppm over 6.9 m; to 173.4 ppm Au across 1.22 m	48, 90, 402, 498, 643	M
240	Lone Jack/Helm Bay	OF	V: Au	Adit: 3 m (open)	NA	7,590 ppb Au, 2.9 ppm Ag, across 0.1 m	48	L
241	Snowstorm	OF	V: Au	Adits (2): 2 m, 1 m (open); T, P	NA	Au values from <5 ppb to 9,697 ppb (across 0.46 m)	48	L
242	Last Chance/ Helm Bay	OF	VMS (?): exhalative Cu	Adit: 21 m (open)	NA	Au and Cu values to 16 ppb and 101 ppm, respectively	48	L
243	Beulah	OF	V: Au	Adit: 21 m (open); T, P (9)	NA	Au values: 1,376 ppb across 2.13 m, rep sample contained 3,303 ppb Au	48	L
244	Puzzler	OF	V: Au	Adit: 51 m (open), T, P	NA	Highest Au value: 51 ppb across 1.52 m	48, 643	L
245	Hoffman/ Alexandra	OF	V: Au	Adits (2): 9 m (open); 14 m (not found)	NA	2,642 ppb Au across 0.15 m	48, 141, 643	L
246	Annie	OF	V: Au	Adits (2): 128 m, 120 m (open); shafts (2)	7.9 kg Au	Upper adit: Au to 1,317 ppb; Lower adit: weighted average-6,720 ppb Au over 5.1m	48, 383, 643	M
247	Lone Jack/Gold Mountain	OF	V: Au	Adits (2): 12 m, 24 m (open)	NA	Upper adit: weighted average- 1,499 ppb Au over 1.37 m for 10 m	48, 383, 402	L
248	Novatney	OF	V: Au	T, P (2)	NA	Au values to 2,830 ppb, Ag to 4.1 ppm across 0.64 m	48, 577, 621	L

Table 26. Mineral locality information for the Helm Bay area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
249	Mountain Top	OF	V: Au	Shafts (2): flooded, T, P	NA	Highest Au value 1,570 ppb across 0.61 m	48, 643	L
250	Jewel	OF	V: Au	Adit: 54 m (open), T, P (2)	NA	Weighted average: 4,988 ppb Au across 0.65 m along 31-m strike length	48, 643	L
251	Rainy Day	OF	PV: Au, Ag, Pb	Adit: 32 m (caved), T, P (6)	NA	Weighted average- 4,575 ppb Au, 8.1 ppm Ag over 0.58 m width exposed in trenches	48, 70, 402, 643	L
252	Keystone	OF	V: Au	Adit : 213 m (140 m open)	NA	Weighted average of 2,409 ppb Au across 1.44-m width; Ag < 1 ppm	48, 293, 383, 643	L
253	American Eagle	S: MS 2011	V: Au	Adit: 112 m (open)	NA	Weighted average of 3,160 ppb Au across 1.13 m in 6 samples - 2 veins	48, 75, 383	L
254	Old Glory	S: MS 2011	V: Au	Adits(5): 793 m, 23 m, 55 m, 3 m, 61 m (4 open)	0.3 kg Au, 0.8 kg Ag	Main adit: weighted average- 1,151 ppb Au over 1.56 m width and 30 m length	48, 75, 256, 272, 383, 434, 643	L
255	Last Chance/ Gold Mtn.	S: MS 2011	V: Au	Adits (2): 7 m, 31 m (open)	NA	5,232 ppb Au across 1.77 m on vein; select dump sample with 15 ppm Au	48, 70, 643	L
256	New Adit	OF	V: Au	Adit: unknown length (293)	NA	Au values to 26.9 ppm across 0.6- m qz vein (293)	293	L
257	Mary T	S	V: Au	Shaft: 3 m (flooded), T, P (2)	NA	Au values to 1,844 ppb, Ag to 4.8 ppm, Cu to 6,325 ppm	48, 256, 643	L
258	US	S	V: Au	Adit: 6 m (open)	NA	Highest Au value 5,571 ppb	48, 294, 643	L
259	Blue Bucket (Smugglers Adit)	S	Exhalative/V: Au, Cu	Adit: 5.5 m (open)	NA	Weighted average- 2,162 ppb Au over 5.5 m; 3.4 ppm Au over 12 m along 38-m strike length (256)	48, 256, 272, 294	M

Ketchikan Area

General/Land Status

The Ketchikan area includes historic claims that are now within the City of Ketchikan, as well as claims along the west edge of Tongass Narrows (fig. 49). The area consists of gentle, timber-covered hills attaining a maximum elevation of 670 m (2,200 ft). Buildings, private residences, and roads are prevalent within the City of Ketchikan. Access to many of the mineralized areas within or near the city are restricted by private land ownership and development of subdivided patented mining claims (MS550, MS586, MS731, MS769, MS787, MS870, MS1475). The Carlanna Creek Quarry, Jim's Cut, Hoadley, and Gold Nugget are some of the most important occurrences within or near the City of Ketchikan. Less developed patented claims on Gravina Island include the Goldstone and Goldstring (Goldstream group) (MS1479), owned by R. Gore and N. Murkowski, Ketchikan. Claims were also held on the Heckman property in the mid-1980's by Houston Oil and Minerals Exploration Company.

History/Workings/Production

The Hoadley and Gold Nugget prospects were discovered about 1900. The Hoadley was developed with cuts and a 9-m shaft. An arrastra and Gibson Mill were installed to recover gold (617). The Gold Nugget was developed with cuts and two shafts. Small amounts of gold were likely recovered from both prospects, but this production went unreported. The Hoadley workings are currently concealed by a condominium and the Gold Nugget shafts are located on private lots and have been plugged and covered by home owners.

The Goldstream deposit was discovered by 1897 and was one of the earliest properties to be developed in the Ketchikan area. Most of the development was accomplished during 1903 and included sinking shafts, extending drifts and crosscuts, and installing a 5-stamp mill. Between 1906 and 1908, approximately 2,700 mt of ore was reportedly mined from six claims held by the Irving Consolidated Mining Company (643). Bureau of Mines (Bureau) and USGS production records indicate 8.1 kg gold and 15 kg silver were produced during this time (table 3) (585). Some gold was also produced by reworking dump material in the 1930's (585). In 1925, two of the Goldstream claims, the Goldstone and Goldstring, were patented (MS1479).

Jim's Cut and the Carlanna Creek Quarry were both discovered during this study. Mineralization at both locations was exposed as a consequence of residential and commercial development.

Geology

The Ketchikan area is underlain by Mesozoic metasedimentary and metavolcanic rocks of the Gravina belt (46) that have been intruded by a Tertiary gabbroic pluton(s) (33, 42) and molybdenum- and copper-bearing granitoid intrusions. The Gravina belt rocks have been interpreted as remnants of a Late Mesozoic volcanic arc (46). Volcanic rocks of the belt host banded and disseminated sulfide deposits. Auriferous and polymetallic quartz veins in the area are hosted by both metasedimentary and metavolcanic rocks. Faults, contacts, and metamorphic foliation in the area trend generally northwest. Some of the quartz veins are associated with fault or shear zones. The host rocks have been metamorphosed to greenschist facies (42).

Numerous prospects and one mine have exploited quartz veins and lenses hosted by talc-chlorite-sericite schist and greenstone, and bands of sulfides in quartz-chlorite schist on the west side of Tongass Narrows. The quartz veins and lenses contain pyrite, arsenopyrite, sphalerite, and galena. Bands of sulfides, mainly pyrite and arsenopyrite, are found in the schist adjacent to quartz veins and lenses. Bands of sulfides are also found in schist where no distinct quartz veins or lenses occur. The bands are parallel to the northwest-trending foliation in the schist. More sulfides, particularly sphalerite and galena, are found in the quartz-rich parts of the schist. At the Heckman prospect, trenches cut across this stratiform mineralization for up to 7.5 m and expose banded sulfides for more than 20 m along strike.

Four prospects on the east side of Tongass Narrows are the Hoadley, Gold Nugget, Jim's Cut, and Carlanna Creek Quarry. The Hoadley occurrence is located at a syenite-slate contact and consists of a quartz vein with bands and disseminations of pyrite and arsenopyrite. The vein is reported to be 50 to 75 m in length, up to 0.6 m thick, and contains erratic gold values (643). The Gold Nugget occurrence consists of irregular quartz ladder veins hosted in a 10-m-thick porphyritic tan dike that is discordant to

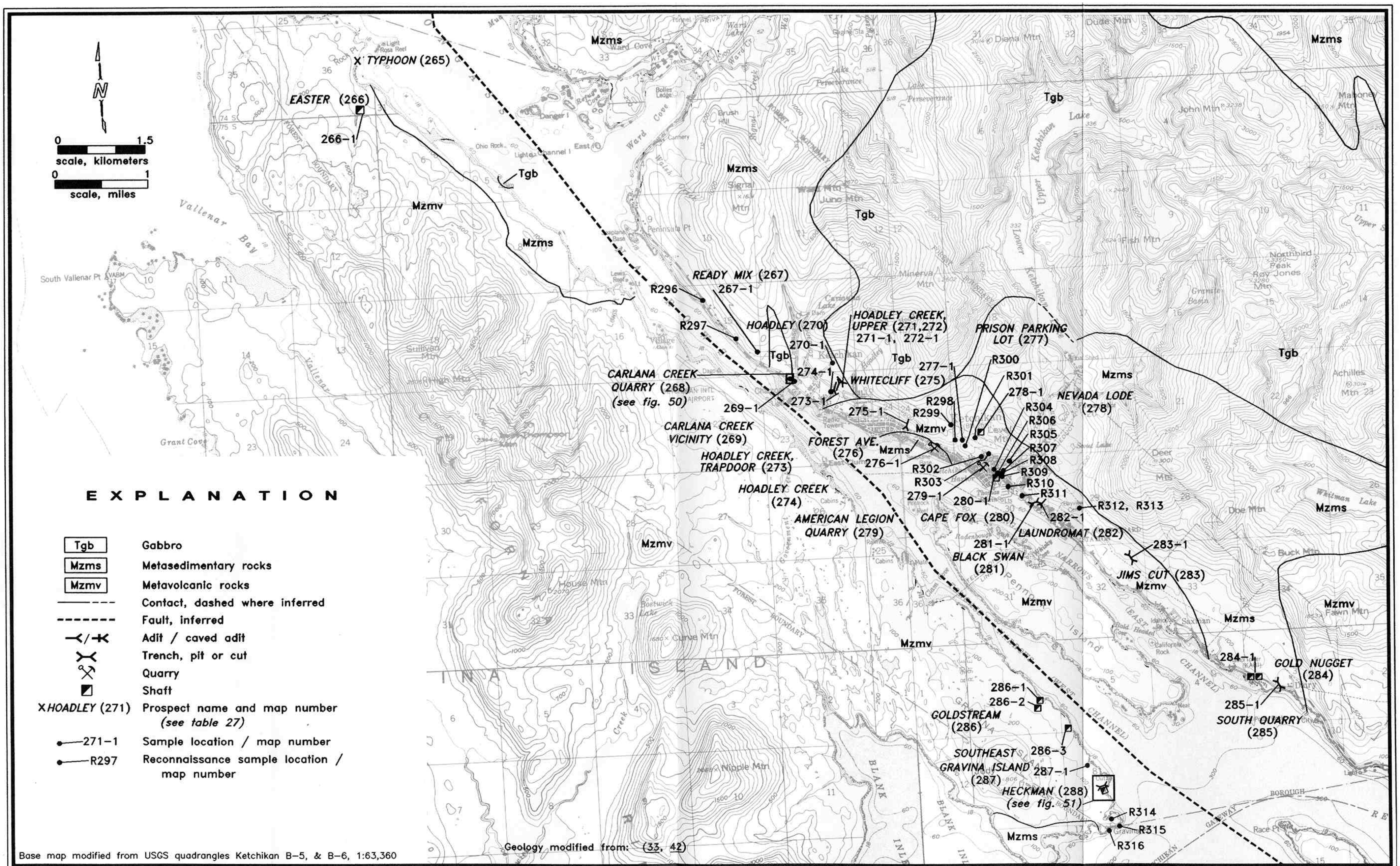

Figure 49. — Ketchikan area, showing geology, mineral localities, and sample locations.

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the slate host rock. The veins carry lenses and disseminations of pyrite, sphalerite, and galena. The dike is exposed for 50 m. Jim's Cut consists of diorite with disseminated pyrite, chalcopyrite, molybdenite, and malachite that is exposed for 60 m in a 4-m-high cut, located in the backyard of several new houses. The Carlanna Creek Quarry occurrence consists of molybdenite as wisps, fracture coatings, and disseminations hosted in silicified porphyritic quartz diorite and as fracture coatings within adjacent metasedimentary rocks (fig. 50). This mineralization is found in varying quantities in quarry walls and adjacent rocks for 100 m. The highest concentration of molybdenum was found within the quartz diorite and in the hornfelsed contact zones between quartz diorite and metasediments. The host rock lithology coupled with a lack of sulfides (other than molybdenite) and depleted precious metal values suggests similarities with the Quartz Hill-style of molybdenite mineralization.

Bureau Work

Bureau personnel examined 23 occurrences within the Ketchikan area. Adits or shafts were found at the Hoadley Creek Upper, Hoadley Creek Trapdoor, Hoadley Creek Lower, White Cliff, Nevada Lode, Cape Fox, Laundromat, and Gold Nugget prospects. Six adits with an accumulated length of 78 m were mapped and sampled. Molybdenum mineralization was discovered in quarry walls at the Carlanna Creek Quarry and in Jim's Cut.

On the west side of Tongass Narrows, four flooded shafts were located. Trenches in the area were generally overgrown. Samples were taken from mineralized quartz veins, banded and/or disseminated sulfides in metavolcanic rocks, and disseminated and fracture coated mineralization in intrusive rocks.

Significant Results/Mineral Resources

At the Gold Nugget, the highest-grade sample contained 14.05 ppm gold across 0.3 m (map No. 284-1, sample 5464). All the other samples were much lower in grade. At Jim's Cut, a 22.87-m sample across disseminated sulfide mineralization in diorite contained 163 ppb gold, 2,632 ppm copper, and 115 ppm molybdenum (map No. 283-1, sample 5892). Both occurrences would warrant additional examination were it not for their location on private property.

A sample collected across a 0.46-m-thick quartz vein rubblecrop at the Hoadley prospect contained 88.25 ppm gold (map No. 270-1, sample 5430). The reported workings are covered by asphalt and a condominium. While the grade is encouraging, its location within Ketchikan would make exploration and development extremely difficult.

At the Carlanna Creek Quarry, a 12.5-meter sample across a mixed contact zone of quartz diorite and metasediments contained 1,532 ppm molybdenum (map No. 268-2); other samples contain from 6 to 3,295 ppm molybdenum. Similarities to the Quartz Hill-style of molybdenum mineralization would make this occurrence a target for detailed mapping, sampling, and geophysics to define drilling targets. It's location along a major highway and commercial district in Ketchikan would likely preclude any such work.

At the Goldstream Mine, a 1.2-m sample across quartz lenses in talc schist contained 4.7 ppm gold, 74.4 ppm silver, 0.8% lead, and 6.28% zinc (map No. 286-2). Seven samples taken across banded sulfides in quartz-chlorite schist at the Heckman prospect contained a weighted average of 2.7 ppm gold, 5.28 ppm silver, 0.3% lead, and 1.8% zinc over an average width of 3.1 m (fig. 51). Although this

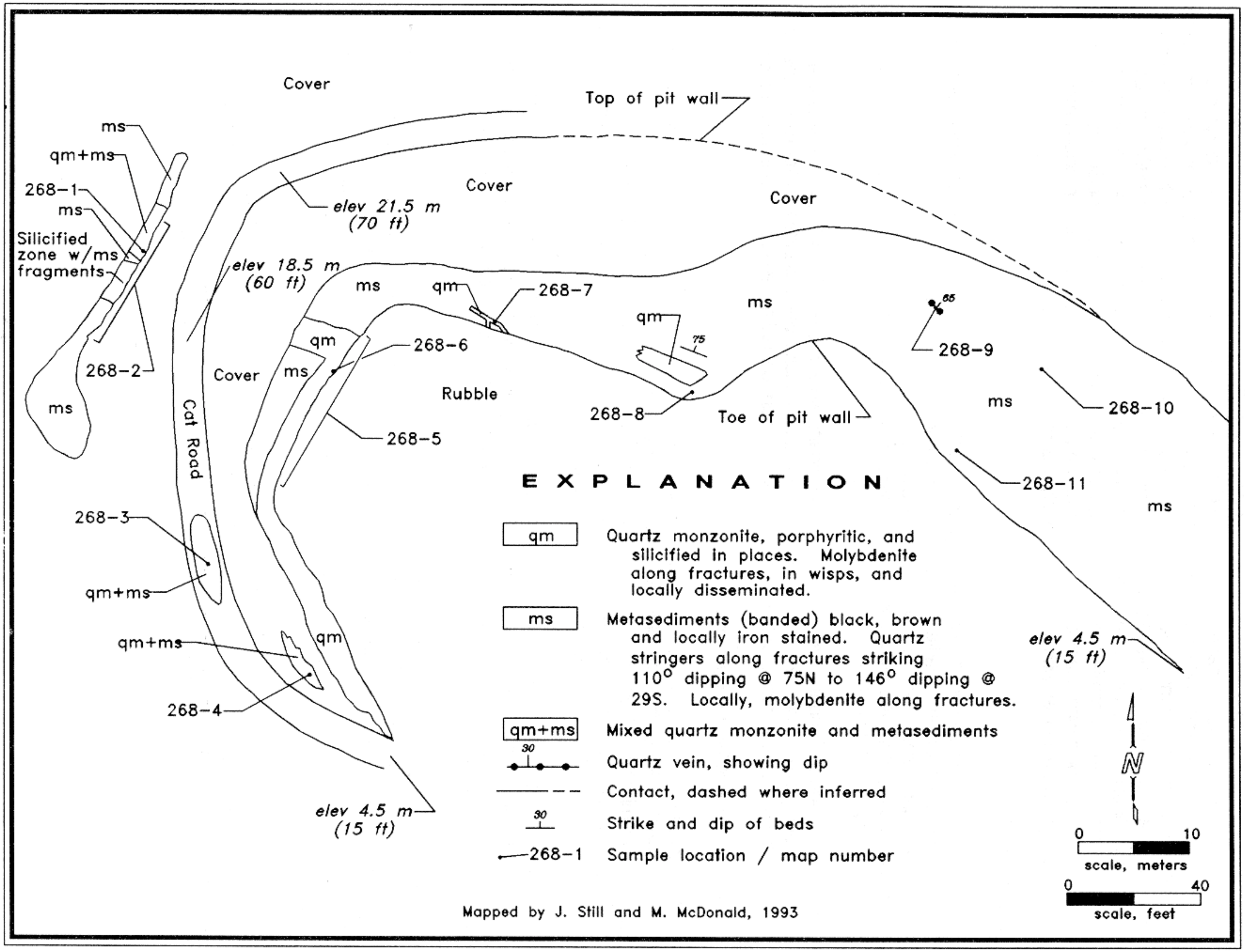

Figure 50. – Carlana Creek Quarry occurrence, showing geology and sample locations.

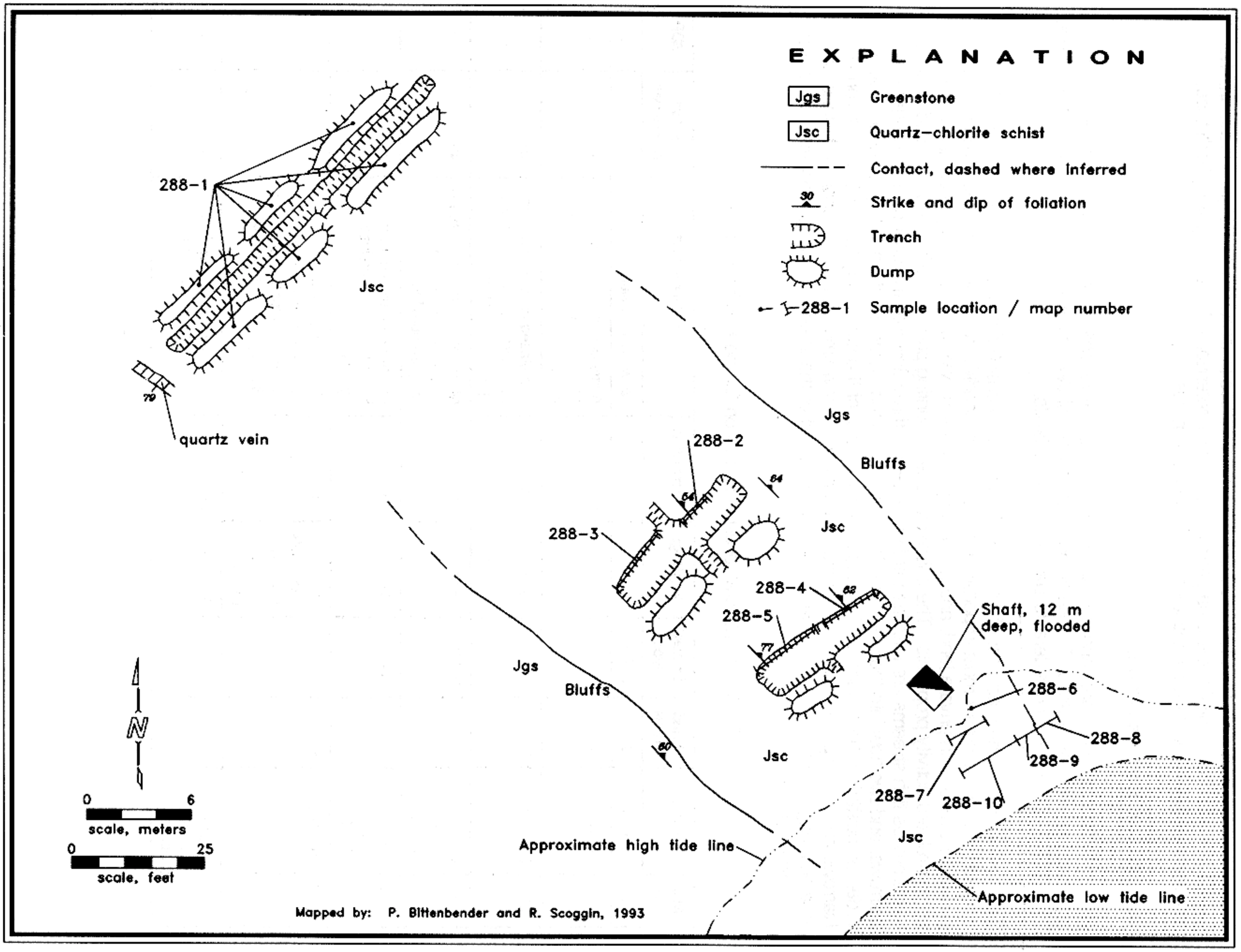

Figure 51. – Heckman prospect, showing geology and sample locations.

stratiform mineralization with associated precious metal values is discontinuous at the Heckman, the extent of similar rock units in the area provides additional potential to host a deposit. Both these occurrences are located on the west side of Tongass Narrows.

Resource and Land Use Issues

There are four resource and land use issues identified in the Ketchikan area. These include: 1) an enacted municipal watershed, 2) subsistence Sitka black-tail deer hunting, 3) anadromous fish streams, and 4) the presence of considerable state and private lands.

The central part of the area east of Tongass Narrows is an enacted municipal watershed, which contains two of the area's most important prospects, the Hoadley and Carlanna Creek Quarry. These two prospects are on private land, and water supply concerns would undoubtedly accompany any mining-related activity proposals. The subsistence deer hunting pressure in the area is rated as low. Anadromous fish streams are identified at five locations: three flow into the east side of Tongass Narrows, and two flow into the west side from Gravina Island. State land closed by mineral closing order, is located on both sides of Tongass Narrows. Most of the land along the east side of Tongass Narrows and a few parcels on the west side are private. A few small parcels of open state land are located along the east side of Tongass Narrows and most of the state land along the west side is also open to mining.

Table 27. Mineral locality information for the Ketchikan area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
265	Typhoon	S	V: Au	NA	NA	Qz w/ py xcut slate	70	L
266	Easter	S	V: Au	P	NA	Auriferous quartz veins in gs sc w/ aspy, py; minor metal values	70	L
267	Ready Mix	P	NA	Quarry	NA	Di-metased contact zone with qz lenses, samples contained up to 1,176 ppb Au	NA	L
268	Carlanna Creek Quarry	P	P: Mo	Quarry	NA	Mo as wisps, fracture coatings, and dissem in sil qz monz; up to 3,295 ppm Mo	NA	M
269	Carlanna Creek Vicinity	P	NA	NA	NA	Panned concentrate from Hoadley Creek contained 3.06 ppm Au	NA	L
270	Hoadley	P	V: Au	Shaft and short adits covered by condo-minium	Small production	Vein w/ spotty values; reportedly traced for tens of meters; vein rubble contained 88.25 ppm Au across 0.46 m	405	L
271	Hoadley Creek, Upper	P	V: Au, Cu	Adit: 23m	NA	Sulf vein contained up to 1,044 ppb Au and 4,695 ppm Cu	NA	L
272	Hoadley Creek, Lower	P	V: Cu	Adit: 3m	NA	Qz lens contained 1,101 ppm Cu	NA	L
273	Hoadley Creek, Trapdoor	P	V: Au	Adit: 22m	NA	Qz vein; up to 7,237 ppb Au	NA	L

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MD P
274	Hoadley Creek	P	P: Au	NA	NA	Dissem po, py in qz di; up to 21.6 ppm Au	NA	L
275	White Cliff	P: MS 787	NA	Adit: 4m	NA	No mineralization	NA	L
276	Forest Avenue Quarry	P	VMS (?): Cu	Quarry	NA	Sil volcs; up to 222 ppb Au, 2,970 ppm Cu, 111 ppm Mo	NA	L
277	Prison Parking Lot	P	VMS (?): Au	C	NA	0.7-m sample of sil volcs w/ 2.1 ppm Au	NA	L
278	Nevada Lode	P	VMS: Au, Cu	Shaft: (plugged) ; C	NA	2.44-m sample of sil gs w/ 1,282 ppb Au, 5,705 ppm Cu	NA	L
279	American Legion Quarry	P	NA	Quarry	NA	Up to 2,235 ppm Zn	NA	L
280	Cape Fox	P	NA	Adit: 8m; shaft: (plugged)	NA	Up to 20 ppb Au	NA	L
281	Black Swan	P	NA	T	NA	Up to 555 ppm Cu	NA	L
282	Laundrom at	P	NA	Adit: 5m	NA	11 ppb Au	NA	L
283	Jim's Cut	P	P: Cu, Mo	C	NA	22.8-m sample w/ 163 ppb Au, 2,632 ppm Cu, 115 ppm Mo	NA	L
284	Gold Nugget	P; MS 1475	P: Au, Ag, Pb, Zn	Shafts: (flooded); C	NA	Ladder vein system; 0.26-m sample w/ 14.05 ppm Au, 7.9 ppm Ag, 829 ppm Pb and 1,585 ppm Zn	643	L
285	South Quarry	P	P: Au, Ag, Pb, Zn	C	NA	0.12-m sample w/ 8.1 ppm Au, 31.5 ppm Ag, 1.04% Pb, and 2.08% Zn	NA	L
286	Goldstrea m	P; MS 1479	V: Au, Ag; VMS?: Pb, Zn, Au	3 Shafts: 13m, 2 plugged; T(s)	8.1 kg Au, 15 kg Ag	Qz veins & min sc, w/ py, sl, gn, aspy; reported free Au; up to 1.2 m @ 4.7 ppm Au	70, 90, 434, 643	L
287	Southeast Gravina Island	S	VMS: Au, Ag, Pb, Zn	NA	NA	Shoreline exposure of talc-chl sc w/ recrystallized dissem py; sl, gn associated w/ qz-rich layers parallel to sc foliation	NA	L
288	Heckman	S	VMS: Au, Pb, Zn	Shaft: 12m; T(s)	NA	Sulf dissem & in qz stringers parallel to sc foliation: py, sl, gn; up to 3.1 m @ 6.2 ppm Au, 1.6% Zn	70, 643	L

George Inlet Area

General/Land Status

George Inlet is a 23-km-long estuary draining into Carroll Inlet in the southwest quadrant of Revillagigedo Island. There are several mineral deposits located along the west shore of George Inlet, most notably the Mahoney Mine, Alaska Lead and Silver Mine, and the Londevan and Peterson prospects. Additional prospecting has occurred at the head of George Inlet at the Loujo, Rita Anne, Leask Cove, Bat Cove, and Alaska Mineral King claims.

The west shore of George Inlet rises to elevations in excess of 1,000 m and is densely forested, with bedrock exposed along the beach and in stream drainages. Bedrock is also well exposed in alpine terrain above 600 m elevation, though no known mineral deposits occur at these heights. A road from Ketchikan extends to the cannery at Beaver Creek, 2 km north of the Peterson prospect. The east side of George Inlet has been logged by Saxman Village Corporation and an extensive road system provides good bedrock exposures.

Land ownership in George Inlet is divided between Native Corporations (Saxman/Sealaska), the Forest Service, State of Alaska and private inholdings. Forest Service land is generally open to mineral entry except for a power site withdrawal at Beaver Creek. State land is concentrated at the head of the inlet. The Peterson prospect is patented and located on MS 1579 owned by the Vanlaars (Ketchikan) and is currently the site of the George Inlet Lodge. Land status for the other prospects is summarized in table 28.

History/Workings/Production

The Mahoney and Londevan orebodies were discovered in 1900-01 and originally referred to as the Ashe Group and Telegraph groups of claims, respectively (70). By 1913, several improvements had been made at the Mahoney and the 1,326-m-long adit driven at the Londevan had been abandoned. The Peterson prospect was discovered in 1908, developed with three adits by 1913, and patented in 1933 after which no additional mining-related work took place. The patented property is currently the site of the George Inlet Lodge. Work at the Mahoney accelerated in the 1940s after restaking by Cy Perkins (443). The main adit at the Mahoney contains 193 m of workings. The Bureau of Mines (Bureau) performed a preliminary examination of the property in 1945 as part of their war minerals program (183). The next year Aner W. Erickson and the Big Four Mining Company bought the property for $600 (187). By 1949, another company was mining the orebody. Total production at the Mahoney between 1947 and 1949 was 33.1 mt zinc, 18.1 mt lead, 1.27 mt copper, 11.6 kg silver, and 0.25 kg gold. There was only minor assessment work accomplished thereafter.

Johnson and Pond restaked the Londevan prospect in 1951. They reopened the long adit, which had caved, but oxygen-poor air extinguished their flame safety lamp 457 m from the portal (198). In 1952, H. M. Fowler (AK Territorial Dep. Mines) acquired a breathing apparatus and examined the workings. He was able to examine the north drift but caving restricted access to only the first 31 m of the south drift (198). In the later 1980's, a Ketchikan prospector cleared the air in the workings using a compressor and plastic piping. The Bureau revisited the Londevan in 1992 and a flame safety lamp was extinguished, again near the intersection of the crosscut and main drifts, indicating the presence of oxygen-poor air.

The Alaska Lead & Silver property was discovered in 1967 by Bill Basey and Lloyd Martin. Between 1967 and 1978 the two men extended drifts in 2 separate adits (80 and 11.3 m long), stoped 27 m along the vein, constructed a flotation mill at the beach, and mined approximately 500 mt of ore (unknown grade) from the property.

Private industry has shown mild interest in the Mahoney Mine area in the last few years, but no geophysics, drilling, or extensive evaluations have resulted.

Geology

The most recent geologic mapping in the George Inlet area was done by the USGS during the late 1970's and published in 1988 by Berg, Elliott, and Koch (42). The west side of George Inlet is underlain by an extensive sequence of variably-striking Paleozoic-Mesozoic metasedimentary rocks. A large Tertiary gabbroic stock has intruded these metapelites on the southern end of George Inlet creating a large hornfelsed aureole. A small hornblende diorite intrusion occurs in the Londevan area. Porphyritic granodiorite crops out near the Mahoney Mine along with garnet-biotite diorite dikes and latite dikes (fig. 52).

Rocks within or adjacent to the large hornfels aureole host the four significant mineral deposits in the George Inlet area. There are several felsic to intermediate dike swarms present in the hornfelsed phyllites and argillites. Quartz veining is spatially related to these dikes, especially in the Londevan area, but crosscutting relations are inconsistent. Foliation within the hornfels is generally weak, although it intensifies adjacent to faults.

The primary deposits at the Londevan, Alaska Lead and Silver, and Peterson are similar in that steeply dipping (70° to 73°) polymetallic quartz fissure veins containing 1% to 4% combined sphalerite, galena, chalcopyrite, and pyrite are present. Ore minerals exist as disseminated sulfide grains and clots up to 2 cm across. Veins at the Londevan and Peterson prospects strike 310° to 350°, whereas the vein at the Alaska Lead and Silver Mine strikes 230°. There is minimal alteration in the vein selvage as the well- indurated hornfels host rock was virtually impermeable to the ore forming fluids. The Londevan vein was drifted along for nearly 700 m and attained widths up to 1.52 m. There are thinner, subparallel veins exposed in the long crosscut leading to the drift that contain sulfides, but were not developed. Several veins crop out along the beach near the Londevan, some of them at right angles to the main vein. This vein set is emplaced in an anastomosing shear system which strikes 80° to 105°, dipping to the southwest and is crosscut by the younger, main vein set. Slickensides are common along the footwall portion of these younger veins, as is sulfide mineralization. The vein at Alaska Lead and Silver is subparallel to this older set (80° to 105°-trending) and extends for nearly 100 m along strike, attaining widths up to 1 m. Veins at the Peterson are much shorter and thinner than at the other prospects.

Mineralization at the Mahoney Mine consists of a shallowly-dipping pod or lens of massive galena and sphalerite that contains subordinate copper, silver, and cadmium. The mineralization at Mahoney is discordant to the east-west-striking, 10°- to 20°-dipping foliation of the host phyllites. The vein was either emplaced along a fault or more likely fault movement has occurred adjacent to the vein in response to the competency contrast between soft sulfides and the indurated hornfelsed phyllites. Vein orientation steepens from west to east changing from 17° to 54° north; vein thickness also increases to the east. The vein reaches thicknesses of 0.8 m near the east portal, while it pinches down abruptly to the west and updip. In places the where massive sulfides are not present, the fault zone is filled with quartz and crushed phyllite.

Bureau Work

Bureau personnel mapped and sampled the underground workings at the Mahoney Mine. The 193-m-long adit was open and in good condition. Most of the trenches identified by previous workers were sloughed and not examined during this study. The main adit at the Londevan was open and partially accessible; bad-air conditions about 500 m into the crosscut prevented a comprehensive examination. There was also considerable caving along the southern part of the main drift. Bureau geologists sampled numerous veins cropping out on the beach north of the main working. The vein at 270 m elevation that spurred the original work was also found. A sample across this vein contained over 47 ppm silver.

Bureau geologists mapped and sampled the workings at the Alaska Lead and Silver Mine (fig. 53). The two adits were open and accessible (80 and 11.3 m long). The flotation mill on the beach was intact and in good condition. Only one of the three adits at the Peterson prospect was found open and accessible. The other two have been caved or buried. Bureau geologists mapped and sampled the open adit as well as outcrops in the creek adjacent to the workings.

Bureau geologists also examined numerous claim locations at the head of George Inlet. Several samples were taken from quartz veins, but no significant metals were found (fig. 5, map Nos. R290-R292).

Significant Samples/Mineral Resources

There are no proven or drilled reserves at any of the George Inlet properties. Bureau work at the Mahoney Mine during the war minerals investigations in 1945 identified a small tonnage of ore, but this was mined out during 1947-49. As mentioned previously, the vein at the Mahoney pinches out up dip, and an underhand stope sunk in the underground workings failed to intersect additional ore at depth.

A weighted average determined from sampling along 20 m of the highest grade portion of the vein at the Mahoney was 20.1% zinc, 8.0% lead, 61 ppm silver, and 0.69 ppm gold across 0.44 m (183). Bureau sampling during the KMD study identified lower values than previously reported (see table A-2), but more noteworthy is the mineral zoning present along strike of the vein. The vein is dominated by galena near the eastern portal, but changes abruptly to sphalerite-rich over a span of 3 m. Lead/zinc ratios decrease from 1:4.2 down to an average of 1:3.3 along 24 m of strike length. Bureau sampling identified a direct correlation between the presence of lead and high silver values (see table A-2). Samples from the Mahoney contain up to 1,200 ppm cadmium (map No. 293, sample 7189) and 34 ppm tin (map No. 293, sample 7187).

The vein at the Londevan was initially identified on the surface about 213 m above the main workings.

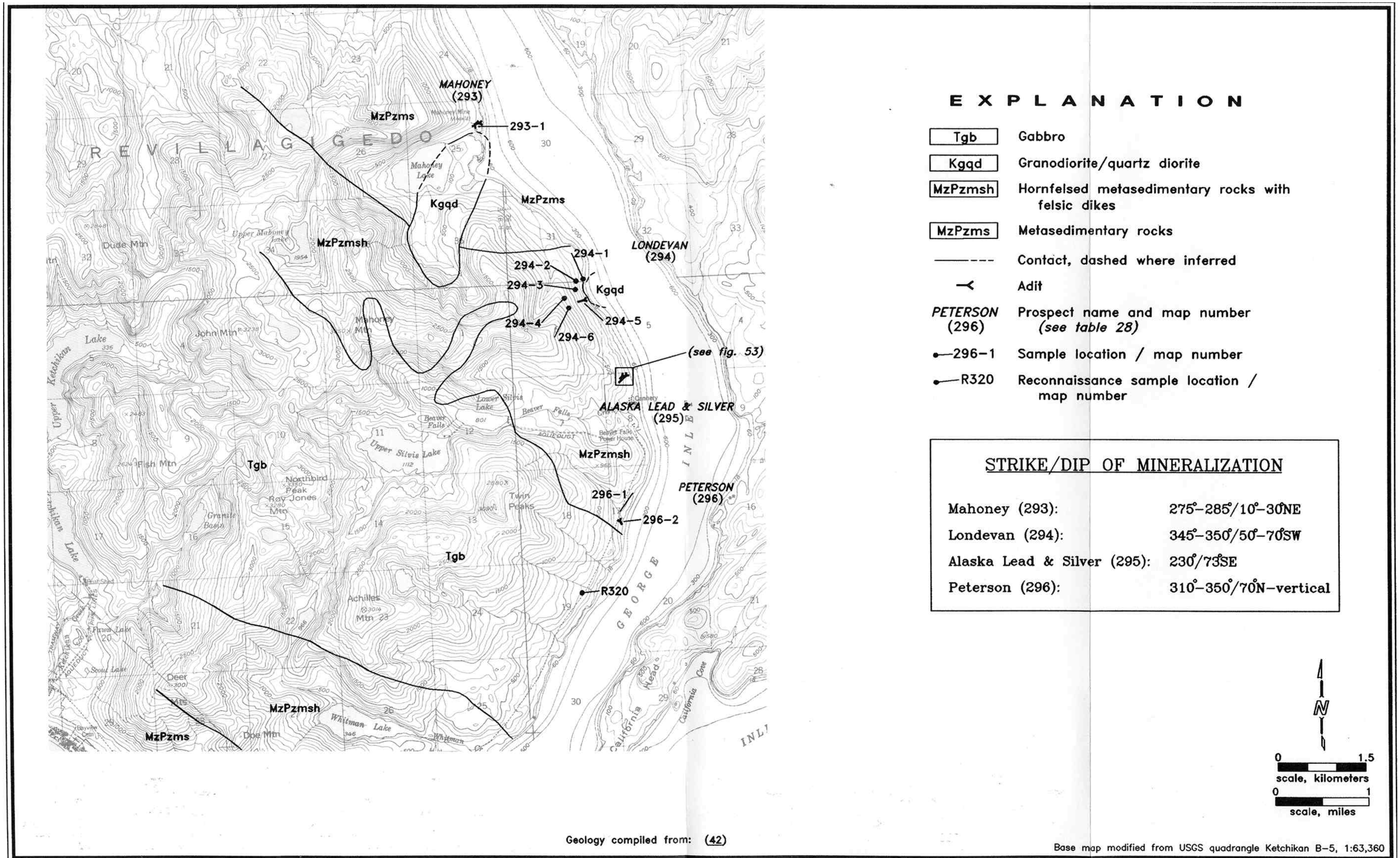

Figure 52. – George Inlet area, showing geology, mineral localities, and sample locations.

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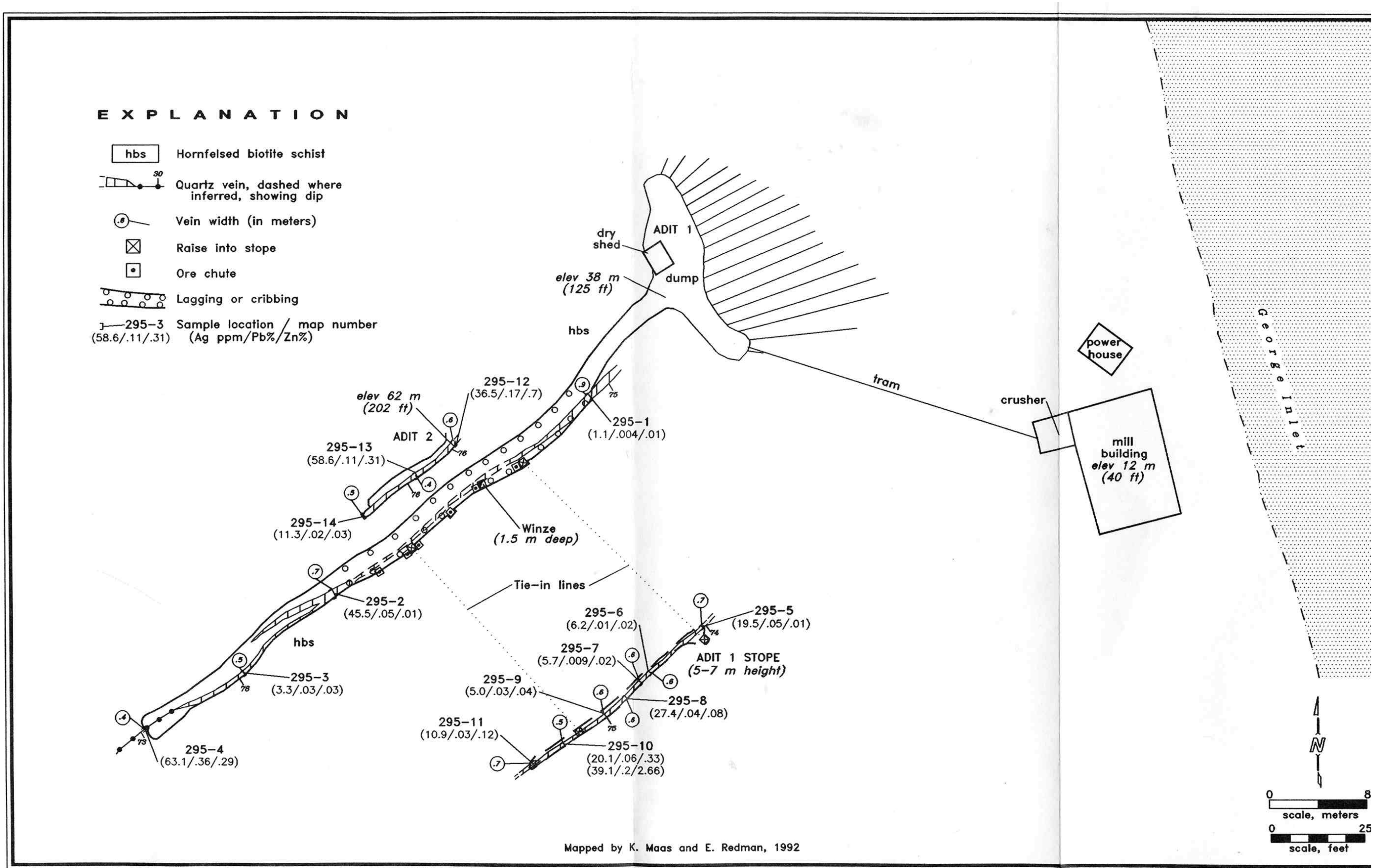

Figure 53. — Alaska Lead and Silver Mine, showing geology and sample locations.

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The adit crosscut intersected this vein, but values obtained did not warrant serious exploitation. Bad air and caving prevented the Bureau from systematic sampling along the main vein in the underground workings. A chip sample taken from a subparallel vein about 220 m into the adit contained 237.7 ppm silver, 4,300 ppm lead, and 1.84% zinc across 1.07 m (map No. 294-5, sample 7450). A select sample from the same vein contained 936 ppm silver and 6.43% zinc (map No. 294-5, sample 7453). Two samples across a thickened portion of quartz (3.66 m) in the main drift averaged 5 ppm silver and 68 ppb gold with minor lead and zinc (map No. 294-5, samples 7460, 7461).

The vein at the Alaska Lead and Silver Mine was stoped along for 27 m in the lower adit (fig. 53). There is an upper adit located 24 m above this main working. Bureau samples taken along a 64-m strike length from this upper working through the stope and drift in the lower working contained a weighted average of 21.6 ppm silver, 685 ppm lead, and 2,731 ppm zinc across an average vein width of 0.59 m. A high-grade sample from the vein contained 63.1 ppm silver, 0.36% lead, 0.29% zinc, and nil gold across 0.4 m (map No. 295-4). There are several higher grade polymetallic veins in the KMD with more development potential than that found at the Alaska Lead and Silver Mine (e.g. Lucky Nell).

The shear zone exposed in the 8-m adit at the Peterson prospect was sampled and analyses showed low metal values. A sample of massive pyrrhotite found in the creek adjacent to the working contained 6.2 ppm silver, 1,066 ppm copper, 2,469 ppm zinc, and 246 ppm nickel (map No. 296-2, sample 5881). Samples from breccia zones located in the creek upstream from the George Inlet Lodge contained low precious and base metal values. Two of the adits identified on MS 1579 were driven in this portion of the creek, but were not located.

The mineralization present at George Inlet deposits appears to be related. All deposits are believed to be secondary in nature. The sulfide minerals present include sphalerite, galena, pyrite, and minor amounts of chalcopyrite. There is abundant quartz gangue in the ore zones. Except for the massive nature of the Mahoney ore, the combined sulfides at the other deposits do not exceed 1% to 4%. There was abundant cadmium found in samples from the Mahoney, Alaska Lead and Silver, and Londevan deposits. There are several pyritic quartz veins found near the head of George Inlet that are not mineralized with these sulfide assemblages. It is possible that the Tertiary gabbroic stock and silicic dike swarms which have intruded the hornfelsed metasediments are the source of the mineralizing fluids in Southern George Inlet. The abundance of quartz veins and dikes along the west shore of the Inlet characterize the top of the intrusion where ore fluids are predicted to occur. Crosscutting relations between quartz veins and dikes do not provide conclusive evidence for the relative timing of emplacement of these features.

The search for additional "Mahoney"-type massive sulfide mineralization should be the goal of an exploration program. Geophysical techniques employed within a 5-km ring around Mahoney Lake may be successful, but area topography and dense vegetation are detriments to a thorough examination. Detailed geologic mapping is warranted, but the limited alteration of mineralized rocks (and lack of alteration halos or signatures) may hinder the applicability of this work.

Resource and Land Use Issues

There are five resource and land use issues identified in the George Inlet area that may have an impact on future mineral development. These issues include: 1) a scenic viewshed identified in the area surrounding Mahoney Lake, 2) three anadromous fish streams, 3) primitive and semi-primitive recreation areas, 4) subsistence hunting for Sitka black-tail deer, and 5) large parcels of both selected and conveyed Native lands.

The scenic viewshed surrounding Mahoney Lake is a timber harvest designation that would place some restrictions on logging development, but does not preclude them from occurring. In fact, selective logging is allowed under this designation. The three anadromous fish streams are evenly distributed throughout the area and include the creek flowing into Mahoney Lake. The potential conflict between fish spawning and mineral development will need to be mitigated on a seasonal basis if future developments occur at the Mahoney Mine. A primitive and semi-primitive recreation area has been established in the southern two-thirds of the area. Semi-primitive recreation allows for road building and salvage timber harvest and may be compatible with mineral development. The area supports a low level of subsistence deer hunting because of the steep terrain, although the Ketchikan road system enters the southern third of the area. Saxman Village Corporation owns significant acreage along the coastline of George Inlet. Although a public road leads to Beaver Falls power house, any additional road access to the north will have to be negotiated with the local Native village corporation.

Table 28. Mineral locality information for the George Inlet area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
293	Mahoney	OF	PV: massive sulfide vein; Zn, Pb, Ag	Adit: 193 m (open); T, P (5)	33 mt Zn, 18 mt Pb, 1.3 mt Cu, 12 kg Ag, and 0.3 kg Au	Samples from first 36 m into adit average 3.2% Pb, 7.6% Zn and 25.5 ppm Ag across 0.34 m	48, 399, 440, 441, 450, 458	L
294	Londevan	OF	PV: Ag, Zn, Pb	Adit: 1,326 m (open-bad air)	NA	Values to 238 ppm Ag, 1.84% Zn across 1.07 m; main shear zone was inaccessible due to bad air	48, 75, 198, 594	L
295	Alaska Lead and Silver	N	PV: Ag, Pb, Zn, Au	Adits (2): 80 m w/27-m stope, 11.3 m (open); modern mill	Unknown quantity produced in early 1970s	Weighted average: 21.6 ppm Ag, 685 ppm Pb, 2,731 ppm Zn across 0.59 m along 64-m strike length with 24-m vertical extent	48, 584	L
296	Peterson	P: MS 1579	PV: Ag, Cu, Zn	Adits (3): 8 m (open), 2 not found	NA	Values to 6.2 ppm Ag, 1,066 ppm Cu, 2,469 ppm Zn	48, 75, 642, 643	L

Sealevel Area

General/Land Status

The Sealevel area is situated on the northeast end of Thorne Arm, on the south side of Revillagigedo Island. It is approximately 30 km east of Ketchikan, Alaska. Access to the area can be made by boat, floatplane, or helicopter. Topography in the Sealevel area is subdued; elevations extend from sea level to a maximum of about 200 m (650 ft) (fig. 54). Thick vegetation of conifer forest and muskeg covers most of the area. Bedrock outcrops are limited.

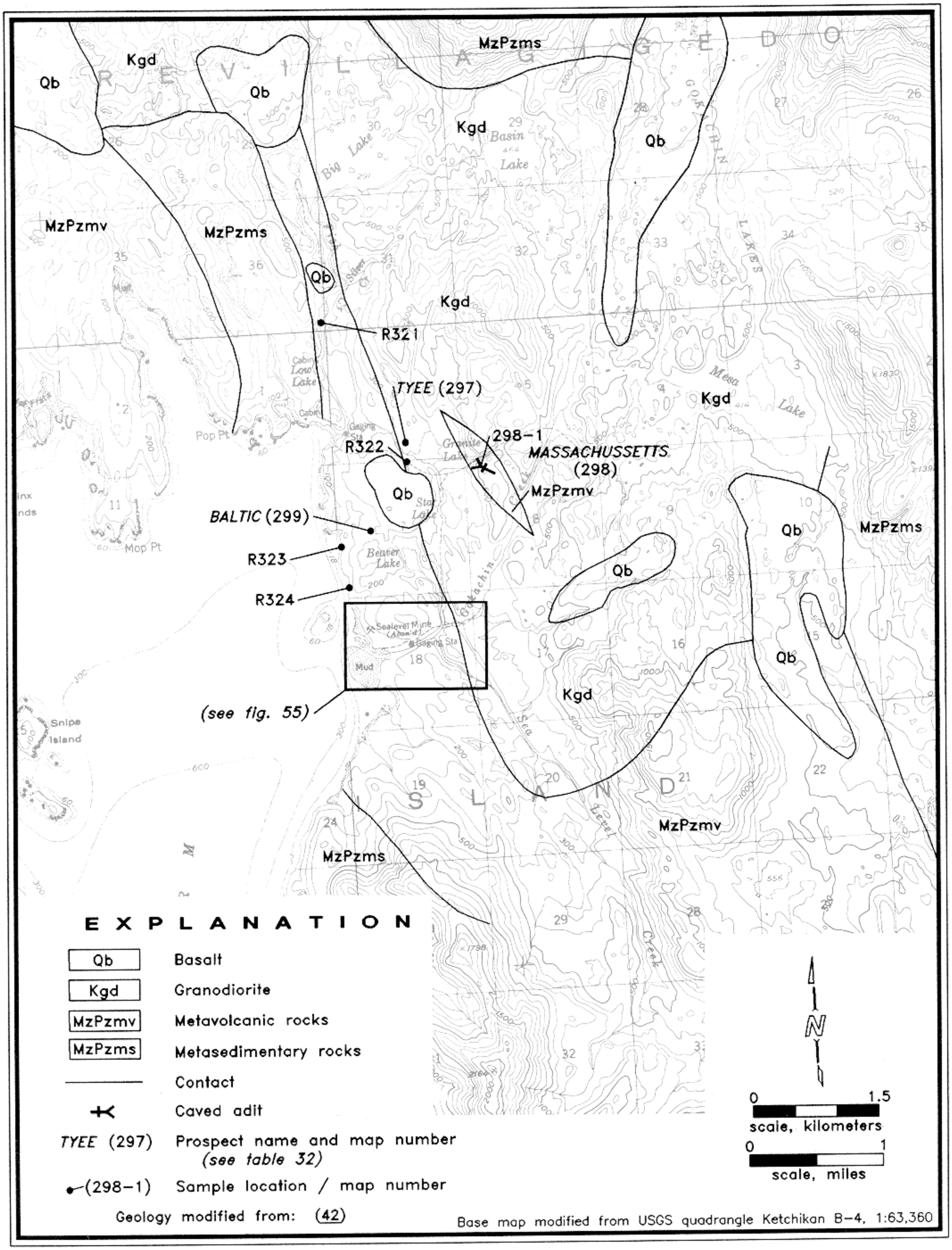

Figure 54. – Sealevel area showing geology, mineral localities, and sample locations.

The Sealevel area includes three patented claim blocks owned by two different entities (fig. 55). Ketchikan Pulp Company owns the Sea Breeze (MS 423) and the Goo Goo and Goo Goo Extension No. 1 (MS 1598) claims. The Gold Banner claim (MS 535) is owned by the Ketchikan Gateway Borough. Outside the private claim blocks, the land is managed by the Forest Service and is open to mineral entry.

History/Workings/Production

Several mining operations have been situated at the northeast end of Thorne Arm. The area is commonly known as the Sealevel area; however the Sealevel Mine, from which specific production figures are unreported, was only one of three past producers in the immediate vicinity. The others were the Goo Goo and Gold Banner Mines.

The Sealevel Mine was one of the first properties developed in the Ketchikan vicinity (70). Claims were first staked on this discovery in 1897. By 1902, shafts were sunk, drifts extended, power plant and support buildings erected, and a 30-stamp mill put into operation (70, 452, 643). Gold values from the Sealevel orebody are reported to have averaged 9.2 g/mt (70). By mid-1903, the mill ceased to operate (643) due to lack of ore (90). The Sealevel property was examined with the intent of rehabilitating the mine at various times since 1903. In the late 1920's and 1930's, two companies tried to reopen the mine and small test shipments of ore were made (512, 521). Although four other claims were patented in the Sealevel area, the Sealevel claim itself was never patented.

The Goo Goo claim was staked in 1905, however its location coincides with the Golden Dream claim referred to by Brooks in 1902 (70). Some development was accomplished on the claim by 1908 (643), but there is no record of production by this time. Only minor development and assessment work was accomplished on the property until about 1930. During this time, a 1.8-mt test shipment of ore was made by a property holder (408). In 1934, the Evis Mining Company was formed to explore the prospect and a small pilot mill was installed to test the ore (408). Because the grade of ore was too low, the company ceased operations by 1937 (90). In 1938, 635 mt of ore was reportedly milled on the property with a recovery of "$3.50 per ton," but operations were halted later in the year (434). The Goo Goo property (including the Goo Goo Extension No. 1 claim to the southwest) was patented in 1940 (584).

The Gold Banner claim was originally located as the Golden Tree claim (643) and was staked prior to 1901 (70). Minor development was accomplished by 1908 (643). In the late 1920's and early 1930's, significant improvements were made on the property including a hydro-electric plant, assay office, wharf, rail system, and mill (365). Approximately 15,400 mt of ore were milled between 1931 and 1933 (406) (grade of mill run not reported). The Gold Banner property was patented in 1933 (584).

Recent attention by mineral industry groups has been given to the mineralization in the Sealevel area. From at least 1984 until 1988, Villebon Resources Limited held a block of 170 claims that covered the northeast Thorne Arm area. Claims were also held as recently as 1992 by Pacific Northwest Resources Company.

Geology

Historic mining activity in the Sealevel area has concentrated on northeast-trending, auriferous quartz veins hosted by Paleozoic to Mesozoic (42) metavolcanic and metasedimentary rocks. The predominant rock type in the Sealevel area is a mafic metavolcanic unit, classified as tholeiitic basalt and tholeiitic andesite (31). Minor felsic metavolcanic and metasedimentary (phyllite, argillite) rocks are also present as well as granodiorite (31) and Quaternary basalt flows.

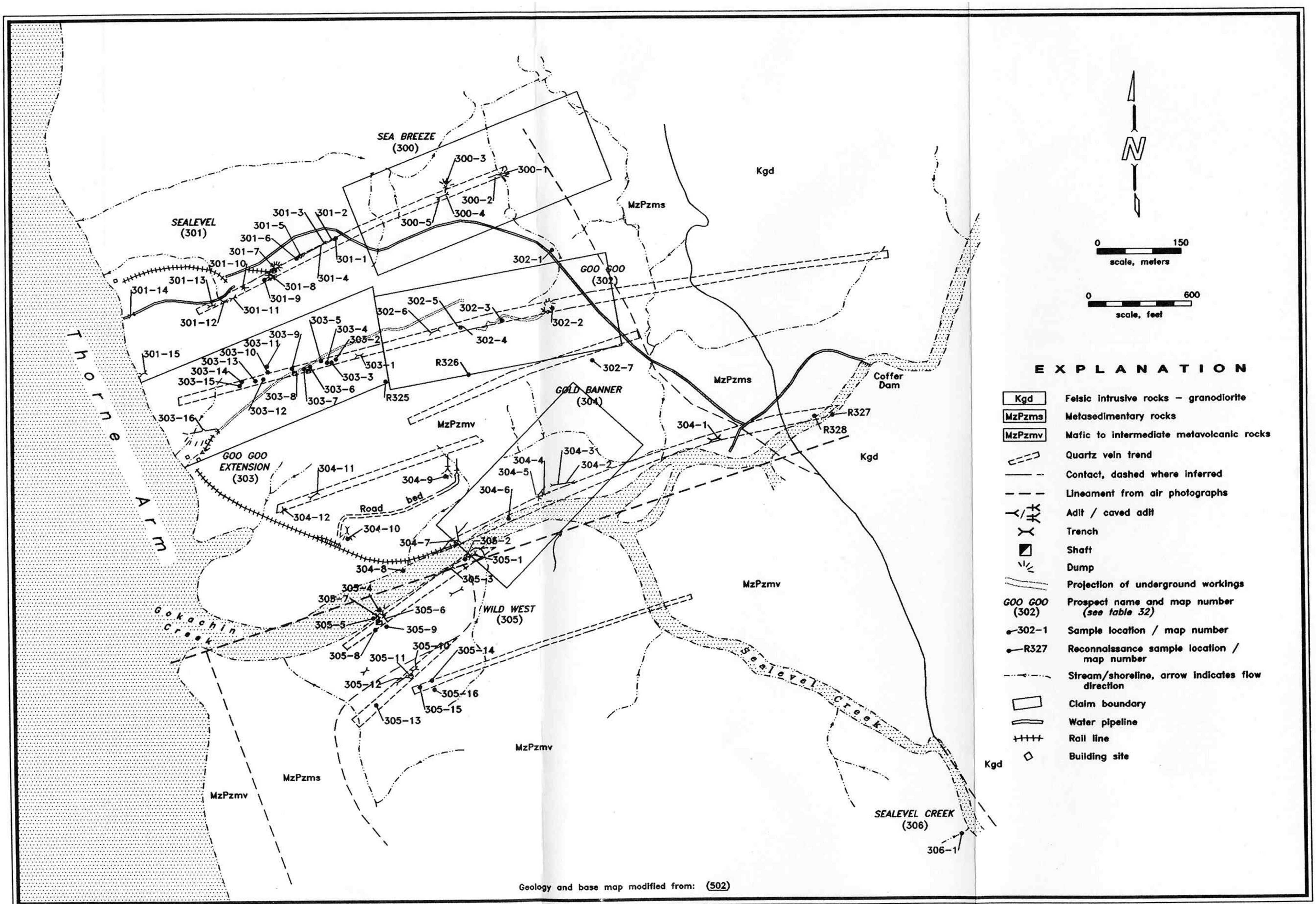

Figure 55. – Historic Sealevel Mine area, showing geology, sample locations, and patented claim boundaries.

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All major quartz veins in the Sealevel area strike northeast and generally dip to the southeast. The veins are difficult to follow individually, but quartz vein trends seem to be oriented consistently to the northeast. The veins probably fill faults or fractures that are oriented northeast-southwest. Prominent lineaments on air photos are oriented northeast-southwest and several veins are associated with these lineaments. Several veins show evidence of fault movement and brecciation (sheared/fractured quartz, slickensided quartz, fault offsets) so veining likely occurred both before and after faulting.

The quartz veins in the Sealevel area are commonly coarsely crystalline, milky quartz veins with minor sulfides. The predominant sulfide is pyrite, but galena and sphalerite are also present. Locally abundant open-space-filling crystalline quartz suggests quartz deposition at shallow crustal levels.

Most quartz veins in the Sealevel area are bounded by an altered zone. The altered zone within the predominantly mafic metavolcanic host is characterized by generally fine-grained, light gray to bluish-gray, massive, carbonate-bearing rock that commonly contains cubic crystals of pyrite up to 2 cm across. When compared to the unaltered mafic metavolcanic host rock, the altered zone contains pyrite with associated gold (tables 29, 30 below), carbonate, and sericite. Gold content within the altered zones is higher adjacent to the quartz veins and drops off away from the veins. Weathered altered-zone rocks have a reddish tan, oxidized rind that is up to 7 cm thick. The weathering rind may still contain cubic pyrite crystals. Poor rock exposures commonly hide the extent of alteration zones adjacent to quartz veins, but where visible, the zones extend about one meter into the mafic metavolcanic host rock.

East of the major claims from which historic production occurred (Sealevel Mine, Gold Banner) is an outcrop of granodiorite (31). Northeast-trending quartz veins occur within the intrusive, but these are relatively minor. There are no sulfide minerals in the veins and precious metal values are low.

Northeast-trending auriferous quartz veins also crop out east of the granodiorite body on the Massachusetts claims. The Massachusetts veins contain pyrite with minor galena and sphalerite as do the Sealevel area veins to the southwest. The Massachusetts veins are hosted in mafic metavolcanic rocks and have an altered zone associated with them similar to the Sealevel area veins. These similarities suggest a mineralizing system that extends over at least 2.5 km.

Sampling has shown erratic mineralization associated with the quartz veins. Work by MPH Consulting Limited in the early and mid-1980's included accessing a 560-m adit on the Goo Goo Extension claim. Five zones of elevated gold values in the adit were outlined (502) suggesting precious metal values may occur in broad ore shoots along the veins. Mineralization tends to be concentrated along vein margins. The relatively few, large, quartz veins in the Sealevel area results in fewer vein margins and thus a lower volume of higher grade material.

Quartz veins in the Sealevel area cut the regional metamorphic foliation at a high angle. The foliation strikes generally northwest; the veins strike northeast. The quartz in the veins is not metamorphosed nor recrystallized, so veining likely postdates metamorphism.

Two small horizons of felsic metavolcanic rock with disseminated pyrite were found within the mafic metavolcanic rock in the Sealevel area. Samples across these two horizons revealed minor precious and base metal values (map No. R323, samples 9001 and 9300; map No. 305-15, samples 9051 and 9343). Based on the limited extent of felsic metavolcanic rocks in the Sealevel area, the potential for a stratiform ore deposit is low.

Bureau Work

Bureau of Mines personnel mapped and sampled the accessible workings in the Sealevel area. The workings consist of trenches, pits, and opencuts along the quartz vein trends, in addition to several adits and a single glory hole. The scarcity of continuous exposures precludes accurate assessment of average precious metal values along the veins. Nonetheless, 175 samples were collected for geochemical analysis from various locations in the Sealevel area. Mean gold values have been calculated using all of the 175 geochemical samples collected and are presented in the section below for six distinct historic claims in the area.

Significant Samples/Mineral Resources

Gold in the Sealevel area is associated with the alteration adjacent to the quartz veins described above. This is illustrated by comparing gold values found in altered versus adjacent unaltered rock. Samples 9035 and 9037, taken from altered rock, had 1,004 and 52 ppb gold, respectively, compared with sample 9036 of unaltered rock which contained less than 5 ppb gold (map No. 301-6). Another pair of adjacent samples depicting this trait are 9040 with 82 ppb gold in altered rock and 9041 with less than 5 ppb gold in unaltered rock (map Nos. 303-14,15).

Gold within the altered zones seems to be associated with the pyrite. Select samples of pyrite from the altered rock adjacent to the veins showed elevated gold values (table 29).

Table 29. Gold values obtained from pyrite in altered zones adjacent to quartz veins.

Map No.	Sample No.	Gold value, ppb
298-1	9029	4,211
301-5	9034	16,251
304-3	8164	8,991
305-11	9052	2,330

The highest gold values in the Sealevel area were found in quartz veins, but in some cases, gold is associated with the altered zones even where the vein is essentially barren, or has significantly less gold. Table 30 lists some of the sample pairs where this is evident.

Table 30. Comparison of gold values from veins versus adjacent altered country rock at Sealevel.

Map No.	Sample No.	Au in veins, ppb	Sample No.	Au in country rock, ppb
305-6	9002	7	9003	2,066
305-6	9004	134	9005	255
305-1	9017	331	9018	1,799
301-5	9065	15	9066	631
301-5	9067	168	9068	3,629
305-7	9303	4,504	9304	8,150
305-7	9305	6	9306	23,211
Map No.	Sample No.	Au in veins, ppb	Sample No.	Au in country rock, ppb

Map No.	Sample No.	Au in veins, ppb	Sample No.	Au in country rock, ppb
301-9	9328	308	9329	1,062
301-5	9353	<5	9354	1,166

When evaluating the mineral potential in the Sealevel area, it is unclear whether past investigators have considered the mineralization of the altered zones adjacent to the veins. Many examiners have described the altered zones as dikes that host the quartz veins (70, 502, 643).

Mean gold values have been calculated for six historic claims within the Sealevel area. The means were calculated using all of the 175 rock samples collected in the area and are presented in table 31, below. (Samples containing gold values below detection limits were assigned a value of 5 ppb, which is the lower detection limit of the analytical method used. The "Sealevel area" includes all samples collected outside the other named areas.) The means indicate that gold values are elevated at all the historic claims in the Sealevel area, but higher average values are concentrated in the Sealevel and Gold Banner Mine areas. Samples from the Sealevel Mine contained a mean of 4,970 ppb gold, while samples from the Gold Banner had a mean value of 2,048 ppb gold. Historic mining activity was also concentrated in these two areas.

Table 31. Mean gold values from the Sealevel area.

Historic claim	Map No.	Mean Au value, ppb
Gold Banner (46 samples)	304	2,048
Goo Goo (7 samples)	302	760
Goo Goo Extension (24 samples)	303	959
Sea Breeze (12 samples)	300	661
Sealevel (38 samples)	301	4,940
Massachusetts (12 samples)	298	2,071
Sealevel area (36 samples)	(various)	623

Resource and Land Use Issues

The northeastern part of the Sealevel area is included within the Misty Fjords National Monument; however most of the important mineralization in the area is outside the wilderness. Two anadromous fish streams cut across the area. One is in the northern part of the area where little known mineralization is found, but the larger southern drainage system is within the area of the known occurrences. At least two auriferous quartz vein trends crop out on the banks of this southern stream. Historic production from these trends has been small, and because of the low sulfide nature of the ore, little known disturbance of the stream has occurred. Potential future mineral development in the area may be aimed at either a low-grade, large tonnage deposit or a high-grade, lower tonnage deposit. Large-tonnage development may have a more severe impact on the southern anadromous fish stream.

The Sealevel area is easily accessible by boat from Ketchikan and includes a popular Forest Service cabin. People commonly fish for steelhead and trout in two of the area's streams. The area is considered important to tourism, in part because it is on a popular flight route for sight-seeing aircraft accessing the Misty Fjords Monument Wilderness from Ketchikan. Subsistence use of the area for Sitka black-tail deer hunting is also enhanced by its accessibility from Ketchikan. Fish Creek is a candidate for wild and scenic river designation, but it is situated in the northern part of the area, away from historically important mineralization.

Table 32. Mineral locality information for the Sealevel area.

Map No.	Name	Land status	Deposit type	Workings	-Production	Significant results	Select references	MDP
297	Tyee	OF	V: Au, Zn, Pb	NA	NA	Reported: 1.2-m qz vein w/ py, sl, gn & minor Au; hosted by intrusive	643	L
298	Massachusetts	OF	V: Au	1 Adit: 25m (caved); 1 shaft: (not found); T(s)	NA	Qz vein in metavolc w/ py, gn, sl; min adjacent veins; probable extension of Sealevel area min; best sample: 0.9m @ 11.1 ppm Au, 134 ppm Ag	70, 643	L
299	Baltic	OF	V: Au, Zn	1 Shaft: 12m; 2 adits: (not examined)	NA	Reported: qz vein w/ py, sl, & minor Au	70, 643	L
300	Seabreeze	P: MS 423	V: Au	2 Adits: 21m, (caved); T(s)	NA	Northeastward extension of Sealevel vein trend; similar min to Sealevel but lower gold values found; best sample: 2.6m @ 2.0 ppm Au	70, 403, 584, 643	L
301	Sealevel	OF	V: Au	2 Shafts w/ drifts: 365m, (flooded); 2 adits: 9m, (caved); T(s)	Not reported	Qz veins w/ free Au, & py, gn, sl, in mafic metavolc; min in ore shoots along veins; Au also in pyritized volcanics adjacent to veins	70, 90, 318, 403, 452, 643	L
302 303	Goo Goo Goo Goo Extension	P: MS 1598	V: Au	2 Adits: 560m, (caved); 1 shaft: (flooded); T(s), P(s)	1.4 kg Au	Au w/ py, gn, sl in 1500 m+ qz vein in mafic metavolc; volc also min adjacent vein; best 1946 sampling: 24m x 2.3m @ 5.8 ppm Au; 7.6m x 1.4m @ 7.1ppm Au; average of 31 1993 samples: 1.1 ppm Au	185, 408, 549	L
304	Gold Banner	P: MS 535	V: Au, Ag	4 Adits: 67m, 39m, (2 caved); 1 shaft: 6+m; 1 glory hole: (12 x 5 x 22+m deep); T(s)	minimum: 0.3 kg Au, 0.2 kg Ag	Au w/ py, plus minor gn & sl in qz vein in mafic metavolc; volc also min adjacent vein; average of 47 samples: 1.0 ppm Au	406	L
305	Wild West	OF	V: Au	1 Adit: (caved); 2 shafts: 7m, 6+m; T(s), P(s)	NA	Northeast-trending, gold-bearing qz veins hosted by metavolcs similar to elsewhere in Sealevel area; more metased hosts; similar alt zones adjacent veins	70, 318, 643	L
306	Sealevel Creek	OF	V: Au	NA	NA	Au-bearing qz vein south of main Sealevel min area; similar alt zone adjacent vein	NA	L

Moth Bay Area

General/Land Status

Moth Bay is located on the north side of the entrance to Thorne Arm approximately 25 km southwest of Ketchikan on Revillagigedo Island. This area contains the Moth Bay zinc-copper deposit. This deposit is located on MS 1590 which has been patented and is owned by Richard Bishop (Ketchikan). Land status of the remainder of the area is Forest Service land open to mineral exploration. The area surrounding the deposit is generally of low relief dominated by glacial-till, muskeg and lake-covered lowlands that largely conceal bedrock. There is a trail originating at the head of Moth Bay that leads to the deposit workings.

History/Workings/Production

The Gold Standard Mining Company first explored and developed the Moth Bay deposit in 1911-13. They drove a 23-m adit with a steeply inclined winze at the south workings. Freeburn Development Co. took over the property in 1929 and initiated further development. Freeburn drove a 244-m adit that drifted along the ore zone for nearly 190 m. This working intersected ore nearly 38 m below surface exposures. Freeburn had the property surveyed for patent in 1932 (399).

Several government geologists examined the property beginning with P. S. Smith in 1913 (75), and followed by B. D. Stewart in 1930 (550), Townsend in 1937 (35), R. L. Thorne (1942), Robinson and Harris in 1943 (398), and Robinson again in 1953 (399). Warfield and Wells published the results of Bureau of Mines (Bureau) drilling and sampling from 1950 in a 1967 report (597). Several companies have expressed interest in the Moth Bay deposit since the late 1960's, but none have committed resources to further develop this property. There has been no production from this deposit.

Geology

The general geology in the Moth Bay area is depicted by Berg, Elliott, and Koch in their 1988 map of the Ketchikan and Prince Rupert Quadrangles (42). A large mass of Cretaceous granodiorite to quartz diorite intrudes Mesozoic to Paleozoic metasedimentary and metavolcanic rocks. There are localized basalts and andesites of Quaternary to Tertiary age adjacent to the northern boundary of this intrusive (fig. 56).

The Moth Bay deposit is located within a roof pendant of the Mesozoic-Paleozoic schists in the central part of the intrusive mass. The deposit is located near the contact of biotite-quartz schist and muscovite-quartz schist within this pendant. Several dikes intrude the schists and ore deposit.

The deposit fits a volcanogenic massive sulfide model. The deposit has a strike length of nearly 305 m. The average strike of the deposit is 305° with dips ranging from 80°northeast to 50°southwest. Drill data suggest the deposit flattens at depth to the northwest (597). There is small-scale isoclinal folding evident in the schist units as well as the sulfide layers. The ore predominately parallels the foliation of the enclosing host rocks.

The principal ore minerals at Moth Bay are sphalerite, chalcopyrite, and galena. There seems to be mineral zonation throughout the deposit. Sphalerite is common in the middle of the deposit, but decreases in concentration to both the northwest and southeast; chalcopyrite and galena increase to the southeast, but not uniformly. Quartz and calcite gangue also increases to the southeast or toward the short adit (23 m long). Three separate zones/lenses of ore exist on the property. Ore zones generally do not exceed 1.52 m in width and the main zone exposed in the long adit extends for 122 m. Assays reveal the presence of silver in the ore, but gold values are negligible (576).

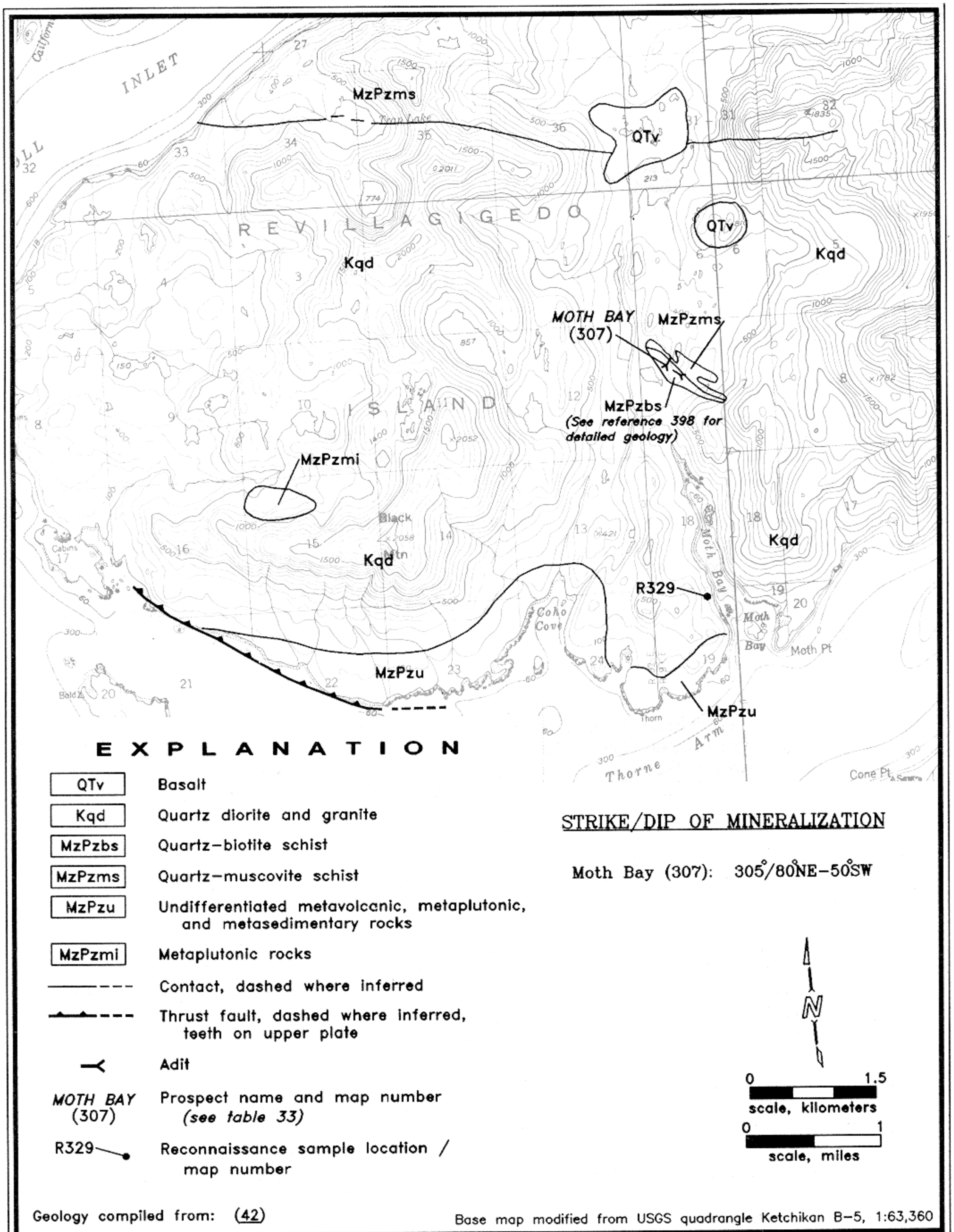

Figure 56. – Moth Bay area, showing geology, mineral localities, and sample locations.

Bureau Work

Bureau geologists visited the Moth Bay deposit in 1992 to field check the geologic mapping, and verify the accessibility of the workings. The maps produced by Robinson are well done and provide a good base from which to do further work (398, 399). Additional work should include deeper drilling and surface trenching to delimit additional continuity to already known reserves. The adits are accessible, although the south adit is partially caved. Most of the trenches still expose mineralized bedrock and have not sloughed in.

Bureau geologists walked the beaches in Moth Bay examining outcrops and looking for mineralized rocks. A massive sulfide float boulder found in the mouth of a creek on the west side of Moth Bay, 3.5 km south of the Moth Bay deposit, contained 1.9% Cu, 116 ppm Zn, and 9.2 ppm Ag (map No. R329). The distance between this float boulder and the Moth Bay deposit suggests the presence of additional roof pendants of mineralized mica-quartz schist within the Cretaceous intrusive.

Significant Samples/Mineral Resources

Bureau drilling in 1950 was used to determine grade and tonnage of indicated resources at Moth Bay. The mineralization exposed in the main adit and on the surface has been adequately drilled and assayed to provide the following resource data: If an assumed thickness of 2.3 m is used for this 122-m-long by 43-m-deep zone, there are 91,000 mt of material averaging 7.5% Zn, 1% copper, and 6.9 ppm Ag (399). Beneficiation using selective flotation after grinding to 95% minus 65-mesh produced a marketable copper and zinc concentrate with reasonably good recoveries (597). Current technologies would no doubt improve the overall recoveries, since this testing was originally completed in the 1960's.

Resource and Land Use Issues

There are four resource and land use issues present in the Moth Bay area. These include: 1) management for timber harvesting, 2) the presence of anadromous fish streams, 3) subsistence hunting for Sitka black-tail deer, and 4) the presence of private land in the area (590).

The Moth Bay area is managed for intensive timber harvesting which allows road building and is least restrictive toward additional development. This determination is always made on a site specific basis. It should be noted that the area contains more muskeg than forest and timber harvest is unlikely. Coho Creek, an anadromous fish stream, flows through the Moth Bay area. This creek is due west of the Moth Bay deposit. There is a moderate level of subsistence hunting identified throughout the area. Moth Bay is close to Ketchikan and Saxman and can be easily accessed by skiff. The area contains a patented mineral survey covering 5 claims over the Moth Bay deposit (MS 1590).

Table 33. Mineral locality information for the Moth Bay area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
307	Moth Bay	P: MS 1590	VMS: Zn, Cu	Adits (2): 244 m, 23 m w/ winze (open); T, P	NA	Resources: 91,000 mt @ 7.5% Zn, 1% Cu (measured and indicated Zn-Cu-ore); plus 12,360 mt @ 2.3% Cu, 0.5% Zn (measured and indicated Cu-ore) (399)	398, 399, 441, 597	M

South Gravina Area

General/Land Status

The South Gravina area is located on South Gravina Island, about 25 km southwest of Ketchikan, Alaska. The area is bounded approximately by Seal Cove, Dall Bay, Nahenta Bay, and Punch Hill (fig. 57). Access to the area can be made by boat, float-plane, or helicopter. The generally subdued relief (elevations range from sea level to about 600 m (2,000 ft) on Punch Hill) in most of the area allows easy access by foot. Punch Hill and other high-relief areas are restricted to the northern part of the South Gravina area. Vegetative cover includes conifer forests and muskegs, so rock outcrop is generally limited to stream cuts, shorelines, and historic workings. The steep topography in the northern part of the area provides more rock outcrop.

Major historic prospects in the area are concentrated around Dall Bay, Seal Cove (fig. 58), and Nahenta Bay. Five claims on the north side of Dall Bay were patented in 1905 (MS339) (584). Four of these are owned by I. Nichols of Ketchikan, Alaska. Ten claims east of Seal Cove were patented in 1908 (MS725) (584) and are currently owned by Davis Wright Tremaine of Seattle, Washington. A parcel of State-selected land is situated on the east side of Dall Bay. A 1.3-ha plot of private land (USS2658) is situated on the east side of Nahenta Bay. Outside the above private parcels, the land is managed by the Forest Service and is open to mineral entry. No currently active claims are known to be held in the area.

History/Workings/Production

Initial mineral exploration in the South Gravina area took place around 1898. The first description of mineral activity in the area by Brooks in 1902 describes numerous workings including shafts with drifts at Dall Bay, shafts and adits at Seal Cove, and an adit plus trenches and cuts near Nahenta Bay (70). Most work was accomplished near Seal Cove, where by 1913, a 600-m crosscut had been driven to expose mineralization (508). A 1906 report of a "small smelter shipment" (634) is the only report of production from the area.

Little activity was reported from the South Gravina area between 1915 and the mid-1950's. In 1954, Northwest Ventures, Limited, who was working in the Granduc area of British Columbia, Canada, staked claims around Seal Cove and Dall Bay. The Bornite Copper Corporation, Ltd., optioned and staked claims in the area and were the first to seriously examine the area in the mid-1950's. The company drilled 14 holes totalling over 2,500 m (324). Between 1956 and 1974 many companies looked at the South Gravina area including: Cambridge Mining Corporation, Paramount Mining Limited, Huntec Limited, Alrae Engineering Limited, Dolmage Campbell & Associates, Phelps-Dodge, and Amoco Minerals Company (584). As recently as 1992, claims covering the area were held by Pacific Northwest Resources.

The U.S. Geological Survey examined the Dall Bay area for uranium in 1951 (275). During this survey, no significant radioactive material was found (167). In 1955-56 several claims were staked in the South Gravina area on prospective occurrences of radioactive material. The first and most extensive claims were located as the Black Jack claims and were held by a group from Ketchikan, Alaska (584). Territorial Dept. of Mines (TDM) and Alaska Division of Geological and Geophysical Surveys examinations were made of the radioactive occurrences in 1956 and 1970 (167, 628).

Geology

The southern part of Gravina Island consists of a diverse package of Early Paleozoic greenschist-facies metamorphic rocks that have been intruded by Late Silurian trondhjemite (33, 217). In the mineralized

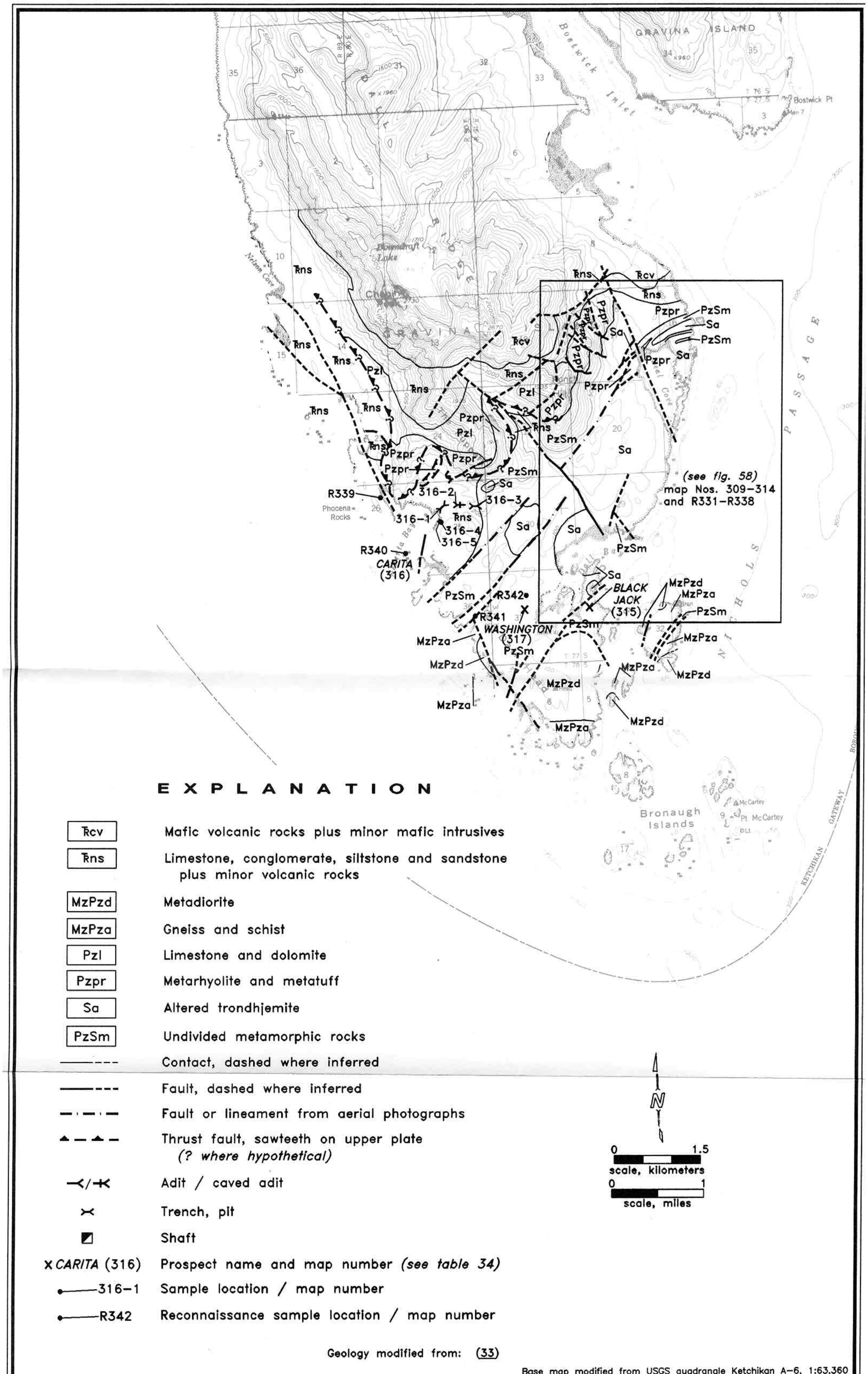

Figure 57. – South Gravina area, showing geology, mineral localities, and sample locations.

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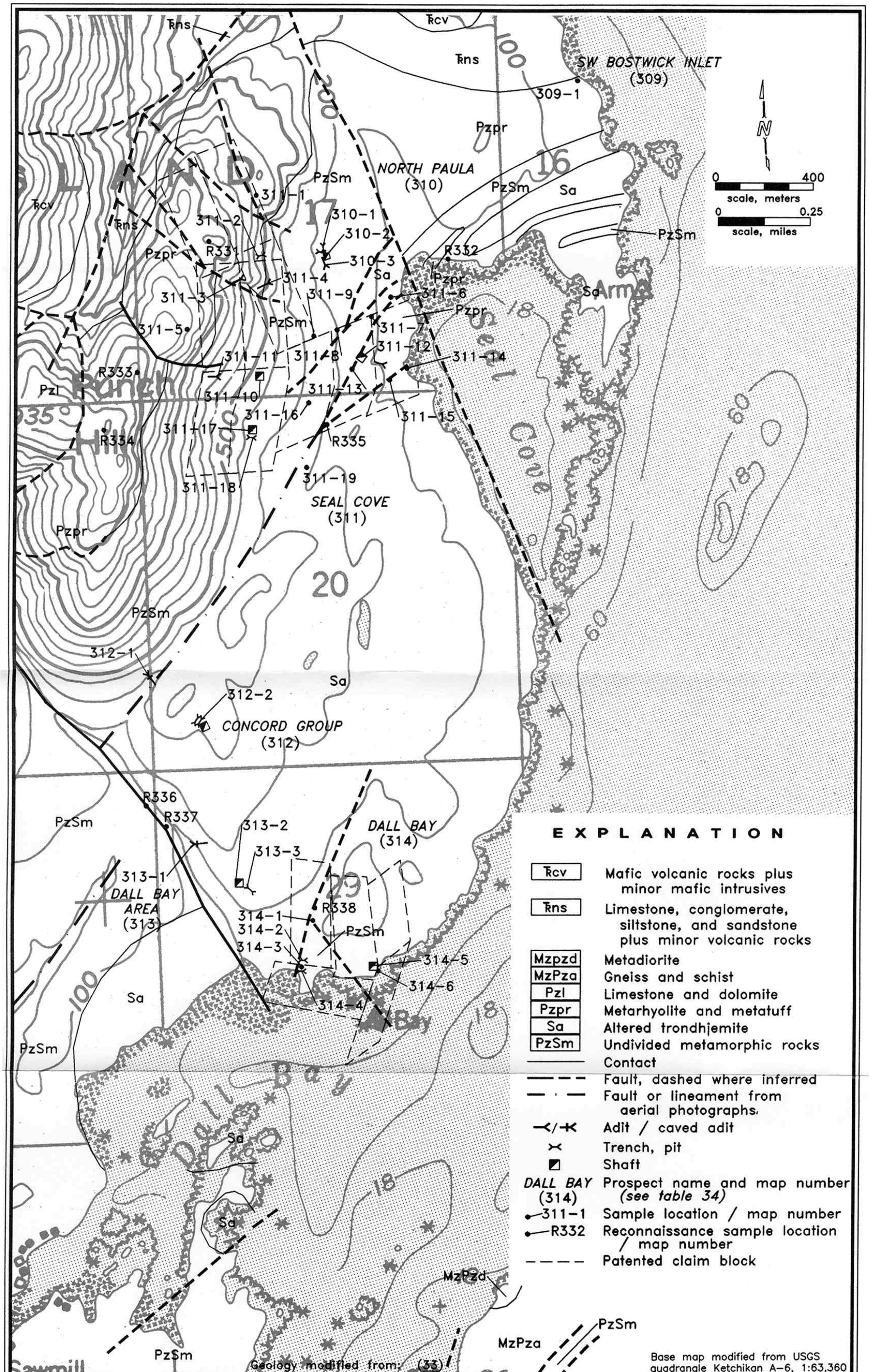

Figure 58. — Seal Cove and Dall Head, showing geology and sample locations.

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areas of south Gravina, the metamorphic rocks are generally greenstones of probable andesitic volcanic origin. The Early Paleozoic rocks are unconformably overlain or in fault contact with Late Triassic metatuff or metarhyolite and interbedded siltstone and limestone (33, 217). All these units on southern Gravina Island have been affected by high-angle, northeast- or northwest-trending faults (33).

Copper mineralization is generally associated with faulting in the Gravina Island area and occurs mainly in the meta-andesite and trondhjemite, but also in the Late Triassic limestone. Pyrite and chalcopyrite occur as vein fillings in fault zones, as disseminations in metavolcanic rocks and silicified zones in trondhjemite, and as clasts or pods in silicified and/or carbonatized breccias. The mineralization is scattered from Seal Cove to Nahenta Bay, across the southern part of the island, but has been found concentrated in three places: near Seal Cove, on the north side of Dall Bay, and east of Nahenta Bay. Chalcopyrite occurs as vein fillings, disseminations, and in breccias west and northwest of Seal Cove. The mineralized breccias have a silicic matrix. Minor quartz-barite veins with galena and sphalerite have been found west of Seal Cove, on the northeast slopes of Punch Hill. On the north side of Dall Bay, chalcopyrite is associated with a sheared, silicified zone in trondhjemite. Minor barite veins are also found in the area. About one km north of Dall Bay, chalcopyrite occurs as clasts or pods in a siderite-hematite matrix breccia in altered trondhjemite. Similar mineralized breccia hosted by limestone and metavolcanic rock is found east of Nahenta Bay. This area was drilled by Amoco Minerals Company in the early 1970's and is discussed below. Locally, minor gold accompanies the copper mineralization, but generally does not exceed several hundred ppb in measured samples.

Work in the South Gravina area by Amoco Minerals Company in 1973-74 identified an area of chalcopyrite mineralization east of Nahenta Bay that was thought to be the most important in the area. The zone consists of mineralized silicious breccia hosted by limestone. The breccia includes quartz, barite, siderite, pyrite, galena, sphalerite, and chalcopyrite. The zone was defined by geochemical anomalies in soil sampling and by an induced polarization survey. Four holes totalling 600 m, drilled to test the anomaly, indicated only minor copper mineralization. The highest-grade 3-m section assayed 0.28% copper (652).

Northeast of Seal Cove, on the southwest side of Bostwick Inlet, minor layers of massive sulfide are hosted by metarhyolite. Layers of massive pyrite with sphalerite up to 0.5 m thick occur near the contact with argillite. Samples collected of the massive sulfide layers contained minor silver, but gold values were below detection limits.

Claims for radioactive material have been staked in the South Gravina area, particularly at the north end of a peninsula forming the southeast side of Dall Bay. A TDM report describes the occurrence as a very thin vein or seam of radioactive material hosted along a fault plane between serpentinized basalt or gabbro and a layer or sill of orthoclase feldspar. The uranium-bearing rock is said to be a serpentine containing what resembles pitchblende (628). A 1970 reconnaissance of the area describes the radioactive material as albite pods adjacent to small serpentinized zones. The highest radioactivity in the pods is associated with thin black coatings on fractures in the feldspar. No commercial quantities of material are evident (167).

Bureau Work

Bureau of Mines (Bureau) personnel mapped and sampled adits, shaft dumps, trenches, pits and strippings in the South Gravina area. Most of the workings depicted on the patent survey for the Seal Cove group of claims were located, mapped and sampled (fig. 58). Three of the four adits in the area were accessible and in relatively good condition. A major, west-trending adit located 90 m west of Seal Cove is accessible for only the first 50 to 75 m. Beyond this, the adit narrows vertically and a large quantity of water flows along the adit floor. Apparently, a raise was driven along a fault zone that surfaced in the bed of a creek. The creek now flows through the adit and has filled the adit with enough debris to make it inaccessible. No significant mineralization is exposed in the accessible part of the adit. All shafts in the Seal Cove area are flooded and trenches are generally overgrown. Bureau samples were taken from shaft dumps and after digging out trenches. To the north of the Seal Cove block of claims, the North Paula mineralization was also mapped and sampled. Here, shear-hosted copper mineralization is evident in a short adit, several trenches, and the dump of a flooded shaft.

Mapping and sampling of the workings on the patented claims north of Dall Bay was completed. One of the two reported shafts was found and is flooded. Mineralization is well exposed along the shoreline where Bureau sampling was concentrated. Several trenches in the area were dug out and sampled as well.

North of the Dall Bay patented claim block is the Concord Group of claims. Only four of the seven or more reported prospect sites (70, 643) in this area were found and examined. Examined prospects included opencuts, trenches, a caved adit and a flooded shaft. Samples were taken from the adit and shaft dumps as well as from the trenches to characterize the mineralization.

Due to incomplete information and heavy vegetative cover, the mineralization of the Carita Group east of Nahenta Bay was not thoroughly examined. Reported shafts and an adit in the area were not located (70, 258). Bureau sampling in the area was from small pits and trenches that expose only discontinuous mineralization. Minor mineralized breccia is exposed along the east shore of Nahenta Bay.

Significant Samples/Mineral Resources

The highest-grade samples collected during the Bureau's investigation came from the Dall Bay mineralization. Samples of a silicified zone in altered trondhjemite with disseminated mineralization exposed along the shoreline revealed 1.4% copper over 23 m (map No. 314-6, sample 8139), and 0.5% copper over 6.1 m (map No. 314-5, sample 8393). The weighted average of all measured samples from this location is 0.7% copper over an average width of 10.0 m (16 samples). Bornite Copper Corporation Ltd. explored this mineralization in 1956 with 14 drill holes for a total of 1,200 m. Mineralization was encountered in eight holes over 180 m of strike length. Results ranged from 0.38% to 1.1% copper over lengths of 14 to 1.5 m (324). About 300 m North of Dall Bay a pit and trenches expose mineralized breccia that assayed 1.1% copper over 8.5 m (map No. 313-2, sample 8146) and 0.7% copper over 7.0 m (map No. 313-2, sample 8396). Select samples contained up to 2.5% copper (map No. 313-3, sample 8145).

Select samples of the mineralization at Seal Cove assayed as high as 6.9% copper (map No. 311-13, sample 9350); however the average of the samples is much lower. The weighted average of all measured samples is 0.5% copper over an average width of 2.3 m (45 samples).

The best samples from the Carita Group of claims near Nahenta Bay include a select sample of 6.4% copper (map No. 316-3, sample 8008) and a spaced chip sample of 0.5% copper over a length of 4.6 m (map No. 316-4, sample 9410). The weighted average of measured samples from the area, however, is less than 0.5% copper.

Resource and Land Use Issues

Four resource and land use issues have been identified in the South Gravina area. The moderate to high subsistence use level associated with Sitka black-tail deer hunting and the proposed semi-primitive recreation designation are due to the area's proximity to the city of Ketchikan. Dall Bay is also considered an important tourism area for the same reason. Access can be made by small boat in good weather, so the area is convenient for recreational use. A Forest Service cabin is located in the northwest part of the area, north of Nahenta Bay. Four anadromous fish streams drain the South Gravina area. One flows into the north side of Dall Bay and another into Nahenta Bay, both of which are in close proximity to mineralized areas.

Although mineral development potential in the South Gravina area is considered low, mining activity would probably target a low-grade, large tonnage deposit. Open pit mining methods would probably be used and the associated surface disturbance could be significant.

Table 34. Mineral locality information for the South Gravina area.

Map No.	Name	Land status	Deposit type	Workings	Produc -tion	Significant results	Select references	MDP
309	Southwest Bostwick Inlet	OF	VMS: Zn	NA	NA	Shoreline exposure of msv py and sl lenses at contact between metarhyolite & ar; up to 3.5 m @ 1.6% Zn	33	L
310	North Paula	OF	PV: Cu, Au	Adit: 3.8m; shaft (flooded); T(s)	NA	Seams & clasts of cp & py in sil br within metavolc; best sample: 1.7 m @ 1.1% Cu	324, 573	L
311	Seal Cove	P: MS 725; OF	PV: Cu, Au	4 Adits: 145m, 20m, 7m, (600m-caved); 3 shafts: 6m, 4.5m, (flooded), P(s), T(s)	NA	Shear-hosted Cu min; sil shears in trondjemite & gs; best drill intercept: 8.7 m @ 0.56% Cu: best sample: 7.6 m @ 0.76% Cu	33, 70, 324, 573	M
312	Concord Group	OF	PV: Cu	Adits (2): 3.5m, (caved); shaft: 6m (flooded); T(s)	NA	Shear-hosted Cu min; samples: 1.8 m @ 1.4% Cu, 4.9 m @ 0.44% Cu, 11.6 m @ 0.24% Cu	33, 70, 643	L
313	Dall Bay Area	OF	PV: Cu, Au	Adit: (caved); T(s), C(s)	NA	Un-named workings explore Cu min associated w/ sil shear zones in trondhjemite(?); best sample: 8.5 m @ 1.1% Cu, 1.8 ppm Au	33	M
314	Dall Bay	P: MS 339; OF	PV: Cu, Au	Shafts (2): 15m, 9m (flooded); T(s), P(s), C(s)	NA	Cu min associated w/ sheared, sil zones in alt trondjemite; best sample 23 m @ 1.4% Cu	33, 70, 324, 573	M
315	Black Jack	OF	V: U3O8	P(s)	NA	Narrow (cm-scale) vein of radioactive material (pitchblende?) in serpentinized basalt or gabbro	628	L
316	Carita	P: USS 2658; OF	PV: Cu	Adit: 15m	NA	Sulf, py, cp, in siderite-hematite matrix br hosted by carbonate, gs, alt trondjemite	70, 116, 443, 643	L
317	Washington	S	V: Cu	Adit: 6m	NA	Py and cp in qz along shear	70	L

West Hyder Area

General/Land Status

The West Hyder area is located 13 km northwest of Hyder and extends north of the West Fork of Texas Creek and the Chickamin Glacier to the Alaska-British Columbia border and south to include Banded Mountain and Casey Glacier (figs. 59, 60). The most important prospects are the Double Anchor, Solo, Engineer, Marmot Basin, and Hyder Lead. The extreme western part of the area is located within Misty Fjords National Monument and is closed to mineral entry, whereas the eastern part is USDA Forest Service land open to mineral entry. The area is rugged with numerous glaciers and sharp peaks that reach elevations of 2,155 m (7,073 feet). Roads do not penetrate the area and access to most area prospects is restricted to helicopter. Helicopter access to the Misty Fjords National Monument may be further restricted by administrative regulations. Overgrown trails originating at Texas Lake allow access to some of the area prospects.

History/Workings/Production

During the 1920's a trail and then a road were built along the north side of the West Fork of Texas Creek opening the area to prospecting. During the 1920's and 1930's, the Blasher, Double Anchor, Ibex, Homestake, Silver Bell, Silver King, Silver Coin, Silver Star, Lake, and Morning Star prospects were discovered and explored with pits, trenches, or short adits (88). South of the West Fork of Texas Creek, the Engineer, Keno, Hyder Lead, Marmot Basin, and Heckla prospects were among the properties discovered in the 1920's (88). These prospects were also developed by pits, trenches, and adits. Bureau of Mines (Bureau) examinations in 1992 revealed 16 open adits with 331 m of underground workings. In 1925 a test shipment of hand-cobbed ore from the Homestake had a gross value of $105.96 per mt. A 0.9- to 1.8-mt test shipment of ore was also made from the Heckla prospect (88, 499).

The most interesting mineralization in the area was found at the Solo Mine. High-grade galena-electrum float was discovered in the vicinity in 1925. By 1930 the float was traced to the snout of a small glacier and by 1937, after tunneling 1,800 m under the glacier, a high-grade vein of galena-electrum ore was exposed. Thirty two kg of high-grade ore was mined and milled with a recovery of $630. An additional 0.5 mt of high grade was shipped to the Tacoma smelter with a value of $0.90 per kg. Further exploration under the glacier failed to reveal additional ore (619).

Much of the early exploration in the area was accomplished by individual prospectors or groups of prospectors. During the 1930's and 1940's the Territorial Dept. of Mines examined many of the area prospects. During the 1970's, El Paso Natural Gas Company explored the Greenpoint and Heckla prospects and drilled the Solo Pecos prospect. From 1989 to 1991, Hyder Gold Incorporated examined the Double Anchor, Dog Hole, and Iron Cap areas.

Geology

The geology of the West Hyder area was mapped by Buddington in 1929 (88), Smith in 1976 (504), and during this study by the Alaska Division of Geologic and Geophysical Surveys (4). The same package of rocks found in the West Hyder area is extensively exposed in the Stewart Mining Camp of British Columbia, Canada, where it contains important gold mines and has been thoroughly studied by geologists from the British Columbia Department of Mines, Alldrick (11) and Grove (234).

The West Hyder area lies along the eastern edge of the Coast Mountains Batholith. The oldest rocks in the area belong to the Upper Triassic to Lower Jurassic Hazelton Group. This group is made up of andesites and dacites with associated sedimentary rocks that occupy the higher elevations of the area. The Jurassic Texas Creek Granodiorite underlies most of the area and is coeval with the Hazelton volcanic rocks and intrudes and forms porphyritic dikes within them. Alldrick interprets these rocks as being part of an island arc complex (11). Mid-Cretaceous tectonism is characterized by greenschist facies regional metamorphism.

The Eocene Hyder Quartz Monzonite is found to the south and the Eocene Boundary Granodiorite to the north, relative to the West Hyder area. Both of these plutons intrude and form dikes within the

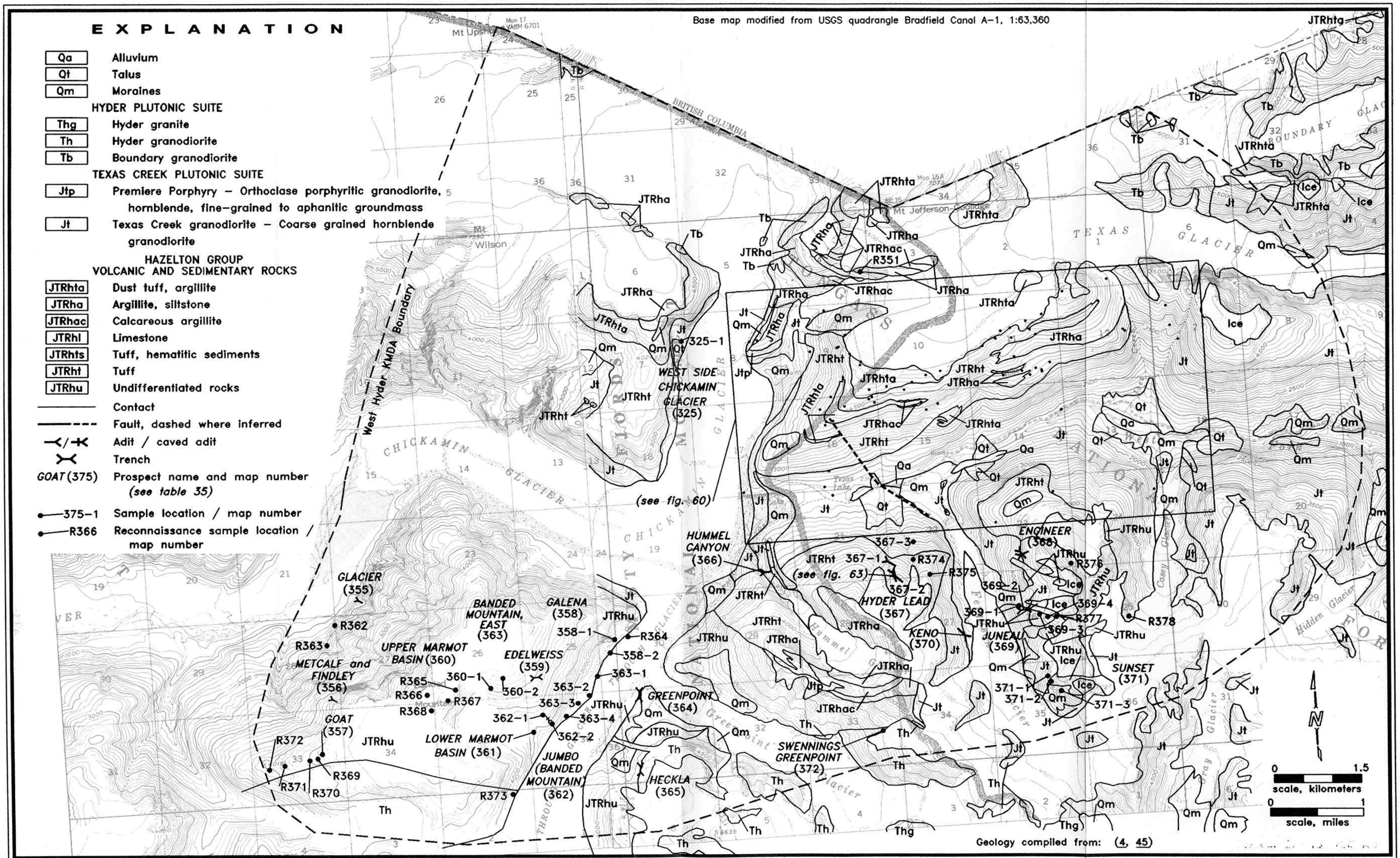

Figure 59. – West Hyder area, showing geology, mineral localities, and sample locations.

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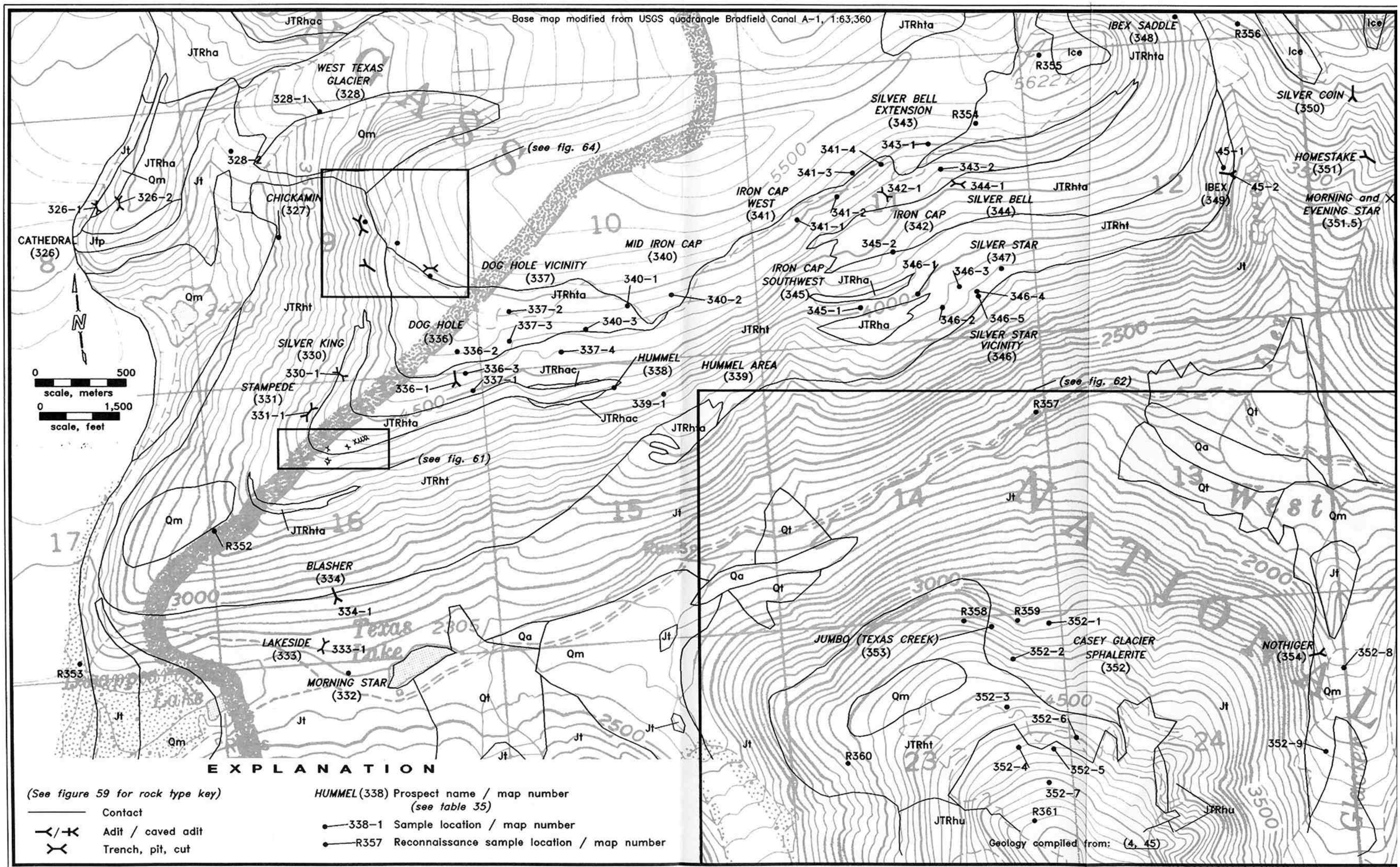

Figure 60. – Northern portion of West Hyder area, showing geology, mineral localities, and sample locations.

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Hazelton and Texas Creek rocks. Local deformation and narrow zones of hornfelsed rock occur near contacts. These Eocene rocks are part of the Coast Mountains Batholith.
Detailed studies by Alldrick (11) in the Stewart Mining Camp, also cover the West Hyder area, and indicate that area mineral occurrences were formed during 2 distinct mineralizing events, early Jurassic and Eocene. The Eocene mineralization is locally superimposed on the Jurassic mineralization. Lead isotope analysis has proven an effective method of determining if a deposit is Jurassic or Eocene in age (11).

The Early Jurassic event was manifested by a hydrothermal system that acquired its suite of silver, gold, zinc, lead, and copper from magmatic sources. Mineralization styles include gold-pyrrhotite veins and disseminations, masses, and veins of gold-silver and base metals. All of these deposits are hosted in Hazelton Group rocks. The Eocene event is characterized by silver-rich, galena-sphalerite veins related to the intrusion of the Hyder Quart Monzonite or the Boundary Granodiorite. These mesothermal veins are localized along shears and faults and are hosted in Texas Creek Granodiorite and Hazelton volcanics (11).

Jurassic Gold-Silver Base Metal Deposits

Lead isotope studies indicate that the Double Anchor, Iron Cap, Dog Hole, Ibex Saddle, and Casey Glacier Sphalerite occurrences are Jurassic in age. All are hosted in Hazelton Group rocks and contain pyrite, galena, and sphalerite. Except for the Casey Glacier Sphalerite, all are located north of the west fork of Texas Creek. The most extensive mineralization is found at the Double Anchor which contains a concordant-breccia vein that has been traced for 265 m along strike and contains moderate gold, silver, zinc, and lead values (fig. 61). The remaining Jurassic occurrences are much less extensive, contain lower gold and silver values, and have less-defined hanging walls and footwalls.

The Casey Glacier Sphalerite occurrence is located south of the West Fork of Texas Creek between Ferguson and Casey Glaciers (fig. 62). Mineralized boulders up to 1 m across are scattered in an area of more than 600 vertical m by roughly 1,800 m horizontally. The massive bands and veinlets of sphalerite with galena, silver, and trace gold are hosted by Hazelton Group andesitic breccia. Intense silica and carbonate alteration has accompanied brecciation and mineralization. High precious metal values were found in narrow, sulfide-rich veins in the area, but only modest values are associated with the boulders. The country rock between Ferguson and Casey Glaciers is comprised of andesitic tuffs and minor interbedded siltstone. Though outcrop of the banded sulfides was not found, the location of the boulder rubblecrop suggests they emanated from underneath the summit icefield between Ferguson and Casey Glaciers. This discovery is significant because the style of mineralization and alteration is similar to that found at the Premier Mine.

The Premier and Big Missouri Mines contain gold-silver-bearing silicified zones with disseminated to massive pyrite, galena, sphalerite, and tetrahedrite. The zones are characterized by ill-defined hanging walls and footwalls hosted in Hazelton andesite. The Jurassic occurrences in the West Hyder area have some similarities to the mineralization found at the Premier and Big Missouri Mines, but lack the high gold values and give no indication of being extensive. Mapping suggests that thicknesses of the Hazelton rocks in the West Hyder area are limited to 500 to 700 m of section above their contact with the underlying Texas Creek Granodiorite. As the Jurassic-type deposits are confined to Hazelton rocks this limits the vertical extent of potential deposits.

Eocene Silver-Gold Base Metal Veins

Lead isotope studies verify that the Homestake, Ibex, Silver Bell, Silver Coin, Solo, Solo Pecos, Silver King, Blasher, Lakeside, Engineer, Hyder Lead, Heckla, Swennings Greenpoint, and Upper and Lower

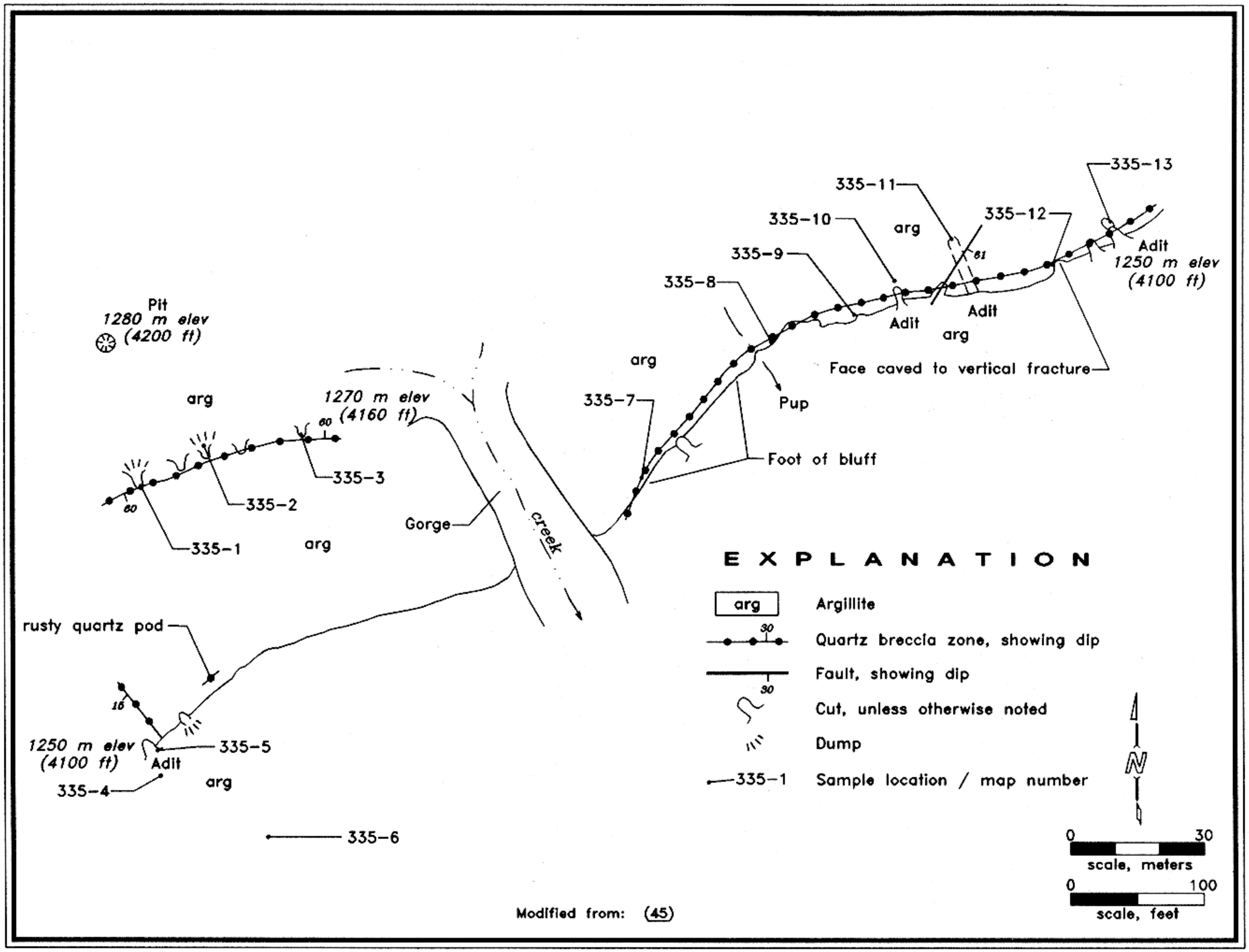

Figure 61. – Double Anchor prospect, showing geology and sample locations.

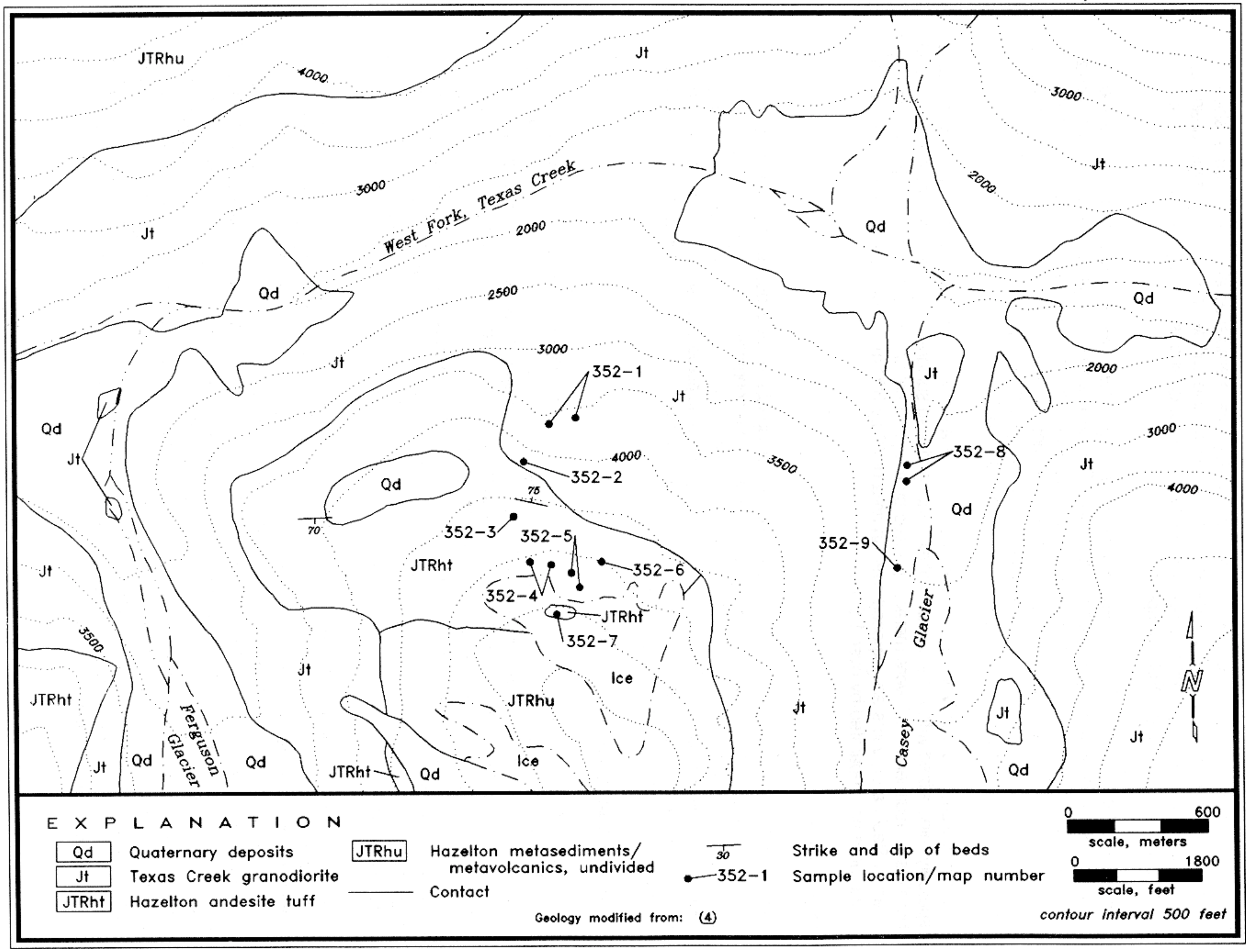

Figure 62. – Casey Glacier Sphalerite, showing geology and sample locations.

Marmot Basin are all Eocene in age. Each of these deposits is emplaced along fractures or shear zones, have well defined hanging walls and footwalls, and have sulfide shoots within larger quartz or quartz-breccia veins. The principal sulfides consist of pyrite, galena, sphalerite, and tetrahedrite. Electrum is reported at the Solo prospect.

The most extensive of the Eocene vein deposits is the Hyder Lead which extends intermittently for 210 m and contains gold, silver, and lead (fig. 63). The Engineer prospect consists of polymetallic quartz veins that occur near the contact between Texas Creek Granodiorite and Hazelton metasediments. It extends intermittently for over 90 m along strike. The most intriguing of the Eocene deposits is the Solo Mine, the past producing portion of which is covered by glacial ice (fig. 64). Reportedly, 0.45 mt of high-grade ore produced here averaged over 3,400 ppm gold (619).

The mineralization of the Marmot Basin area consists of a stockwork of quartz and quartz-calcite veins sparsely mineralized with molybdenum, silver, zinc, and lead sulfides. The veins are hosted in banded hornfelsed sediments that were metamorphosed by the proximal Hyder Quartz Monzonite. In the Upper Marmot Basin area veins are exposed over an area of 40 by 300 m. Exposures of similar vein systems in the area are separated by over 1.5 km.

Bureau Work

Bureau engineers examined the historically important prospects in the West Hyder area. Examinations included mapping and sampling of the deposits as well as reconnaissance sampling. During reconnaissance investigations, mineral occurrences were discovered at the Ibex Saddle and Casey Glacier Sphalerite localities. Galena-bearing samples from selected deposits in the West Hyder area were used in lead isotope studies to characterize area occurrences as either Jurassic or Eocene in age. These age determinations were a follow-up to work done by Alldrick (11).

Significant Samples/Mineral Resources

The most significant Jurassic mineralization is from the Double Anchor prospect where samples taken from 82 m along strike averaged 0.5 ppm gold, 40 ppm silver, 0.4% zinc, and 1.5% lead. A 0.1-m chip sample from the same deposit contained 28.9 ppm gold, 60.3 ppm silver, and 2.08% lead (map No. 335-5). The remaining Jurassic occurrences are less extensive and contain lower gold and silver values. Although the known Jurassic mineralization is too low grade and of such limited extent that economic development is not attractive, the known deposits and surrounding area taken as a whole form possible exploration targets. Glaciers in the area are retreating and examination of exposed bedrock in the Iron Cap-Ibex Saddle area and in the vicinity of Casey and Ferguson Glaciers late in the field season may reveal important mineralized zones not visible at other times.

The more important Eocene vein deposits in the area include the Engineer, Hyder Lead, and Solo. The Engineer prospect contains polymetallic quartz veins hosted by Texas Creek granodiorite and Hazelton metasediments with the highest gold values in the area. Values up to 12.6 ppm gold, 47.3 ppm silver, and 1.3% lead over 1.3 m (map No. 368-1, sample 8441) were found. The weighted average of all 15 measured samples collected at the Engineer prospect was 5.2 ppm gold over an average width of 0.65 m. The Hyder Lead polymetallic vein is the most extensive of the Eocene deposits in the West Hyder area. The best 70 m of this vein averaged 2.8 ppm gold and 16.7 ppm silver over an average width of 0.9 m. The Solo prospect had a narrow mineralized zone which was mined out; portions of this zone averaged 3,400 ppm gold. Although well-mineralized shoots within narrow vein deposits do not usually attract development interests, the high-grade zones encourage exploration of the area occurrences for more extensive mineralized zones. The perimeters of rapidly retreating glaciers may also reveal undiscovered mineralization.

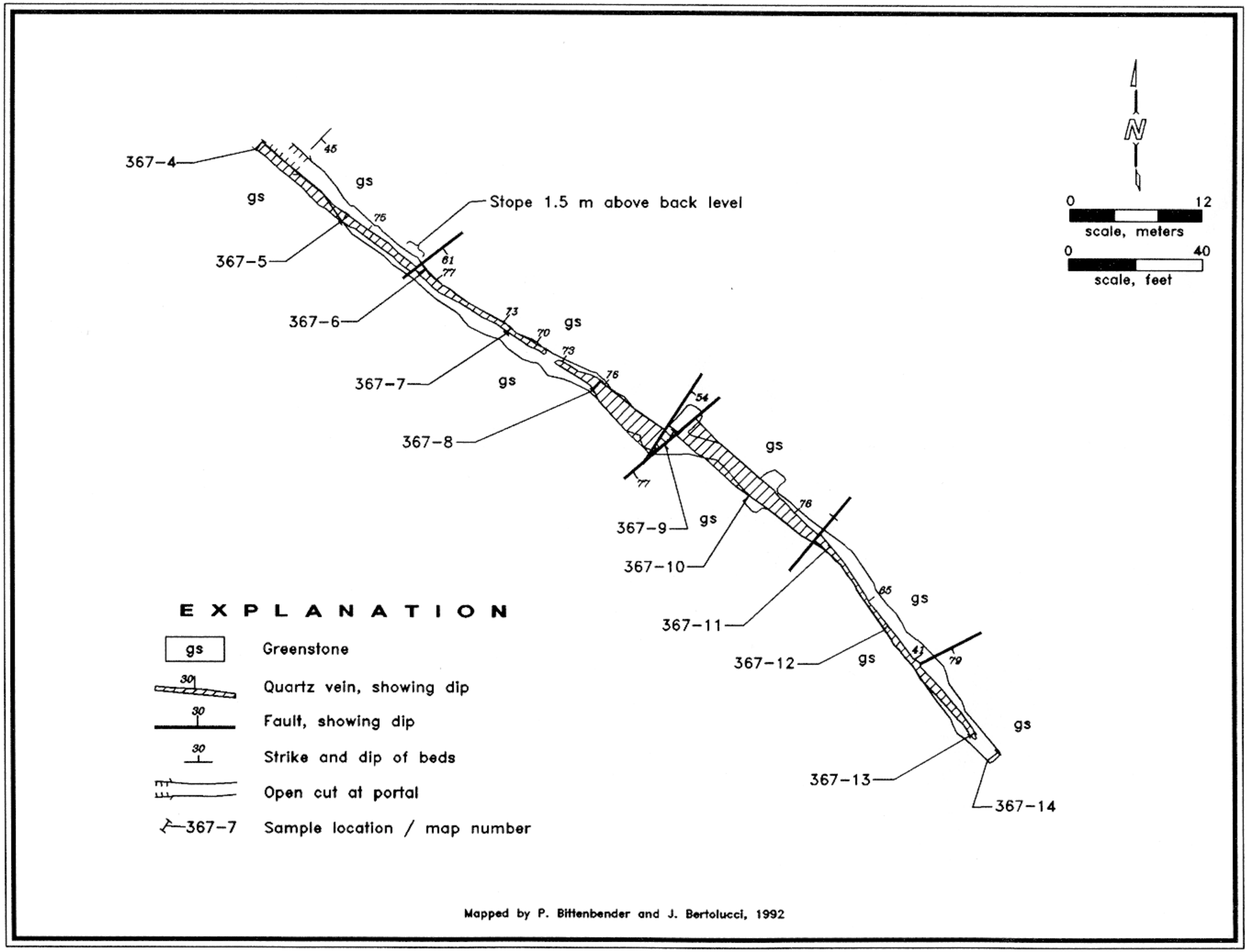

Figure 63. – Hyder Lead Prospect (Joe-Joe vein), showing geology and sample locations.

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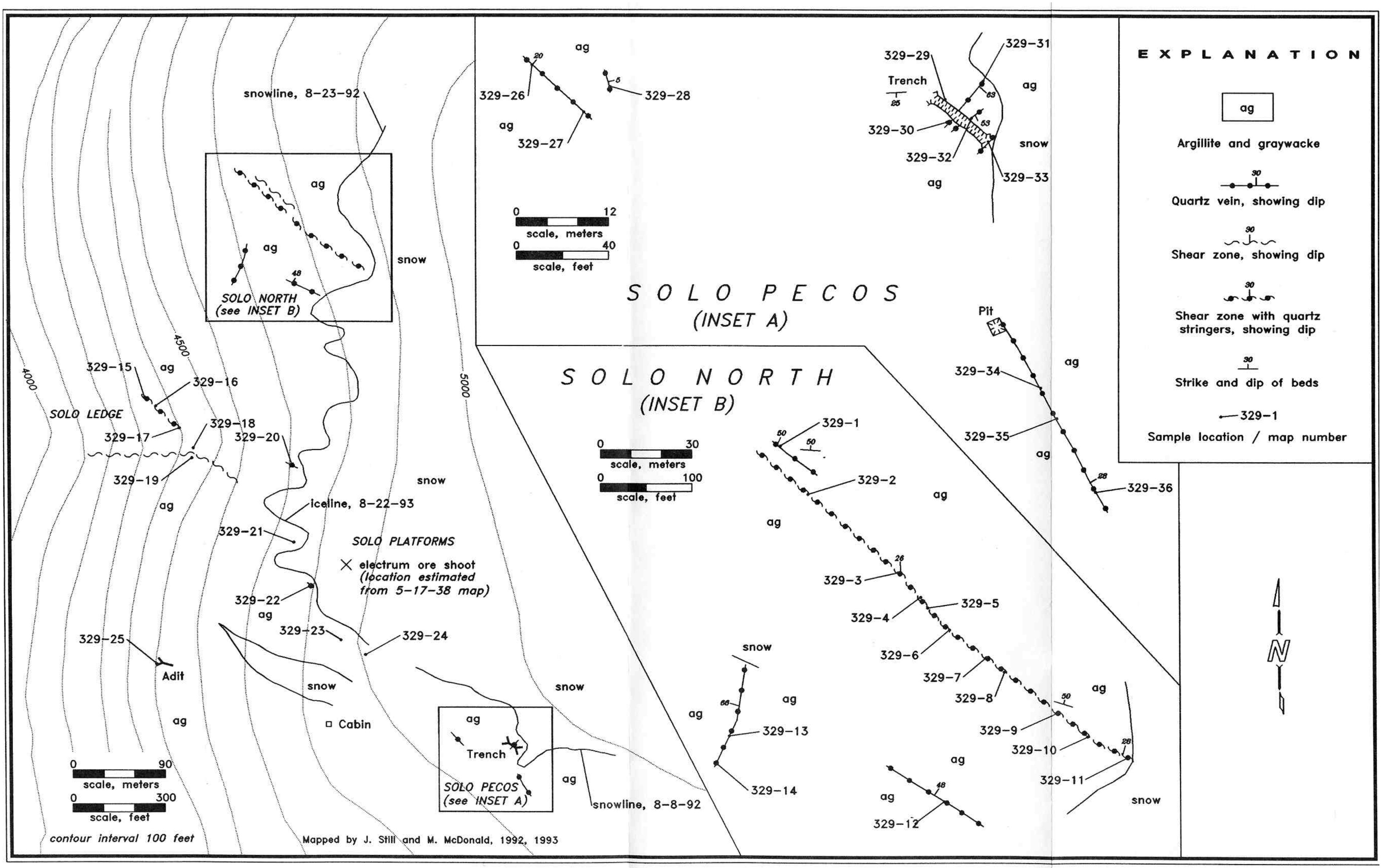

Figure 64. – Solo prospect, showing geology and sample locations.

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Mineralized Eocene quartz stockwork veins in the Marmot Basin area are low grade, but extensive. Average values from 57 samples collected in 1992 was 303 ppm molybdenum from 3 localities separated by more than 1 km (map No. 360). The host Hazelton Group metasediments contain minor disseminated pyrite and background values of approximately 10 to 40 ppm molybdenum. This occurrence is low grade, but its extensive nature makes it an attractive exploration target.

Resource and Land Use Issues

There are three resource and land use issues identified in the West Hyder area. These relate to: 1) National Monument designation with wilderness status, which includes a wild and scenic river candidate, 2) a semi-primitive recreation designation, and 3) anadromous fish streams.

The western part of the West Hyder area is included within the Misty Fjords National Monument Wilderness and contains the Chickamin River, which is a wild and scenic river candidate. The eastern part of the area is slated for a semi-primitive recreation designation. There are two anadromous fish streams in the area; the Chickamin River located within the Monument and the West Fork Texas Creek, located in the eastern part of the area and flows adjacent to the potential access corridor into the area. This stream could be significantly affected by mining-related activities in the West Hyder area.

Table 35. Mineral locality information for the West Hyder area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	M DP
325	West Side Chickamin Glacier	CF	V: Au, Ag, Cu	NA	NA	Float from 6-m thick qz band in cliff assayed 11 ppm Au, 311 ppm Ag, and 0.6% Cu	NA	L
326	Cathedral	CF	PV: Au, Ag, Pb, Zn	T (s)	NA	Vein contained up to 1.44 ppm Au, 225 ppm Ag, 6.68% Pb and 32.1% Zn	45	L
327	Chickamin	OF	PV	NA	NA	NA	45	L
328	West Texas Glacier	OF	PV: Au, Ag, Pb, Zn	NA	NA	Vein 64 m long contained up to 4.5 ppm Au, 228 ppm Ag, 10.31% Pb, and >9% Zn	NA	L
329	Solo	OF	PV: Au, Ag, Pb	Adits: 9m (under ice), 2m	450 kg at $900/mt, 32 kg at $630	Eocene deposit; ore zone under glacier, narrow qz veins contained up to 37.5 ppm Au, 774.5 ppm Ag	619	M
329	Solo Pecos	OF	PV: Pb, Ag, Au	P(s), T(s)	NA	Eocene deposit; narrow qz veins contained up to 32.4 ppm Au, 294.2 ppm Ag, and 65.43% Pb	45	M

Table 35. Mineral locality information for the West Hyder area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
330	Silver King	OF	PV: Au, Ag, Pb, Zn	P	NA	Eocene deposit; narrow vein contained up to 14.6 ppm Au, 867.8 ppm Ag, 32.16% Pb, and 16.5% Zn	88	L
331	Stampede	OF	PV: Pb, Zn	P	NA	Dump sample contained 8.69% Pb and 10.43% Zn	45	L
332	Morning Star	OF	PV	NA	NA	NA	45	L
333	Lakeside	OF	PV: Ag, Cu, Zn	C(s)	NA	Dump sample contained 757 ppb Au, 546.9 ppm Ag, 4.02% Cu, and 2.74% Pb	88	L
334	Blasher	OF	PV: Au, Ag, Cu, Pb, Zn	Adits: 4m, 35m	Test shipment stockpiled, but not shipped	Eocene deposit; qz-sulf vein 43 m long averaged 1.8 ppm Au, 254 ppm Ag, 2.35% Cu, 0.95% Pb and 0.39% Zn; one sample assayed 1,620 ppm Mo	45	L
335	Double Anchor	OF	SB: Au, Ag, Pb, Zn	Adits: 13m, 2.1m, 1.8m, 0.9m	NA	Jurassic deposit age overprinted by Eocene deposit age; vein segment 82 m long averaged 0.5 ppm Au, 41 ppm Ag, 1.5% Pb, and 0.4% Zn across 37 cm	45	M
336	Dog Hole	OF	SB, PV: Au, Ag, Pb, Zn	Adit: 2m	NA	Jurassic deposit; sil volc and ar contained up to 1.3 ppm Au, 30.1 ppm Ag, 0.84% Pb and 2.17% Zn	NA	L
337	Dog Hole Vicinity	OF	VMS and PV: Au, Ag, Pb, Zn	NA	NA	Samples of sil volc contained up to 4.3 ppm Au, 84 ppm Ag, 0.98% Pb, and 4.9% Zn	NA	L
338	Hummel	OF	PV: Pb, Zn	NA	NA	Narrow qz vein w/ sl and gn reported	88	L
339	Hummel Area	OF	?: Zn	NA	NA	Sil carbonate zone contained 4.78% Zn	NA	L

Table 35. Mineral locality information for the West Hyder area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
340	Mid Iron Cap	OF	SB: Au, Ag, Pb, Zn	NA	NA	Qz-carbonate band contained up to 1.8 ppm Au, 1,297 ppm Ag, 26.1% Pb, 2% Zn and 1% As	NA	L
341	Iron Cap West	OF	SB: Ag, Pb	NA	NA	Sil an band w/ up to 27.7 ppm Ag, 6.18% Zn	NA	L
342	Iron Cap	OF	SB: Ag, Pb, Zn	T	NA	Jurassic deposit; lenses and dissem of qz-carbonate in ar; samples up to 42.9 ppm Ag, 7,270 ppm Pb, and 4.76% Zn	NA	L
343	Silver Bell Extension	OF	PV: Cu	NA	NA	Qz-carbonate lens w/ 734 ppm Cu	NA	L
344	Silver Bell	OF	PV: Au, Ag, Cu, Pb, Zn	C	NA	Eocene deposit; vein contained up to 467 ppm Ag, 1.67% Cu, 36.5% Pb, and 17.3% Zn	NA	L
345	Iron Cap Southwest	OF	PV: Pb	NA	NA	Samples up to 2,630 ppm Pb; float sample up to 5.37% Pb and 7.3% Zn	NA	L
346	Silver Star Vicinity	OF	PV: Ag, Pb, Zn	NA	NA	Scattered samples contained up to 37.8 ppm Ag, 3,486 ppm Cu, 4,876 ppm Pb, and 6,533 ppm Zn	NA	L
347	Silver Star	OF	PV	NA	NA	NA	88	L
348	Ibex Saddle	OF	SB: Ag, Pb, Zn	NA	NA	Jurassic deposit; sil an w/ up to 656 ppb Au, 40.7 ppm Ag, 2,705 ppm Cu, 2.6% Pb, and 7.5% Zn	NA	L
349	Ibex	OF	PV: Au, Ag, Cu, Pb, Zn	Adit: 37m	NA	Eocene deposit; vein contained up to 3.1 ppm Au, 339 ppm Ag, 9,915 ppm Cu, 17.3% Pb and 5.13% Zn	88	L
350	Silver Coin	OF	PV: Au, Ag, Cu, Pb	Adit: 18m	NA	Vein contained up to 4.1 ppm Au, 161 ppm Ag, 1.96% Cu, 9.62% Pb	NA	

Table 35. Mineral locality information for the West Hyder area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	M DP
351	Home-stake	OF	PV: Au, Ag, Cu, Pb, Zn	Adit: 4.6m	850 kg hand-cobbed ore in 1925. Gross value $129.78/mt	Vein contained up to 14.5 ppm Au, 877 ppm Ag, 3.21% Cu, 25.8% Pb, 7,700 ppm Zn	88	L
351.5	Morning and Evening Star	OF	NA	NA	NA	NA	88	L
352	Casey Glacier Sphalerite	OF	PV: Zn, Pb, Ag, Au, Cu	NA	NA	Msv, dissem, & banded sulf in sil br in an; sl, gn, cp, py present; mainly float sampling; minor outcrop found	NA	L
353	Jumbo (Texas Creek)	OF	PV: Au, Pb, Cu	NA	NA	Shear-hosted br veins in metased w/ py, gn, cp, sl in shoots	88	L
354	Nothiger	OF	V: Pb, W	1 Adit: 3.7m (not found)	NA	Qz veins & stringers in shear in gd w/ gn, py; qz vein w/ gn in gd	88	L
355	Glacier	CF	V: Ag, Au, Cu	1 Adit: 2.4 m (not found)	NA	Qz veins in metavolc-metased w/ py, po, cp, & minor gn	45, 88	L
356	Metcalf and Findley	CF	PV: Cu, Pb, Zn, Mo	2 Adits: not found	NA	Most work in Hyder area reported to be on this claim in 1931 & 1932	45, 514, 516, 517	L
357	Goat	CF	V: Cu, Ag	NA	NA	Po-bearing qz-cc veins in metased-metavolc; minor metal values	40, 45	L
358	Galena	CF	PV: Ag, Pb, Mo	NA	NA	Several sets of narrow qz veins in metased-metavolc w/ minor metal values	45	L
359	Edelweiss	CF	PV: Ag, Pb	C(s)	NA	0.3 m-qz vein w/ py, gn exposed by cuts over 50 m; hosted by metavolc	45, 88, 499	L
360	Upper Marmot Basin	CF	V: Mo, Ag, Pb	NA	NA	Stockwork of qz, veins w/ irregular py & mo + minor gn, cp; in metased near intrusion; average of 37 samples: 212 ppm Mo	45	L

Table 35. Mineral locality information for the West Hyder area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	M DP
361	Lower Marmot Basin	CF	V: Mo, Ag, Pb	NA	NA	Stockwork of qz, qz-calc veins w/ irregular py, mo + minor gn, cp, sl; in metased near intrusion; average of 14 samples: 281 ppm Mo	45	L
362	Jumbo (Banded Mountain)	CF	PV: Au, Ag, Pb, Zn	1 Adit: (caved); T(s)	NA	Narrow high grade sulf shoots in qz-cc vein(s) w/ gn, sl, aspy, py; high grade: 46 ppm Au, 239 ppm Ag, 5.3% Pb, 2.7% Zn	45, 88, 499	L
363	Banded Mountain East	CF	PV: Ag, Pb, Mo	NA	NA	Qz & qz-calc veins w/ mo, gn, py & po; hosted by metased and metavolc; representative samples w/ up to 0.6% Mo, 0.6% Pb & 44 ppm Ag	NA	L
364	Greenpoin t	CF	V: Pb, Mo	P, C	NA	Gn, mo, po, py, minor cp in qz-calc veins/lenses; hosted by alt, banded hn; only minor metal values	45	L
365	Heckla	CF	V: Ag, Pb, Zn, Cu, Au	C(s)	0.9- to 1.8-mt test shipment	0.1-1.0-m qz veins w/ py, gn, mo, sl, cp; hosted by banded hn; scattered lenses of sulf w/ Ag + minor Au; high grade: 0.1 m @ 400 ppm Ag, 1.4% Cu, >9% Zn, 7.0 ppm Au	45, 353, 499	L
366	Hummel Canyon	CF	?: Cu, Pb, Zn, Mo, Ag	1 Adit: 3.4m (not found)	NA	Pyritic sil zone in hn; reported negligible metal values	45	L
367	Hyder Lead	OF	PV: Au, Ag, Pb, Cu, Zn	3 Adits: 90m, 4m, 58m; C(s)	NA	Qz veins in metased-metavolc & gd w/ sparse sulf lenses of py, gn, cp, sl	83, 88, 499, 619, 646	L

Table 35. Mineral locality information for the West Hyder area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
368	Engineer	OF	PV: Au, Ag, Cu, Pb	2 Adits: 35m, 24m; T(s)	test shipments: ~45 mt	0.3- to 1.2-m qz vein in gd w/ included blocks of metased; vein exposed over 100 m; narrow shoots of py, cp, gn w/ Au, Ag in vein; highest grade sample: 0.4 m @ 26.3 ppm Au 63.4 ppm Ag	88, 303, 619	L
369	Juneau	OF	PV: Ag, Au, Cu, Pb	T(s); C	NA	Qz veins w/ po, py, cp, gn in metased-metavolc; some dissem & msv sulf (po) lenses in metased-metavolc associated w/ shears; high grade: 5.2 ppm Au, 153 ppm Ag, 16.5 % Pb; msv po: 4.2 ppm Au	88	L
370	Keno	OF	PV: Au, Ag, Cu, Pb, Zn	1 Adit: 37m; C(s)	NA	0.15- to 1.3-m qz vein in alt gd w/ py, gn, cp in spotty lenses within vein; highest Au: 10.7 ppm	83, 88, 301, 499, 619	L
371	Sunset	OF	PV: Au, Ag, Pb	C(s)	NA	Parallel, <1-m qz veins w/ py, gn, minor cp in alt gd; msv sulf in thin shoots along veins; high grade sulf shoot contained: 47.0 ppm Au, 906 ppm Ag, 37% Pb	88, 499	L
372	Swennings Greenpoint	CF	PV: Ag, Pb, Zn, Cu	NA	NA	1.2-m thick sulf band in 2.4-m qz vein in metased-metavolc w/ gn, sl, cp, py; only 4.5-m exposure	556, 619, 644	L

East Hyder Area

General/Land Status

The East Hyder area is located at the head of Portland Canal, 5 km north of the town of Hyder, Alaska. The area is bounded on the east by the Alaska-British Columbia border. The Salmon River and Texas Creek are located along the west side of the area (figs. 65, 66). Most of the area is steep and heavily forested below timberline which occurs roughly at 1,000 m (3,300 feet) elevation. The maximum elevation in the area is 1,668 m (5,475 feet) and the lowest is 53 m (175 feet). The Cantu, Mineral Hill,

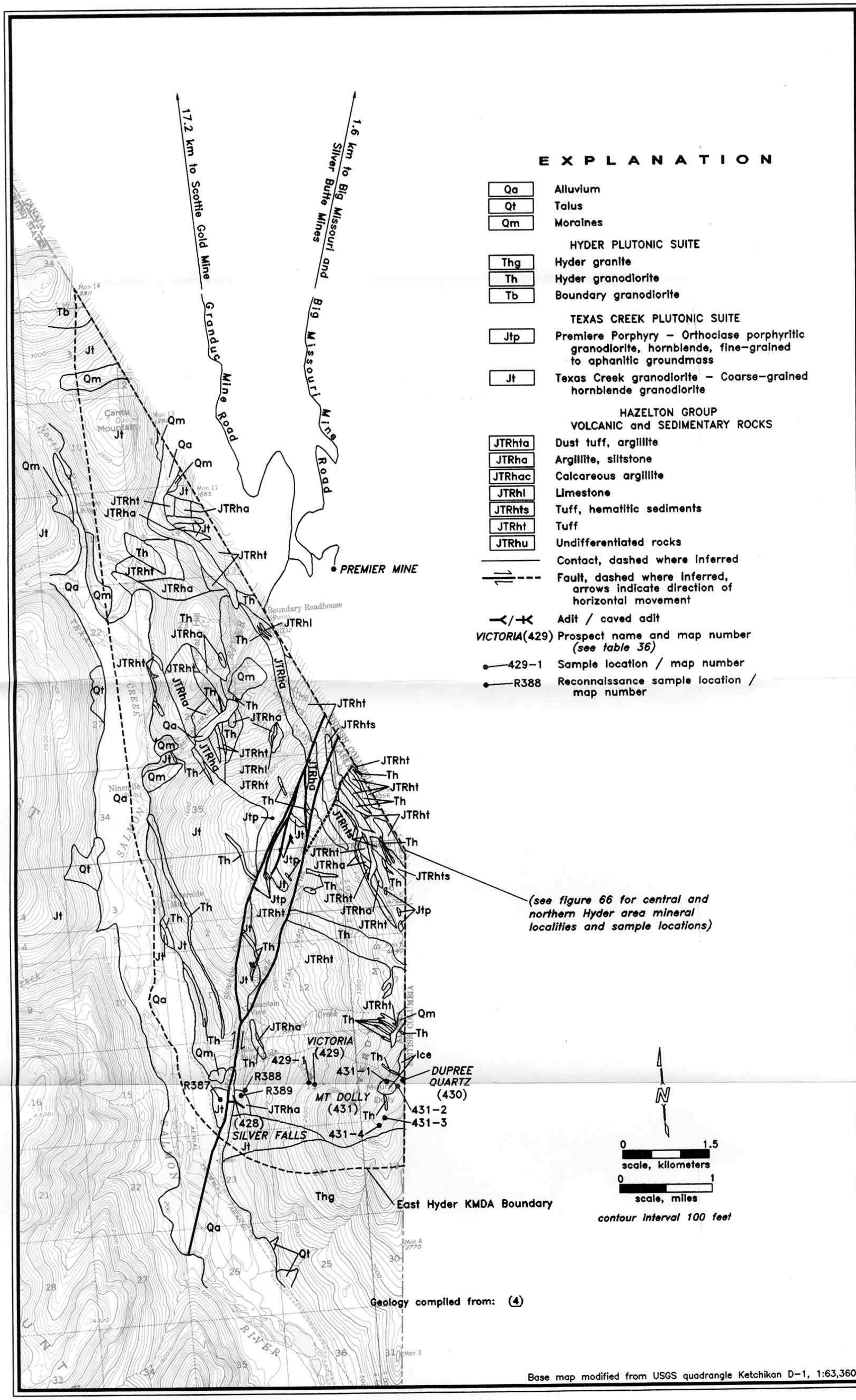

Figure 65. - East Hyder area, showing geology, mineral localities, and sample locations.

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Daly Alaska, Shaft Creek Copper, Eureka, Alaska Premier, Stoner, Ronan Copper, Iron Nos. 1-4, Ronan, and Riverside Mine are the most important occurrences in the area. The Granduc road extends north from Hyder connecting to the Premier, Big Missouri, Silver Butte, and Scottie Gold Mines, all located in nearby British Columbia. To the south, this road connects Hyder to the North American highway system through Stewart, British Columbia, Canada. A narrow, steep, 6.4-km-long jeep trail connects the prospects located near Skookum and Fish Creek to the Granduc road system. Overgrown trails provide access to most of the area prospects. Helipads from recent exploration activity allow helicopter access to many prospects that cannot be reached by road and/or trail.

The Riverside Mine, Shaft Creek Copper, and Daly Alaska prospects are located on patented claims as are a number of other prospects. Ownership of the following patented mineral surveys is not known: MS 1064, 1418, 1477, 1478, 1482, 1499, 1530, 1535, 1546, 1547, 1550, 1551, 1559, 1562, and 1563.

Most of the remainder of the area is National Forest land open to mineral entry. Of special interest in the area is the Premier Mine which operates a 2,000 mt/day carbon-in-leach gold-silver mill. This mill is located 1.6 km from the study area in British Columbia, Canada.

History/Workings/Production

In the spring of 1898, the ship "Discovery" from Seattle landed 64 prospectors at the head of Portland Canal. This started prospecting in the Hyder-Stewart area and the town of Stewart, located 5 km inside British Columbia, Canada, was soon established (286). The 1910 discovery at the Silbak Premier Mine, located in the Stewart Mining Camp less than 1.6 km from the border with Alaska, would prove to be the area's most important. Between 1919 and 1992, this Canadian mine produced 52,875 kg gold, 1,360 mt silver and appreciable base metals (11). Discovery of the Silbak Premier orebody spurred exploration on the U.S. side of the border. In 1915, the Riverside Mine was discovered. Between 1925 and 1950, the Riverside produced 76 kg gold, 2,700 kg silver, 34.3 mt copper, 1,024 mt lead and 3,200 kg tungsten trioxide (11). The town of Hyder was established in the early 1920's, and subsequent discoveries were made along the Salmon River, in the Fish Creek area, and at Cantu Mountain and Mineral Hill. High-grade gold-silver base metal ore shoots attracted prospectors' attention. However, most proved to be discontinuous and too small, as exposed, to support anything but hand-sorted, high-grade test shipments. Bureau of Mines (Bureau) examinations indicate that there are 63 prospects, with 47 adits and 3,825 m of underground workings in the area.

Many of the Hyder area's prospects received brief examinations from the Territorial Dept. of Mines during the 1930's and 1940's. Between 1942 and 1944, Bureau engineers and miners carried out an exploration-development program at the Riverside and Mountain View properties as part of a war minerals assessment program. The program consisted of mapping, trenching, sampling, drifting, crosscutting, and diamond drilling (184, 357).

Much of the early exploration in the Hyder area was accomplished by individual prospectors or groups of prospectors. This work continues today. During the 1980's, Pulsar Resources Limited explored the area southeast of Fish Creek and in the vicinity of Mineral Hill with limited diamond drilling. From 1989 to 1991, Hyder Gold Incorporated optioned or staked over 500 mining claims north of Hyder and in the Mineral Hill-Fish Creek area. Their work included geologic mapping, rock and soil sampling, and shallow diamond drilling.

Geology

The geology of the East Hyder area was mapped by Buddington in 1929 (88), Smith in 1976 (504), and the Alaska Division of Geologic and Geophysical Surveys in 1993 (4). The same package of rocks found in the east Hyder area is extensively exposed in the Stewart Mining Camp, where it contains important gold mines and has been extensively studied by Alldrick (11) and Grove (234) of the British Columbia Department of Mines.

The East Hyder area lies along the eastern edge of the Coast Mountains Batholith. The oldest rocks in the area belong to the Upper Triassic to Lower Jurassic Hazelton Group. This group is made up of andesites and dacites with associated sedimentary rocks that occupy the eastern two-thirds of the area. In general, the bottom of the volcanic-sedimentary sequence is to the west and the top of the sequence is to the east. The Jurassic Texas Creek Granodiorite is coeval with the Hazelton Group volcanic rocks and intrudes and forms porphyritic dikes within them. Alldrick interprets these rocks as being part of an island arc complex (11). Mid-Cretaceous tectonism is characterized by greenschist facies regional metamorphism, extensive regional shearing, and the formation of the northeast-trending Fish Creek fault zone. The fault zone forms a 1.5-km belt of cataclasite, schist, and gneiss (11).

The Eocene Hyder Quartz Monzonite, a part of the Coast Mountains Batholith, intrudes and forms dikes within the Hazelton and Texas Creek rocks. Local deformation and narrow zones of hornfelsed rock occur near contacts.

Detailed studies by Alldrick (11) in the Stewart Mining Camp carry over into the East Hyder area and indicate that area mineral occurrences were formed by either an early Jurassic or an Eocene mineralizing event. Eocene mineralization is locally superimposed over Jurassic mineralization. Lead isotope analysis has proven effective, but not always conclusive, in determining if a deposit is Jurassic or Eocene (11).

The Early Jurassic event was manifested by a hydrothermal system that acquired its suite of silver, gold, zinc, lead, and copper from magmatic sources. Mineralization types include gold-pyrrhotite veins, disseminations, and masses; and veins and disseminations of gold-silver and base metals. All these deposits are hosted in Hazelton volcanics and associated rocks. The Eocene event is characterized by silver-rich, galena-sphalerite, mesothermal veins related to the intrusion of the Hyder Quart Monzonite. These veins are localized along shears and faults and are hosted in Texas Creek Granodiorite and Hazelton Group rocks (11).

Jurassic Gold-Pyrrhotite Deposits

Near Skookum Creek in the East Hyder area, the Ronan Copper, Shaft Creek Copper (fig. 67), and the Iron Nos. 1 to 4 consist of veins, disseminations, and masses of gold-bearing pyrrhotite with associated copper and arsenopyrite, and local sphalerite and galena. The individual mineralized zones extend from 21 to 152 m in width and are located near or in shears hosted in Hazelton volcanic rocks. The prospects roughly align with the contact between Hazelton volcanics and Texas Creek Granodiorite and are never more than 450 m from the surface exposure of that contact. In terms of host rock, proximity to intrusive contact, and mineralogy, these East Hyder area prospects are similar to the Jurassic Scottie Gold Mine located in the Stewart Camp (11) and are also probably Jurassic in age.

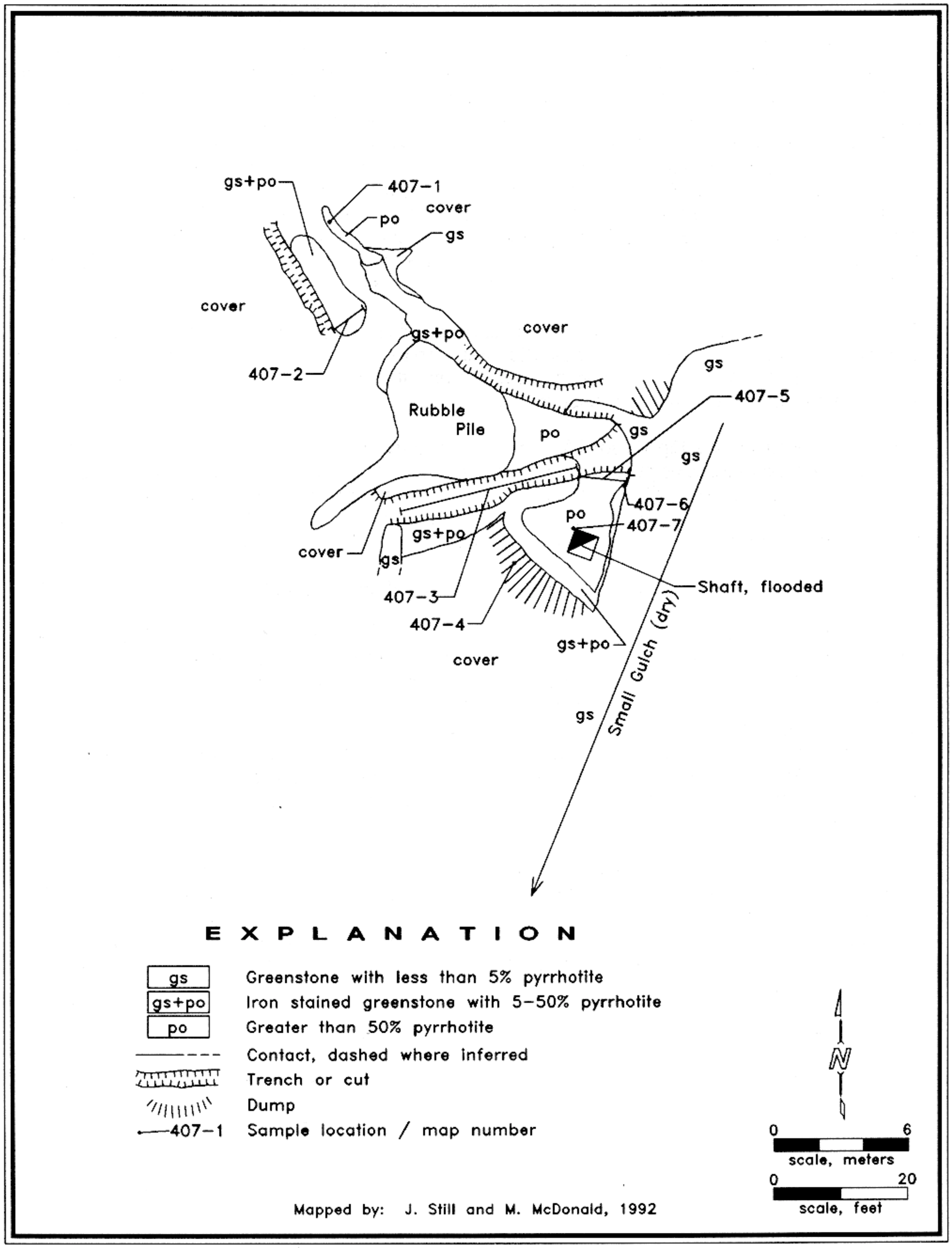

Figure 67. – Shaft Creek Copper prospect, showing geology and sample locations.

Jurassic Gold-Silver Base Metal Veins and Zones

Lead isotope studies establish that the Cantu, Alaska Premier, and Lower Daly Alaska prospects are Jurassic in age. The two latter occurrences are located on the south side of the Salmon River fault and are hosted in Hazelton andesite. They consist of silicified zones with disseminated to concentrated sulfides emplaced along or near shear zones. These zones have indefinite walls. The sulfides are pyrite, galena, sphalerite, and tetrahedrite with byproduct gold and silver. Similar deposits in the area are the Stoner, Upper Daly Alaska, Eureka, and Mill Rock prospects. Concentrated sulfide samples from shear zones in the Stoner, Upper Daly Alaska, and Eureka yielded Eocene lead isotope ages. It is possible that Eocene mineralization is superimposed along shears in otherwise disseminated Jurassic deposits. The Stoner, Upper Daly Alaska, Lower Daly Alaska, Alaska Premier, Mill Rock, and Eureka mineralized zones can each be traced for up to 45 m, strike northeast, and dip to the north. Taken together, these 6 occurrences align in a northeast trend for over 1,680 m.

The Top Prospect located near the top of Mineral Hill consists of disseminated and semi-massive pyrite, sphalerite, and tetrahedrite, and a quartz-sulfide vein. This zone is exposed by trenches for a length of 116 m and is hosted in Hazelton volcanics. It is probable that this deposit is Jurassic in age, but galena was not available to perform lead-isotope studies.

The Jurassic Premier and Big Missouri Mines contain gold-silver and base metal-bearing silicified zones with disseminated to massive pyrite, galena, sphalerite, and tetrahedrite. The zones are marked by ill-defined hanging walls and footwalls and are hosted in Hazelton andesite. This is generally similar to the more sparsely mineralized gold-silver base metal Jurassic occurrences described above . Alldrick considers the Premier and Big Missouri mineralization to be epithermal in origin (11).

Eocene Silver-Gold Base Metal Vein Deposits

Lead isotope studies establish that the Riverside, Grey Copper, Ronan, Silver Point, and Jarvis mineral occurrences are of Eocene age. Each of these deposits is emplaced along a well-defined shear or fracture zone, has well-defined hanging walls and footwalls, strikes northwest and dips steeply to the northeast, and has sulfide shoots within larger quartz or quartz-breccia veins. The principal sulfides consist of pyrite, galena, sphalerite, and tetrahedrite with byproduct silver and gold. Some of the veins contain tungsten. Other occurrences that display most of the above characteristics are the Adanac, Ruby Silver, Onlione, 6 Mile, Last Shot, Starbord, Olympia, Monarch, Brigadier, and 96 prospects. All of these are probably Eocene in age. With the exception of the Adanac prospect, all the occurrences are hosted in Texas Creek Granodiorite.

The two most extensive Eocene veins in the area are at the Ronan and the Riverside. The Ronan vein is exposed in surface trenches and underground for 170 m along strike and 30 m down dip (fig. 68). This vein may continue to the northwest and adjoin the Monarch vein and also continue to depth. The Riverside vein is exposed for 366 m along strike and through a depth of 229 m. It aligns approximately with the Last Shot and Onlione prospects, located 610 m and 1,524 m to the southeast. The vein is still open along strike and at depth.

Bureau Work

Bureau engineers examined the historically important prospects in the East Hyder area. Examinations

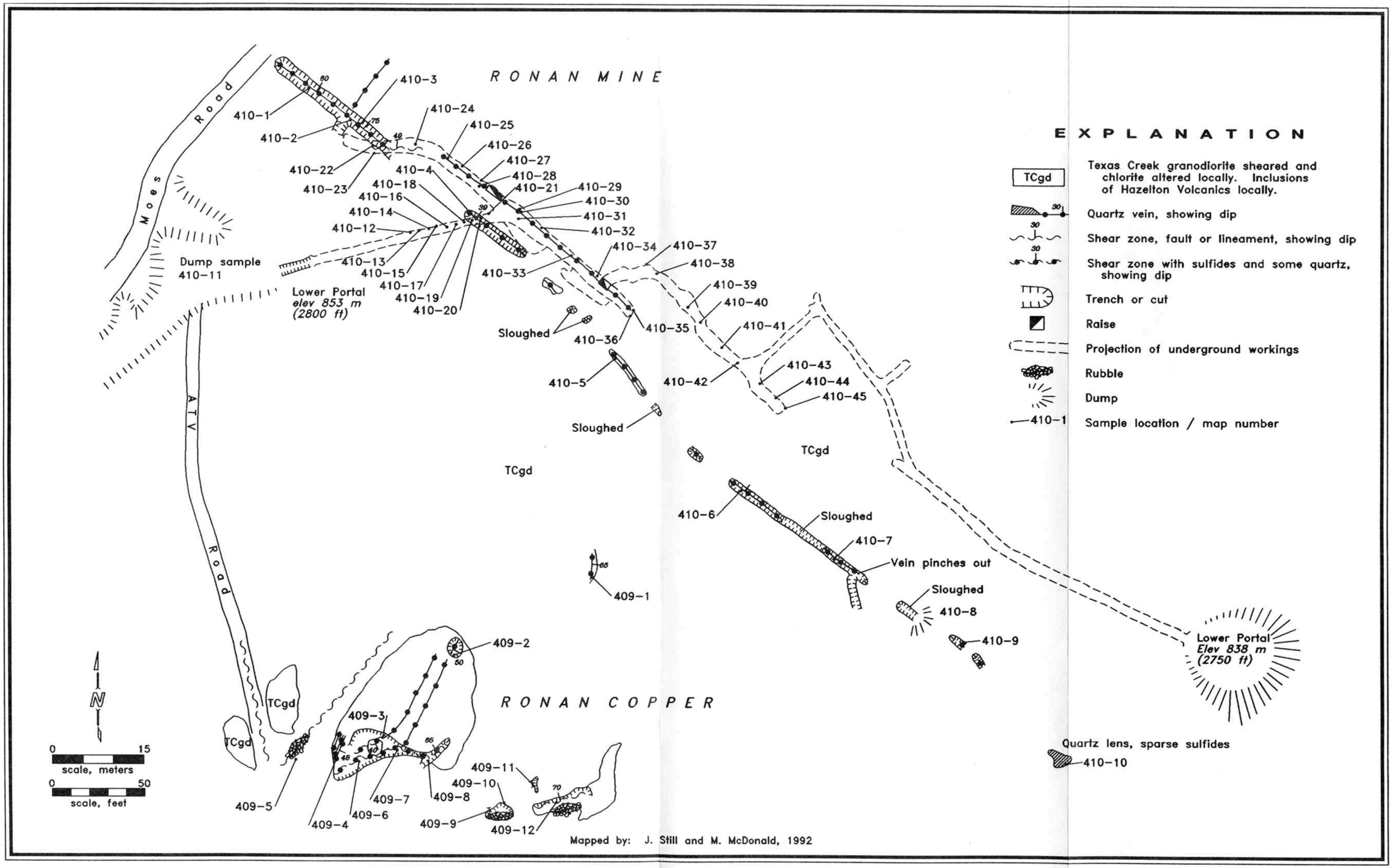

Figure 68. – Ronan Mine and Ronan Copper prospect, showing geology and sample locations.

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included mapping and sampling of the deposits as well as reconnaissance sampling. Galena-bearing samples from selected deposits in the area were used in lead-isotope studies to characterize area occurrences as either Jurassic or Eocene in age. These age determinations were correlative with work done by Alldrick (11).

Significant Results/Mineral Resources

Bureau sampling of the Jurassic gold-pyrrhotite deposits indicated values from 10 ppb to 22.9 ppm gold, up to 105.9 ppm silver, 4.69% copper, and greater than 10,000 ppm arsenic (map No. 407-4). The best sample was from the Shaft Creek Copper prospect where an 8.4-m sample across silicified volcanics with abundant pyrrhotite contained 5.9 ppm gold (map No. 407-3). Most of the samples from the Jurassic gold-pyrrhotite deposits contained much lower values and were subeconomic for any significant distance. However, these deposits are similar to the Scottie Gold Mine (production of 3,259 kg gold and 3,160 kg silver) located in the Stewart Camp. This connection encourages exploration of the known Jurassic gold-pyrrhotite deposits and the Hazelton Group-Texas Creek Granodiorite contact for larger, higher-grade zones.

Bureau sampling from the Jurassic gold-silver base metal zones and veins indicated values up to 68.3 ppm gold (map No. 395-1, sample 6704), 903 ppm silver (map No. 391-1, sample 6653), greater than 9% zinc, (map No. 395-1, sample 6704), and 4.53% lead (map No. 391-1, sample 6054). The best sample from the Top prospect was a 0.1-m chip across a sulfide band hosted in silicified volcanics that contained 48 ppm gold and 10.3% zinc (map No. 378-1, sample 6244). Most of the sample values for the Jurassic gold-silver base metal zones are much lower and are subeconomic for any significant length. However, similarities to the Premier Mine (52,875 kg gold produced) and the Big Missouri Mine (1,822 kg gold produced) encourage exploration of the known Jurassic gold-silver base metal zones and their vicinity for larger deposits.

Bureau samples from 150 m of the Eocene Ronan Vein averaged 5.8 ppm gold, 296 ppm silver, 0.3% copper, 1.6% lead, and 0.35% zinc across 0.7 m (map Nos. 410-1 to 410-45). Ore mined from the Riverside vein averaged 3.5 ppm gold, 113 ppm silver, 0.13 % copper, 3.9 % lead, and 1.12 % tungsten trioxide. Bureau sampling from the Riverside vein indicated similar material left in pillars and at the edges of stopes and in areas not stoped. As they are now exposed, neither the Ronan nor the Riverside veins has sufficient grade or extent to attract development. Narrow veins in the Hyder area are generally not attractive exploration targets.

Resource and Land Use Issues

There are three resource and land use issues identified in the East Hyder area. These relate to: 1) a semi-primitive recreation designation, 2) a scenic viewshed timber management designation, and 3) anadromous fish streams.

The northern 20% of the area is designated semi-primitive recreation, which allows for construction of recreational roads. The remainder of the area is in a scenic viewshed designation, which allows for timber operations compatible with scenic concerns. The Salmon River, Fish Creek, Texas Creek, North Fork, and an unnamed creek west of Mineral Hill are anadromous fish streams. These streams flow adjacent to access corridors or near significantly mineralized prospects. The Salmon River-Fish Creek watershed supports one of the largest runs of chum salmon in Southeast Alaska.

Table 36. Mineral locality information for the East Hyder area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	M DP
373	Cantu	OF	PV: Au, Ag, Pb, Zn, Cu	4 Adits: 13m, 8m, 3.4m, 9m (not examined); C(s)	test shipments: ~29 mt	Qz veins in gs w/ sl, gn, tetrahedrite, po, py; good Au values reported from inaccessible vein on cliff face; float from cliff face vein: 27.7 ppm Au	88, 106, 197, 302, 304	L
374	Velikanje Placer	OF	PL: Au	T(s), C(s)	NA	Panned concentrate & placer samples of river terrace sediments; highest sample: 1.37 g/m3	48	M
375	Charles Nelson and Pitcher	OF	NA	NA	NA	NA	609	L
376	West Base Line	OF	NA	Adit: 5m	NA	Sheared metased w/ py, sl and cp	NA	L
377	Derby	OF	VMS: Au, Ag, Pb, Zn	T	NA	Up to 2.4 ppm Au, 72 ppm Ag, and 2.86% Zn	NA	L
378	Top	OF	PV, VMS: Au, Ag, Zn	T, C	NA	Up to 48.03 ppm Au, 100.8 ppm Ag, and 10.3% Zn	NA	M
379	The 96	OF	PV: Ag, Pb, Zn	Adit: 33.5m	small test shipment of hand-cobbed ore	Up to 152.9 ppm Ag, 11.39% Pb, 17.6% Zn	88	L
380	Border, Lower	P: MS 1535	PV: Zn	Adit: (caved)	NA	Dump sample w/ 1,490 ppm Zn	88	L
381	Border, Upper	P: MS 1535	VMS?: Zn	Adit: 21m	NA	10.4-m sample w/ 1,500 ppm Zn	88	L
382	Virginia	P: MS 1478		Adit:		NA	88	L
383	East Stoner	OF	PV: Ag, Zn	Adit: (caved); P; T	NA	Dump sample, 508 ppb Au, 66.17 ppm Ag, 2.32% Zn	NA	L
384	Stoner	OF	PV, VMS?: Au, Ag, Pb, Zn	Adits: 5m, 43m	NA	Eocene deposit; may be Jurassic w/ Eocene overprint; a 3.05-m sample contained 1,400 ppm Pb, 600 ppm Zn; select sample w/ 9.2 ppm Au	NA	L
385	Stoner Clegg-O'Roark	OF	VMS?: Au, Pb	Adit: 20m	NA	Up to 672 ppb Au, 646 ppm Pb	88	L

Table 36. Mineral locality information for the East Hyder area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	M DP
386	Cliff Zone	P: MS 1418	VMS?	C	NA	Up to 52 ppb Au, 1.8 ppm Ag, 251 ppm Pb	NA	L
387	Lower Stoner	P: MS 1418	VMS?: Au, Zn	NA	NA	408 ppb Au, 1,575 ppm Zn	NA	L
388	Iron Ridge	P: MS 1499	VMS?: Au, Cu	C	NA	Up to 86 ppb Au, 1,994 ppm Cu	77	L
389	Lowest Daly-Alaska	OF	VMS?: Au, Ag, Cu, Zn	C	NA	Up to 8.7 ppm Au, 15.1 ppm Ag,	NA	L
390	Lower Daly-Alaska	P: MS 1418	VMS?: Au, Ag, Zn	Adit: 4.5m; shaft: (flooded)	NA	Jurassic deposit; 15.24-m sample contained 959 ppb Au, 5,900 ppm Zn	88	M
391	Upper Daly-Alaska	P: MS 1477	VMS?, PV?: Au, Ag, Pb, Zn	Adits: 38.1m, (caved); T; P	NA	Eocene deposit (may be Jurassic w/ Eocene overprint); 1.2-m sample w/ 2.7 ppm Au, 903.4 ppm Ag, 1.1% Pb and 2.49% Zn	88	M
392	Mill Rock	P: MS 1477	VMS?, PV?: Au, Ag, Pb, Zn	Adit: 6m, C	NA	Grab sample w/ 4.5 ppm Au, 281.8 ppm Ag, 1.85% Pb, 2.67% Zn	NA	L
393	Alaska Premier	P: MS 1477	VMS?: Au, Ag, Zn	Adit: 76m, T	NA	Jurassic deposit; 10.67 m sample w/ 3,500 ppm Zn; up to 73.7 ppm Ag and 2.69% Zn	88	M
394	Cripple Creek	OF	PV	Adit: 14m; C; T; P	NA	NA	88	L
395	Eureka	OF	VMS?, PV: Au, Ag, Zn	Adits: 68.5m, 6m, 5m; T; C	NA	Eocene deposit; 0.1-m sample contained 68.3 ppm Au, 89.8 ppm Ag, >9% Zn	88	L
396	Marmot Gossan	OF	VMS?: Zn	C	NA	Grab sample 1,365 ppm Zn	NA	L
397	Bluebird	OF	?: Mo	NA	NA	NA	102	L
398	Crest	OF	PV: Cu, Pb, W	C	NA	NA	88	L
399	Brigadier	OF	PV: Au, Ag, Pb	Adits: 2m, 6m, 81m; P; T	2,720 kg sorted but not shipped	Dump sample: 42.96 ppm Au, 192 ppm Ag, 9.63% Pb	102	L
400	Blacksmith	OF	NA	Adit: 3m	NA	260 ppm Zn	NA	L

Table 36. Mineral locality information for the East Hyder area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
401	Zebra	OF	V	C	NA	No mineralization in Zebra vein; vicinity has up to 33.8 ppm Ag, 3,000 ppm Cu		L
402	MV 5	OF	V	C; P	NA	Up to 112 ppb Au, 8.2 ppm Ag, 335 ppm Pb		L
403	Titan	OF	PV: Au, Ag, Pb	Adit: 192 m	NA	Up to 30.2 ppm Au, 63.1 ppm Ag, 5,975 ppm Pb		L
404	Iron No. 3	OF	Sulfide veins & dissem Au, Cu	P	NA	Up to 13.47 ppm Au, 33.1 ppm Ag, 1.02% Cu; zone traced for 150 m	11	M
405	Iron No.2	OF	Sulfide veins & dissem Au, Cu	P; C	NA	Zone traced for 76.2 m; up to 14.74 ppm Au, 4,900 ppm Cu	88	M
406	Iron No.4	OF	Sulfide veins & dissem Au, Cu, Pb, Zn	P; C	NA	Up to 2.96 ppm Au, 64.11 ppm Ag, 3,914 ppm Cu, 6,370 ppm Pb, 6,840 ppm Zn	88	M
407	Shaft Creek Copper	OF	Massive sulfide lens. Au, Cu	Shaft: (flooded); P; T	Ore stored at site	1.5-m sample 10.56 ppm Au, 17,295 ppm Cu	88	M
408	Iron No.1	OF	Sulfide lenses and dissem Au, Cu	C's	NA	Up to 1,973 ppb Au, 1,730 ppm Cu	88	L
409	Ronan Copper	OF	Sulfide veins and dissem Cu	C; P	NA	Up to 169 ppb Au, 66.51 ppm Ag, 2.5% Cu	NA	L
410	Ronan	OF	PV: Au, Ag	Adit: 230m; shaft: (flooded); P(s); T(s)	Gold production, not reported	Eocene deposit; vein traced for 180 m; 46 m averaged 5.78 ppm Au, 296 ppm Ag, 1.6% Pb	88	L
411	Monarch	P: MS 1559	PV: Au, Ag	Adit: 12m; C; P; T	NA	Intermittent exposures for 100 m; values up to 663 ppm Au, 10.0 ppm Ag, 4,829 ppm Pb, 2,300 ppm W	88	L
412	Olympia 8, 9	OF	PV	Adits: 70m, 23m	NA	7 samples; up to 69 ppb Au, 1.9 ppm Ag, 520 ppm Zn	88	L

Table 36. Mineral locality information for the East Hyder area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
413	Ronnie & Judy	P: MS 1064	PV	P; C	NA	7 samples contained up to 154 ppb Au, 25.6 ppm Ag, 3.61% Pb	NA	L
414	Olympia 4-6	P: MS 1064	PV: Au, Ag, Cu, Zn	Adits: 119m, 35m, (caved)	NA	Vein exposed for 70 m; up to 8.029 ppm Au, 584.2 ppm Ag, 2.31% Cu, 5.0% Zn	88	L
415	Starboard	P: MS 1064	PV: Au, Ag, Pb	Adits: 18m, 15m, 10m	NA	Up to 2.265 ppm Au, 137.8 ppm Ag, 14.95% Pb	88	L
416	Silver Point	P: MS 1064	PV: Au, Ag, Pb, Zn	Adit: 15m	NA	Eocene deposit; vein exposed for 17 m; up to 3.50 ppm Au, 4,750 ppm Ag, 11.98% Pb, 5.88% Zn	NA	L
417	New W	OF	PL: Au, W	NA	NA	Salmon River terraces; best sample: 0.15 mg Au in 1 pan concentrate (0.31 g/m3)	NA	L
418	Riverside	P: MS 1530, 1562, 1563	PV: Au, Ag, Cu, Pb, WO_3	Adits: 1830 m cumulative workings; diamond drilling 1,420 m; C; P; T	76 kg Au, 2,700 kg Ag, 34.3 mt Cu, 1,024 mt Pb, 8.1 mt Zn, 32 mt WO_3	Eocene deposit; vein traced for 360 m along strike and 230 m down dip, open to the southeast and at depth; average grade of mined ore 3.49 ppm Au, 113 ppm Ag, 0.15% Cu, 3.9% Pb, and 0.12% WO_3.	571	M
419	Jarvis	P: MS 1530, 1562, 1563	PV; Au, Ag, Pb, Zn	T; P	NA	Eocene deposit; vein traced for 35 m; up to 6.729 ppm Au, 758.7 ppm Ag, 47.84% Pb, and 21.06% Zn	102	L
420	Last Shot	OF	PV: Au, Ag, Pb	Adit: 8m; C; P	NA	Vein traced for 27 m; up to 2,086 ppb Au, 1,502 ppm Ag, 29.87% Pb.	NA	L
421	Six Mile	OF	PV: Au, Ag, Pb	Adits: 8m, 12m	NA	Vein traced for 12 m w/ up to 3.771 ppm Au, 195.8 ppm Ag, 2.89% Pb	102	L
422	Bishop	OF	PV	Adit: 3m; P	NA	NA	88	L
423	Onlione	P: MS 1547	PV: Au, Ag, Pb	Adit: 41m; C	NA	Zone traced for 61 m; up to 10.6 ppm Au, 826.3 ppm Ag, 12.2% Pb	NA	L

Table 36. Mineral locality information for the East Hyder area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
424	Ruby Silver	P: MS 1547	PV: Au, Ag, Zn	Adits: 12m, 8m, 6m; T	NA	Vein exposed for 56 m strike length, 67 m down dip; not exposed in Mountainview workings below	NA	L
425	Grey Copper	P: MS 1482, 1547	PV: Au, Ag, WO_3	Adit: 34m w/ drift; shaft: (flooded)	NA	Eocene deposit; vein traced for 164 m; best 72 m averaged 0.85 ppm Au, 33.9 ppm Ag, and 0.25% WO_3	571	L
426	Mountain View Skookum Vein	P: MS 1482, 1547	PV: Au, Ag	Drift: 103m	NA	Vein exposed for 103 m, up to 8.841 ppm Au, 425.5 ppm Ag, 3.88% Pb	NA	L
426	Mountain View Quartz Lens	P: MS 1482, 1547	NA	Part of main Mountain-view workings	NA	Msv qz lens exposed for 43 m underground; 6.7-m sample at 54 ppb Au and 420 ppm Cu	NA	L
426	Mountain View Molybdenum	P: MS 1482, 1547	P: Mo	Adit: 1,280m	NA	Sil gd w/ Mo; from 28 to 1,446 ppm Mo	NA	L
427	Adanac	P: MS 1482, 1547	PV: Au, Ag, Pb, Zn	Adits: 78m, 27m; winze (flooded)	NA	Vein traced for 46 m; up to 5.926 ppm Au, 605.1 ppm Ag, 1.61% Pb, and 1.75% Zn	571	L
428	Silver Falls	OF	PV: Au, Ag, Pb	Adit: 15m	NA	Up to 949 ppb Au, 1,529 ppm Ag, 44.6% Pb	NA	L
429	Victoria	OF	PV	Adits	NA	Float contained 141.9 ppm Ag, 16.64% Zn	88	L
430	Dupree Quartz	OF	V	NA	NA	Up to 48 ppb Au, 730 ppm Zn	NA	L
431	Mount Dolly	OF	S	NA	NA	Select sample: 2.82 ppm Au, 4,425 ppm Ag, 6.9% Pb, ~9% Zn	NA	L

Quartz Hill Area

General/Land Status

The Quartz Hill area is located on the mainland, about 75 km east of Ketchikan, Alaska. Here a large, low-grade molybdenum porphyry deposit is situated on patented (MS 2267, 2462) and unpatented claims owned by Cominco, Limited, in a non-wilderness portion of the Misty Fjords National Monument. Access to the area is possible by boat or floatplane to a shoreline facility, from which the deposit can be reached by a 15-km road (fig. 69). Alternate access can be made by helicopter. The deposit is figure 69 (foldout)

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exposed between 400 (1,300 ft) and 800 (2,600 ft) m elevation, in generally steep topography. Vegetation in the area is sub-alpine in nature.

History/Workings/Production

The Quartz Hill discovery resulted from a stream sediment sampling program by U.S. Borax and Chemical Corporation in 1974. Discovery of molybdenite in outcrop in late 1974 was followed by initial drilling in 1975. A public announcement of the discovery was made in March, 1976 (233, 631). The Quartz Hill orebody has since been defined by over 450 drill holes totalling about 81,000 m. Two test adits were driven in 1981 to better define the deposit and to collect metallurgical test samples. The adits comprise 1,477 m of underground workings (631).

Cominco, Limited, purchased the Quartz Hill deposit in 1992. Details of the agreement with U.S. Borax are unknown. Cominco has continued assessment work on unpatented claims surrounding the patented claim block and have been maintaining the shoreline loading facility, access road, and camp facility. No plans for development of the deposit have been released to the public.

Geology

The molybdenite mineralization at Quartz Hill is hosted by a quartz monzonite stock of Early Oligocene age located within the Coast Mountains Batholith (280, 631). Mineralization appears to have occurred during multi-stage intrusion in the core of the stock and hydrothermal alteration of the stock after emplacement. Molybdenite occurs in a fracture-controlled quartz vein stockwork system within the quartz monzonite stock, but also extends into the host gneissic rock. The molybdenite is fine grained and occurs mainly as thin coatings on fracture surfaces, disseminations in the vein quartz, and as selvages along quartz vein margins (631).

The Quartz Hill orebody is generally tabular and flat-lying, but higher-grade zones have been distinguished in different orientations. With a cutoff of 0.05% MoS^2, the orebody has a surface area of about 1,500 by 2,800 m and extends to a depth of up to 520 m (631).

Bureau Work

Bureau of Mines personnel visited the Quartz Hill site on tours given by U.S. Borax and Cominco representatives. No samples were taken and no mapping was done.

Significant Samples/Mineral Resources

Various resource estimates have been calculated for the Quartz Hill deposit, depending upon cutoff grades. Cominco reports a "probable resource" of 210 M mt averaging 0.22% MoS^2 with an additional "possible resource" of 1.1 billion mt averaging 0.12% MoS^2 (631). A more widely publicized data set includes a probable resource of 444 m mt grading 0.219% $MoS^2$and a possible resource of 1.36 billion mt averaging 0.136% MoS^2 (554).

Since the initial discovery and subsequent exploration at Quartz Hill, molybdenum prices have declined substantially. The yearly average high price of $20.16 per kg molybdenum in 1980 (586) has declined to $4.95 per kg in 1993 (588). U.S. molybdenum production has been declining since 1989, but is still about three times the rate of domestic consumption. The U.S. continues to maintain the world's largest reserves of molybdenum (586). Cominco has no current plans for development of the Quartz Hill deposit (631).

Resource and Land Use Issues

The Quartz Hill area is situated in a non-wilderness designated portion of the Misty Fjords National Monument, but is wholly surrounded by land designated as wilderness. The non-wilderness designation for the Quartz Hill area was mandated by the Alaska National Interest Lands Conservation Act to allow for future mining of the world-class molybdenum deposit. The only issue indicated in the immediate area of the deposit is a low subsistence use designation related to Sitka black-tail deer hunting. The Quartz Hill road enables access to the area for hunting, but is quite remote. The much larger non-wilderness area around the Quartz Hill deposit would include additional land use issues and concerns should mining-related activities ensue.

Table 37. Mineral locality information for the Quartz Hill area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
439	Quartz Hill	CF, P: MS 2267, 2462	P: Mo	2 Adits: total 1,475m	test shipments	1.36 billion mt @ 0.136% MoS^2	, , ,	M

Roe Point Area

General/Land Status

The Roe Point area is located on the east side of East Behm Canal, south of the entrance to Smeaton Bay. Ketchikan, Alaska, lies approximately 45 km to the west-northwest of Roe Point. The area is most easily accessible by helicopter or floatplane. Boat access is possible, but sheltered anchorage is not available. The IXL and Nanjan prospects are the most significant in the area. However, several other claims have been staked for precious metals, base metals, and radioactive elements. The topography in the area is relatively subdued with elevations ranging from sea level to about 400 m (1,300 ft) (fig. 70). Thick vegetation consisting of conifer forest and muskeg flora limit rock outcrops. All of the Roe Point area is included in the Misty Fjords National Monument and is closed to mineral entry.

History/Workings/Production

The IXL mineral occurrence was discovered in 1898. The present workings, consisting of approximately 20 m of crosscuts and drifts as well as a 10-m winze, were developed by 1908 (643). No additional reference to the property was found until the Pyrite and Reliance Lodes were staked in the area in 1953 (584). Claims covering the IXL property were staked again in 1974 and were optioned to Amoco Minerals Company in about 1977. Drill core found approximately 700 m southeast of the IXL adit is believed to have been drilled by Amoco around this time.

Molybdenum mineralization was discovered at the Nanjan property in about 1935. The property was

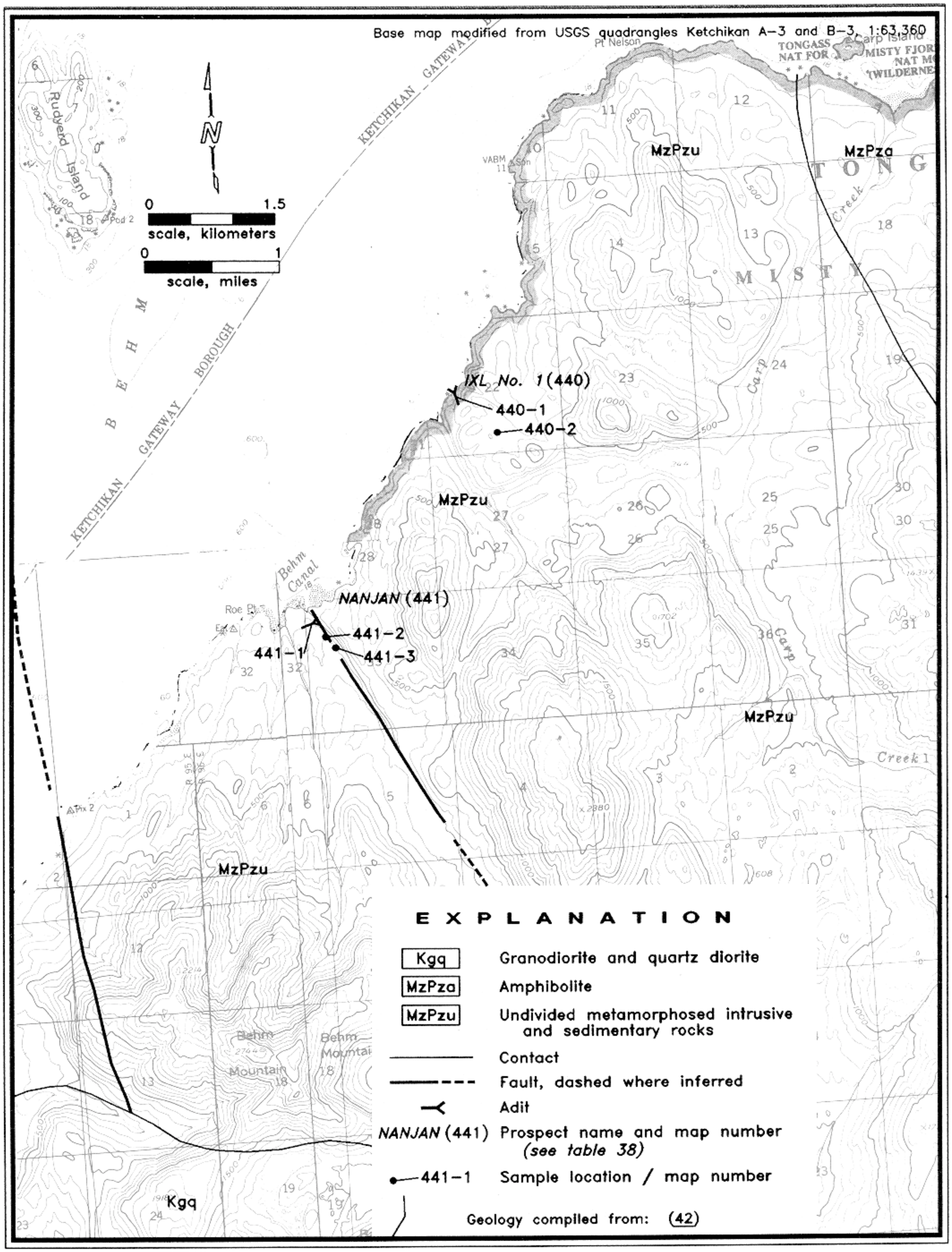

Figure 70. – Roe Point area, showing geology, mineral localities, and sample locations.

restaked as the "MOL" claims in 1938 (433). Workings on the claims are limited to trenches and a 3.6-m adit that was developed prior to 1938 (433). The "Nanjan" group of six claims were staked on the molybdenum occurrence in 1960 (584) and held until at least 1964. Assessment work during 1961-62 reportedly included trenching, crosscutting, sinking shafts, and test pits (584) although little of this work was evident in 1992.

No production is recorded from any of the properties in the Roe Point area.

Geology

Roe Point lies within metamorphic rocks that flank the Coast Mountains Batholith on the west. The Coast Range intrusives crop out approximately 10 km to the east of the mineralized area. Rocks hosting the mineralization have been assigned to an undivided sedimentary, volcanic, and intrusive unit of Mesozoic to Paleozoic age by Berg and others (42).

Mineralization at the IXL adit consists of stratiform layers of massive sulfide hosted by quartz-sericite schist. Layers of almost pure sulfide are commonly 10 to 15 cm wide and combine to form an approximately 2.5-m-wide sulfide-rich zone. Pyrite is the dominant sulfide, but pyrrhotite, sphalerite, chalcopyrite, and galena are also present. The massive sulfide layers are approximately parallel to the metamorphic foliation of the schist that strikes about 320° to 330° and is vertical to steeply southwest dipping. Sulfides, predominantly pyrite, are finely disseminated in the quartz-sericite schist in the hanging wall of the massive sulfide zone. Ten meters into the hanging wall is a contact with a mafic schist or gneiss. A similar unit is reported in the footwall, below high tide line, north of the adit portal (110).

Drill core found approximately 700 m southeast of the IXL adit suggests an extension of similar stratiform massive sulfide mineralization to the southeast. The core reveals massive sulfide layers up to 3 m thick interlayered within a 20-m-long intercept of quartz-sericite schist, biotite-quartz schist, mafic amphibolitic gneiss, and quartz lenses with coarse-grained sulfides. Sulfides include pyrite, pyrrhotite, sphalerite, chalcopyrite, and galena. Down-hole from the intercept is white quartz-sericite schist with minor disseminated pyrite.

The Nanjan prospect contains molybdenum mineralization hosted in a fissure quartz vein that reportedly lies near the contact between hornblende granite and altered limestone (433). The quartz vein strikes between about 320° and 020° and dips generally to the west. The vein is up to 2.5 m thick, but probably averages less than 1 m in thickness. It is exposed irregularly for at least 400 m along strike. Most of the molybdenum mineralization is associated with fault gouge that bounds the quartz vein. Mineralization is generally sparse and knotty, and consists of pyrite in addition to molybdenite.

Bureau Work

Bureau personnel mapped and sampled the IXL adit and logged and sampled whatever drill core could be assembled from mineralized intercepts. The drill core appeared to be relatively undisturbed, and intercept lengths given below were determined from the length of core and markings on the core boxes.

A general survey of the outcrops and workings that expose the molybdenum-bearing quartz vein at the Nanjan prospect was made. Samples were taken along the vein to characterize the mineralization.

Significant Samples/Mineral Resources

A sample across 1.3 m of the stratiform sulfide zone in the IXL adit contained 224 ppb gold, 26.5 ppm silver, 0.1% copper, and 1.0% zinc (map No. 440-1, sample 8080). Select samples of massive sulfide contained up to 130 ppb gold, 98 ppm silver, 0.2% copper, 0.7% lead, and 2.5% zinc (map No. 440-1, sample 8356).

An 18.6-m intercept of mineralized rock was cut in a drill hole on the IXL property. The highest grade intercept within this section was 3.0 m that contained 2.0 ppm gold, 23.6 ppm silver, and 1.45% zinc (map No. 440-2, sample 9170). Samples ranged up to 2.1 ppm gold and 0.57% copper (map No. 440-2, sample 9171), 43.7 ppm silver and 0.67% lead (map No. 440-2, sample 9167), and 2.3% zinc (map No. 440-2, sample 9163). The weighted average of all samples from the drill core is 800 ppb gold, 23.4 ppm silver, 0.3% copper, 0.3% lead, and 1.1% zinc over 18.6 m.

Samples along the Nanjan vein revealed low precious and base metal values. The highest molybdenum analysis was 0.25% Mo in a select sample (map No. 441-3, sample 8362) and 0.20% Mo over 1.3 m (map No. 441-1, sample 8083).

Resource and Land Use Issues

The Roe Point area lies wholly within the Misty Fjords National Monument. Since there are no valid existing rights associated with the IXL or Nanjan mineral occurrences, the area is closed to mineral entry. Besides a wilderness designation, the Roe Point area has been identified as a low subsistence usage area associated with Sitka black-tail deer hunting. Four anadromous fish streams cross the area. The Nanjan mineralization is controlled by a fault that also controls the course of the largest of these streams. The IXL mineralization is situated about 400 m or more away from one of the smaller anadromous fish streams.

Table 38. Mineral locality information for the Roe Point area.

Map No.	Name	Land status	Deposit type	Workings	Production	Significant results	Select references	MDP
440	IXL	CF	VMS: Au, Ag, Cu, Pb, Zn	Adit: 21m, (w/ 9-m winze)	NA	Mainly msv py in fel sc; drill intercept: 18.6 m of 0.8 ppm Au, 23 ppm Ag, 0.3% Cu, 0.3% Pb, 2.8% Zn	110, 584	L
441	Nanjan	CF	V: Mo	Adit: 3.6m	NA	Mo in bunches in qz vein & in gouge along vein margins; reported 300-m vein exposure; little Mo min; best sample: 1.3 m of 0.2% Mo	433, 443	L

OTHER MINERAL LOCALITIES OUTSIDE OF KNOWN MINERAL DEPOSIT AREAS

Salmon Bay

The discovery of radioactive material at Salmon Bay (fig. 5, map No. 1) occurred in 1950 when a sample containing 0.07% uranium equivalent was submitted to the Alaska Territorial Dept. of Mines. Follow-up work by the USGS identified several radioactive veins within an 8- to 10-km stretch of beach from Salmon Bay to Pitcher Island, in the northeastern corner of Prince of Wales Island (275). In 1984-85 the Bureau of Mines thoroughly sampled this occurrence to identify the presence of columbium, a critical and strategic mineral. Several samples were also taken from these veins during the current study (map Nos. 1-1 to 1-5). The following summary of the columbium, rare-earth-element (REE), and thorium-bearing veins near Salmon Bay is largely compiled from a detailed report published by Warner from work done in 1984-85 (598).

The radioactive veins cut a sequence of graywacke, shale, limestone, and conglomerate. There are numerous lamprophyre dikes crosscutting the sedimentary rocks near Salmon Bay and these are spatially associated with the veins. Over 70 veins were examined during Warner's study and they range from less than 1 cm to over 3 m wide with strike lengths ranging from less than 30 m to over 300 m. Veins generally strike to the north with near-vertical to steep easterly dips. The veins are composed primarily of ankeritic dolomite, siderite, and quartz with lesser amounts of several minerals including the REE-bearing species parisite, bastnaesite, monazite, and thorite. The veins contain anomalously high concentrations of thorium, columbium, and REE, but the presence of any one of these elements is not necessarily correlative with the others. Radioactivity ranges from background to a high of near 3,000 cps (total-count gamma-ray radioactivity).

Warner's sampling identified three veins with columbium, REE, and/or thorium mineralization over significant strike lengths. Two of the veins are located near Bay Point and the third, the Paystreak vein, is on Pitcher Island (map No. 1-4). The veins near Bay Point contain a weighted average of 850 ppm columbium over a width of 1.03 m and length of 366 m, and 0.2% combined REE over a width of 2.44 m along a 396-m strike length. The Paystreak vein contains a weighted average of 1,670 ppm thorium, and 0.13% combined REE over a width of 0.79 m along a 55-m length. These three veins contain combined indicated resources of approximately 155 mt columbium, 1,000 mt combined REE, and 5.3 mt thorium in 693,600 mt of rock (598). These resources are small and low in grade compared to columbium, REE and thorium deposits found elsewhere in the world.

McCullough/Lake Bay Copper

The McCullough/Lake Bay Copper prospect is located on northeast Prince of Wales Island adjacent to Galligan Creek, about 2 km southwest of Gold and Galligan Lagoon (fig. 5, map No. 8). This locality is noteworthy because it contains the only known copper mineralization on Prince of Wales Island north of the Kasaan Peninsula. The host rocks for this deposit are Descon Formation graywacke and argillite that are adjacent to a regional 330°-striking fault (176). Mineralization occurs in a quartz-argillite-banded graywacke breccia vein striking about 305° to 315° with near vertical dip. The vein is up to 5 m wide and crops out intermittently for nearly 100 m along strike (fig. 71). The prospect was developed with two shafts (18.5 m, 1 m) and several cuts north of these shafts (now sloughed). Three high-grade dump piles were found on the property implying that material was stockpiled, but not shipped to a smelter. Precious metal values are lacking in the high-grade copper-bearing rock. Sulfide mineralization consists of chalcopyrite and pyrite. Native copper was found in one location (map No. 8-4).

Breccia fragments are common near the edges of the vein, and overall they constitute nearly 50% of the vein zone. Mineralization is concentrated in areas of intense shearing across the breccia zone as well as along the vein margins where brecciated clasts are present. Bureau geologists sampled each outcrop found along strike of the vein in addition to two of the three ore piles. Copper values from samples taken across the breccia zone ranged from 2,980 ppm across a 1 by 2 m zone (map No. 8-7) to 2.09% across a 1.1 m vein width. High-grade material from the dump piles contained up to 4.39% copper, 68 ppb gold, and 11.9 ppm silver (map No. 8-4). The highest gold value obtained from sampling was 120 ppb, obtained from a 0.9-m continuous chip sample of the breccia vein cropping out in front of the 1-m shaft (map No. 8-10). A sample of silicified graywacke from the creek north of the prospect workings contained 1,418 ppm copper (map No. 8-1).

Dew Drop

Mineralization at the Dew Drop prospect is located just north of the crest of the ridge separating Maybeso and McGilvery Creeks, north of the historic Lucky Nell Mine. The ridge crest is the boundary of the Karta Wilderness area so the prospect is within the wilderness area and is closed to mineral entry. The Dew Drop (and Rose?) claims were staked and prospected by two adits in the early 1900's

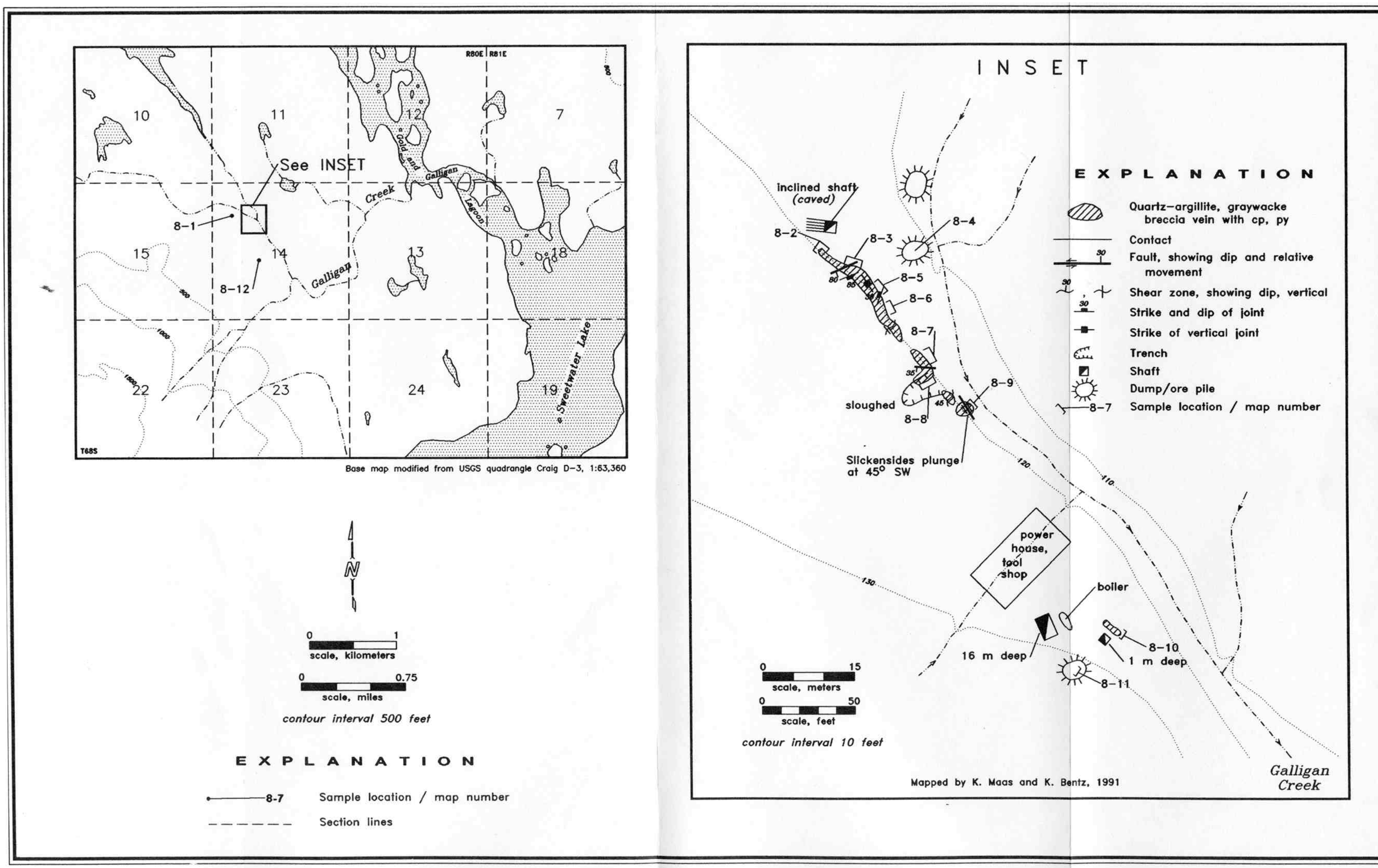

Figure 71. McCullough/Lake Bay Copper prospect, showing geology and sample locations.

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(641, 643). Bureau personnel discovered high-grade gold and silver mineralization in a 0.1- to 0.4-m shear-hosted quartz vein. The polymetallic vein hosted by metavolcanic rocks of the Descon Formation (176) contains up to 70% combined pyrite, sphalerite, galena, and chalcopyrite. The sulfides are commonly massive and occur mainly along the quartz vein margins. The vein strikes approximately 300° and has vertical dip. The vein's orientation aligns with one of the historic Dew Drop adits located about 75 m to the east (fig. 72). A similar quartz vein is exposed in a small creek in front of the adit,

but no significant mineralization is found in the 6.5-m adit.

The polymetallic vein was exposed in a trench dug by Bureau personnel over approximately 6 m. The site was mapped together with the Dew Drop adit and samples were taken to characterize the mineralization. Three samples from the vein averaged 42.7 ppm gold, 4,349 ppm silver, 5.22% lead, and 2.38% zinc across 0.2 m (map No. 56-4, samples 3046, 3047, 3206). Two samples from the vein exposed in front of the adit average 17.4 ppm gold and 637 ppm silver over 0.3 m (map No. 56-7, samples 3599, 3612). Development of this property is unlikely because of its wilderness designation status and because of the vein's narrow width. Of significance is the high-grade nature of the mineralization and its similarity to the Lucky Nell Mine on the south side of the ridge, more than 1,200 m away and 380 m lower in elevation.

Lucky Nell

The Lucky Nell Mine is a past producing property located at the head of Maybeso Creek, near the divide between Maybeso Creek and the Harris River. It is about 11 km west-northwest of Hollis, on the east side of Prince of Wales Island (fig. 5, map No. 57). The Lucky Nell mineralization was discovered in 1900 (425). Production occurred in 1905, 1912, and 1914 (585) (see table 3). Claims in the Lucky Nell area were held in 1993 by G. Comer and J. Sanders. The property is located on land managed by the Forest Service and is open to mineral entry.

The gold- and silver-bearing, polymetallic quartz vein at the Lucky Nell Mine is hosted by greenstone of the Descon Formation (176). It is exposed in 5 adits separated by 600 m horizontally and 200 m vertically and includes about 240 m of underground workings. The 0.2- to 1.0-m, sulfide-rich vein contains pyrite, galena, sphalerite, chalcopyrite, and tetrahedrite/tennantite in a ratio of one to four with quartz (426). It strikes about 070° and dips 60° to 70° to the southeast.

Bureau personnel mapped and sampled the five Lucky Nell adits and collected a metallurgical sample for beneficiation testing. The weighted average of all 43 measured samples taken from the Lucky Nell vein is 9.0 ppm gold, 52.6 ppm silver, 0.7% lead, and 0.4% zinc over an average width of 0.59 m (see table A-2). The 77-kg metallurgical sample collected from ore piles in front of two of the adits assayed 27.6 ppm gold and 112 ppm silver. Beneficiation testing of the Lucky Nell rock by the Bureau's Salt Lake City Research Center indicates that 87% of the gold and 70% of the silver could be extracted by cyanidation after grinding to minus 325-mesh. Flotation tests showed 98% gold recovery and resulted in a 28% by weight concentrate. Physical gold recovery seems to be inefficient because much of the gold is locked in sulfides. Most precious metal grains are gold-silver alloys with 5% to 10% silver. Much of the remainder of the silver is in the tetrahedrite/tennantite grains.

Cable Creek

Bureau personnel were informed of massive sulfide lenses in a roadcut where the Hydaburg road crosses Cable Creek (fig. 5, map No. 75) on the east side of POWI by a Forest Service geologist. Inspection revealed massive and disseminated pyrite with associated chalcopyrite and sphalerite hosted in talc-chlorite schist with interbedded slates. The metamorphic host rocks are part of the pre-Ordovician Wales Group (176) that hosts stratiform volcanogenic massive sulfide bodies at the Big Harbor Mine, approximately 8 km along strike to the west.

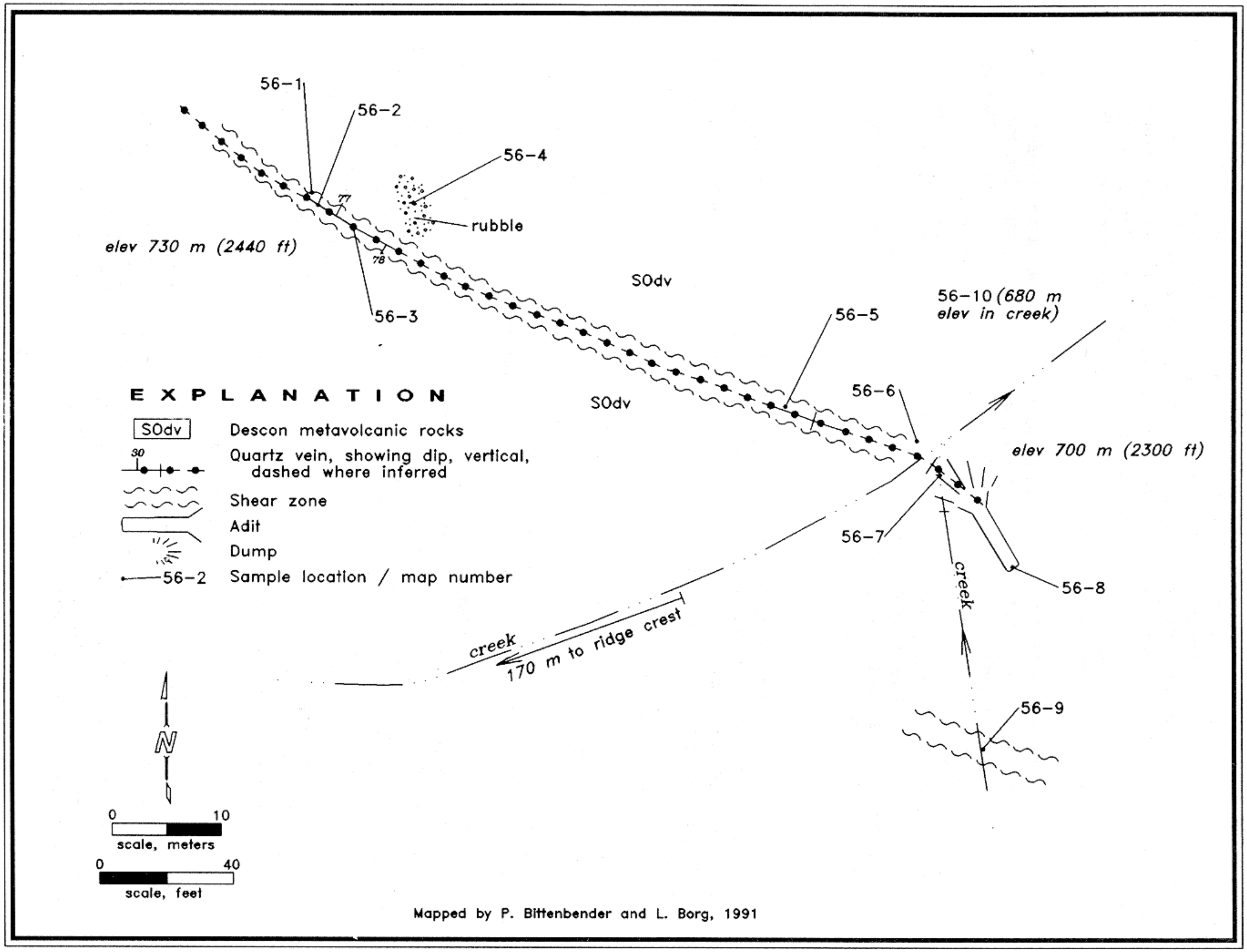

Figure 72. – Dew Drop prospect, showing geology and sample locations.

Samples collected from the sulfide mineralization reveal generally low metal values. A select sample of the massive sulfide contained 2.5% copper, 1.0% zinc, 790 ppb gold, and 11.6 ppm silver (map No. 75-1, sample 3502). Though the mineralization at Cable Creek is minor, it may represent an extension of massive sulfide type mineralization found to the east at Big Harbor.

Dora Lake Narrows

As part of a study of critical and strategic minerals in 1987 and 1988, Bureau geologists examined the area surrounding Dora Bay (fig. 5, map No. 108). They examined REE-columbium occurrences that are part of a trend of sodium-rich intrusive complexes with associated radioactive mineral occurrences containing REE. These are found at Stone Rock Bay and Bokan Mountain (25).

The Dora Bay area is composed of Wales Group volcaniclastic and metasedimentary rocks that are intruded by a peralkaline granitic complex. The complex is a north-south trending, 3,000 m-long, sheet-like body (25). Veins within this complex contain REE-columbium dikes that can be traced for up to 3,200 m. Inferred resources are estimated to be 2.6 mt at 0.5% combined REE. The values are well below the grade of deposits found to be economic around the world. Samples from these deposits also contain up to 51 pm molybdenum (25).

Gold Harbor

Sulfide mineralization related to skarns has developed in two of the four contact zones between marble and a younger granodiorite intrusion exposed at the head of Gold Harbor, Dall Island (fig. 5, map No. 172). The inner half of Gold Harbor is underlain by Wales Group marble intruded by two small biotite/hornblende granodiorite plugs. Wales Group metabasalt crops out in the southwestern part of the bay, but away from the marble/granodiorite contact (205). The marble away from the intrusives tends to be gray and micritic. In the vicinity of the granodiorite, however, the marble is bleached white and grain size increases up to 2 mm. At the head of Gold Harbor, the marble is overlain by a calcite-cemented marble breccia. This breccia extends for over 100 m along the beach and to an elevation of at least 60 m (200 ft). Topography suggests that the zone may extend to 215 m (700 ft) elevation. This breccia may represent a forereef talus pile. Hornfelsed metabasalt float is common in the creek that enters the bay near the southwest granodiorite/marble contact.

The granodiorite is medium to fine grained (1 mm) and generally barren of sulfide mineralization. Along the contacts with the marble, the grain size changes producing an aplitic texture. Many aplite dikes and sills penetrate the marble from the margins of the plutons. There are also a series of mafic and mafic porphyry dikes and sills that are common in and near the granodiorite bodies. These dikes may represent an early differentiate from the pluton that was later crosscut by the more leucocratic aplite dikes and sills.

Foliation of the marble unit at the head of Gold Harbor has been folded into a large antiform. Foliations are parallel to the beach and change from 090° on the south to 060°- to 020°- to N- to 340°- on the northwest side of the bay.

Alteration mineralogy around the margins of the stocks consists primarily of garnet and epidote skarn confined to marble within 30 m of the contacts. Strong skarn mineralization is restricted along the plutonic contacts. The western margin of the southern pluton and the eastern margin of the northern pluton exhibit the strongest development of skarn and sulfide mineralization whereas the other contacts have only developed garnet-epidote-calcite skarn. Pyrite is present in the skarn in variable concentrations. Where the northern granodiorite body intrudes the marble breccia, the skarn is dominated by hematite, potassium feldspar, and epidote though there are patches of garnet-epidote skarn as well. The hematite skarn has conspicuously replaced the marble along fractures.

Sulfide mineralization in the skarn is generally weak and consists predominately of disseminated pyrite, but there are clots of chalcopyrite and zones of molybdenite present. A dike extends west from the western margin of the southern pluton and has altered the enclosing marble. This marble contains pyrite mineralization, but is also cut by several 0.5- to 1-cm-thick quartz veins that are parallel to the dike, but crosscut the marble. These veins contain molybdenite and lesser amounts of galena. A select sample from one of these veins (map No. 172-5, sample 1606) contained 730 ppm molybdenum, 915 ppm lead, and 24.3 ppm silver. Another sample from a 3-cm-thick vein (map No. 172-5, sample 4044) contained 150.3 ppm silver and 5,067 ppm lead.

The marble breccia at the eastern margin of the northern granodiorite body has been replaced by massive hematite along fractures in one area and by garnet and epidote nearby. The hematite skarn contains rare molybdenite mineralization that formed at the interface between the hematite replacement front and the unaltered marble. The demarcation between the hematite and the white marble is a zone a few millimeters to 2 cm wide of pink marble. The molybdenite forms in a thin layer within the pink marble parallel to the contact between the pink and white marble. The most concentrated molybdenite occurrences are associated with shear zones. Three small shears with molybdenite occur along the margin of the granodiorite and the marble. The molybdenite occurs as slickensides within the shear, along the hematite/marble interface, and as small clots within a dense, black hornfels. The second molybdenite locality consists of two intersecting shears enclosing strongly altered granodiorite and black hematite-altered marble. Molybdenite in this zone occurs as coatings on shears and as small clots in the altered rock. A sample across a 1.5-m-thick zone contained 431 ppm molybdenum (map No. 172-3, sample 4058).

LI Group

The LI Group is located on southwest Long Island, north of Kaigani Point (fig. 5, map No. 180), and consists of several zones of sulfide mineralization in quartz veins concordant to a silicified green phyllite host. The rocks in the area are mainly Wales Group phyllites, metatuffs, and marble, although a thin andesite/basalt flow lies structurally below the phyllite unit. The units generally strike 305°, dipping steeply to the northeast. Sulfide mineralization is concentrated in three quartz veins over an 18.2-m distance that range in size from 6-cm to 1.82-m thick. The quartz veins pinch and swell along strike and contain minor inclusions of phyllite, suggesting emplacement along faults. Sulfides occur in shoots along the veins, not necessarily concentrated in the thinner portions of a vein. Disseminated pyrite is sparse throughout the green phyllite, but silicification coupled with thin, unmineralized quartz veinlets are very common. The phyllite has been altered/bleached adjacent to the larger quartz veins and limonite forms a surface coating on both the quartz and phyllite.

The LI claims contain polymetallic quartz veins emplaced in foliation-parallel faults. The middle vein crosscuts foliation along a portion of the strike length. Pieces of the country rock have been incorporated into the vein structure. Previous workers think these veins are exhalative in nature, but the limited extent of alteration and distinct structural control do not necessarily support this hypothesis. The veins have been partially remobilized during metamorphism, as seen by the boudined structure of the quartz veins. The thin quartz veinlets, ubiquitous in the green phyllites, are metamorphic in origin and show signs of being rotated; they clearly postdate the original sulfide mineralization. There are at least three other quartz veins cropping out southwest of this primary zone and they contain lesser amounts of sphalerite, galena, and pyrite.

Bureau geologists sampled across the entire phyllite zone in 1.8-m intervals. High-grade samples were also taken from each of the three quartz veins. The highest-grade mineralization was found in the north vein, which was also the largest vein. A 1.8-m continuous-chip sample contained 2.32% zinc, 0.82% lead, 3,089 ppm copper, 31.4 ppm silver, and 104 ppb gold (map No. 180-1, sample 4019). A select sample across 1.2 m of this same zone contained up to 8.41% zinc, 3.62% lead, 9,600 ppm copper, 95.7 ppm silver, and 614 ppb gold (map No. 180-1, sample 4444). The highest gold value obtained from sampling was 967 ppb, which came from a 0.69-m-thick quartz vein in the middle of the zone (map No. 180-1, sample 4445). The green phyllite between the quartz veins did not contain significant metal values. A 0.6-m-thick sample of quartz taken from a metabasalt zone southwest of the phyllite zone contained 8,171 ppm zinc, 3,141 ppm lead, and 6.2 ppm silver with no appreciable gold (map No. 180-1, sample 4453).

The veins extend under water to the northwest and are concealed by the forest floor to the southeast hindering additional exploration efforts. Gehrels has mapped the rocks hosting this occurrence as undifferentiated Wales Group (pOwu) and this unit extends north to the Lake Seclusion area, 8 km away (205). A thin but high-grade occurrence of sulfide mineralization occurs at Lake Seclusion (fig. 5, map No. 178). Although these two occurrences are spatially unrelated, the similar host rock lithology supports additional prospecting effort in this Wales Group unit.

Camaano Point

Camaano Point (fig. 5, map No. 260) is located on the southeastern corner of Cleveland Peninsula where the local geology is dominated by chlorite schists, phyllites, calcareous schists, and limestone (marble) of Paleozoic to Mesozoic age (42, 207). A high-grade occurrence of stibnite was found here in 1914 and subsequently examined by several workers. It is the only significant antimony prospect in the Ketchikan Mining District. The following description is adapted from work performed by J. C. Roehm in 1939 (431), C. R. Rowe in 1953 (460), and C. L. Sainsbury in 1953 (471). Sainsbury performed a geochemical survey of the area and provides the most comprehensive set of maps of the prospect workings (471).

The antimony deposit is located about 1.2-km inland in an area of flat relief. The sulfide mineralization is associated with a brecciated dark-gray limestone near the contact with schists that has been locally folded into a small plunging anticline. The contact strikes nearly 335° and dips about 30° northeast. There is a small, highly altered dike cropping out east of the main trench and samples from it contain gold and pyrite (431). The stibnite was deposited as large pods replacing brecciated limestone and as discrete veinlets in fractures. The antimony prospect is exposed in three shafts and several cuts, the main cut being nearly 38 m long. The mineralization extends nearly 60 m away from the shaft area, but is low grade in this vicinity. The material occurs as radiating acicular crystals of stibnite to large platy masses which all show signs of deformation. Small amounts of realgar are disseminated in portions of the stibnite as are small amounts of quartz and calcite (431). High-grade material exposed in shaft bottoms assayed from 25.67% to 48.86% antimony across 1.1 m (431). A shipment of 956 kg of hand-sorted rock from the pits assayed 44.8% antimony, 12.6% sulfur, 0.5% arsenic, and 14.8% insolubles (171).

Sainsbury's work validated the use of soil sampling to discover zones of high antimony concentration. The work was successful because glacial till was not concealing saprolite and bedrock-derived soils. This is uncommon in Southeast Alaska. Additional work on the property failed to locate more high-grade material.

Hump Island

Hump Island is located north of Ketchikan in Clover Pass, a small waterway leading into Behm Canal (fig. 5, map No. 264). The island consists of a small, metamorphosed Cretaceous quartz diorite or quartz monzonite pluton (Kqm) that intrudes Jurassic to Cretaceous mafic to felsic volcanic and pelitic sedimentary rocks (207). Weak porphyry copper mineralization accompanied the pluton and subsequently altered (argillic alteration) the surrounding country rocks. The east side of the island is underlain by felsic volcanic rocks which have been altered to quartz-sericite-pyrite schists with a high silica content. Light-colored metasedimentary rocks crop out on the west side of the island. These rocks are garnet-biotite-quartz-feldspar schists that have locally undergone intense argillic alteration. Unreactive black shales located northwest of the intrusive were hornfelsed by the pluton. The area was subjected to regional metamorphism either concurrently with, or after emplacement of the pluton and accompanying alteration as a conspicuous foliation is seen in the pluton (Kqm unit) cropping out on the east side of the island. Rocks along the east shore of nearby Betton Island consist of unaltered andesitic metavolcanic rocks and black phyllites, but the center of Betton Island is underlain by Cretaceous intrusives (fig. 73).

Copper mineralization occurs as chalcopyrite in disseminations and as thin veinlets up to 1.5 cm thick and nearly 1 m long. A sample taken from an altered argillic zone with chalcopyrite veinlets (map No. 264-4) contained 1,458 ppm copper and 21 ppm molybdenum. A sample of less altered metasedimentary rock at the north end of the island (map No. 264-2) contained only 122 ppm copper. The most intense area of argillic alteration occurs in the center third of the west side of the island.

Schists on the west side of the island are commonly cut by quartz veins that contain clots of chalcopyrite. The quartz-sericite-pyrite schists contain several percent disseminated pyrite and chalcopyrite with local molybdenite. Arithmetic averages for copper and molybdenum from these schists on the south and east sides of the island (map Nos. 264-3, 264-5 to 264-14) were 2,064 ppm copper and 69 ppm molybdenum. Copper values ranged between 806 and 3,080 ppm while molybdenum varied from 6 to 236 ppm. Silver values reached a high of 3.6 ppm. A sample was taken from iron-stained, schistose quartz diorite at the north end of the island (map No. 264-1, sample 7437). This sample yielded only 401 ppm copper, but contained 2,519 ppb gold. A select sample of a quartz vein in the same area (map No. 264-1, sample 7438) contained 3,837 ppb gold in addition to 1,568 ppm copper, and 22 ppm molybdenum. Bismuth and tellurium content was also anomalous with 172 and 11 ppm, respectively. Both these elements are pathfinders for gold.

Although the average grade of copper contained in Bureau samples is well below what would be considered economic, this mineral occurrence is significant because it is the only metamorphosed porphyry copper deposit in the district. There is also gold mineralization associated with quartz veins on the northern tip of the island that may be indicative of a larger epithermal vein system.

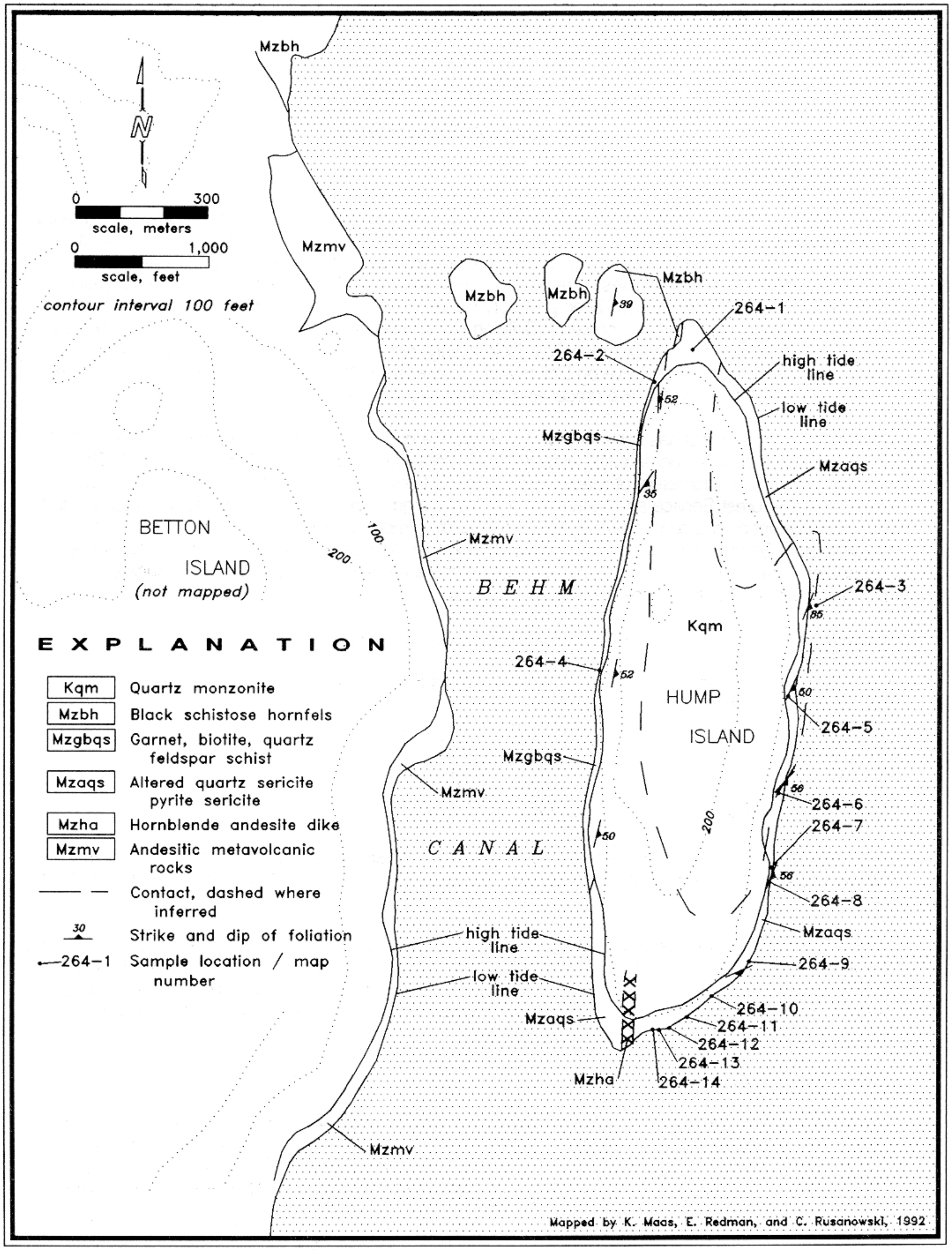

Figure 73. – Hump Island occurrence, showing geology and sample locations.

Carbonates and Building Stone

General/Land Status

The Ketchikan Mining District (KMD) contains large tracts of carbonate-dominated geology concentrated on Northern Prince of Wales Island and adjacent islands to the west, and on Dall and Long Islands, Cleveland Peninsula, and Revillagigedo Island. These carbonate rocks extend from coastline exposures to high mountain passes in several localities and the criteria governing historic exploration, development, and production have been proximity to deep water and protected harbors, color, competency, hardness, and CaO content. Building stone was cut from quarries at Tokeen, Calder, El Capitan, Orr Island, Red Bay, Dickman Bay, Dolomi Bay, and Moira Sound. Cement-grade limestone was mined from a pit at View Cove on Dall Island. These raw materials were then shipped to Seattle, Tacoma, or San Francisco for final processing (cutting, polishing, or conversion to cement).

Infrastructure in the KMD has expanded greatly since the original marble deposits were located in 1902. The Southeast Alaska timber industry established its presence on a large scale beginning in 1953, building hundreds of kilometers of roads to bring logs to tidewater. These improvements have been made on both Forest Service and Native regional and village corporation land. Extensive outcrops and roadpits developed as a consequence of this roadbuilding improve exploration opportunities. The USDA, Forest Service and Sealaska Regional Corporation manage the majority of land underlain by carbonates (compare figures 2 and 74). In addition, there are several patented mineral surveys associated with carbonate deposits as depicted below.

MS 1040, 1462:	Ketchikan Pulp Co./Louisiana-Pacific Corp.
MS 927, 1010, 1059, 1577:	Trillium Corp.
MS 542, 701, 1051-1053:	Sealaska Corp./Georgia Pacific Corp.
MS 1556, 1565, 1567, 2231, 2237:	Ashgrove Cement West, Inc.
MS 730, 895:	Unknown (Dolomi Bay)
MS 728:	Unknown (Moira Sound)
MS 946, 947:	Unknown (Dickman Bay)
Patent No. 1128902:	Skip Richter

Large blocks of unpatented claims staked for high-calcium limestone are maintained at Port Alice, Heceta Island, by Holnam West Materials, Ltd.; and View Cove, Dall Island by Ashgrove Cement West, Inc.

Extensive cave networks have developed in the karst/limestone terrain throughout the KMD. The Forest Service is currently inventorying and assessing these resources. Although no direct conflict between mining, mining claim locations, and cave resources has been identified, the possibility for controversy certainly exists. Interested persons are referred to the Forest Service area office in Ketchikan for details on the karst protection plan being developed.

History/Production/Workings

Marble deposits in the Ketchikan Mining District were first located at Marble Creek (Calder) as early as 1896 (458). Prospectors located marble claims in Moira Sound in 1897, at El Capitan in 1900, Dolomi Bay in 1901, Tokeen in 1903, Red Bay in 1908, and at Dickman Bay and Orr Island by 1912 (458). The majority of marble produced from Southeast Alaska quarries was used for interior work in many commercial buildings throughout the conterminous U.S.

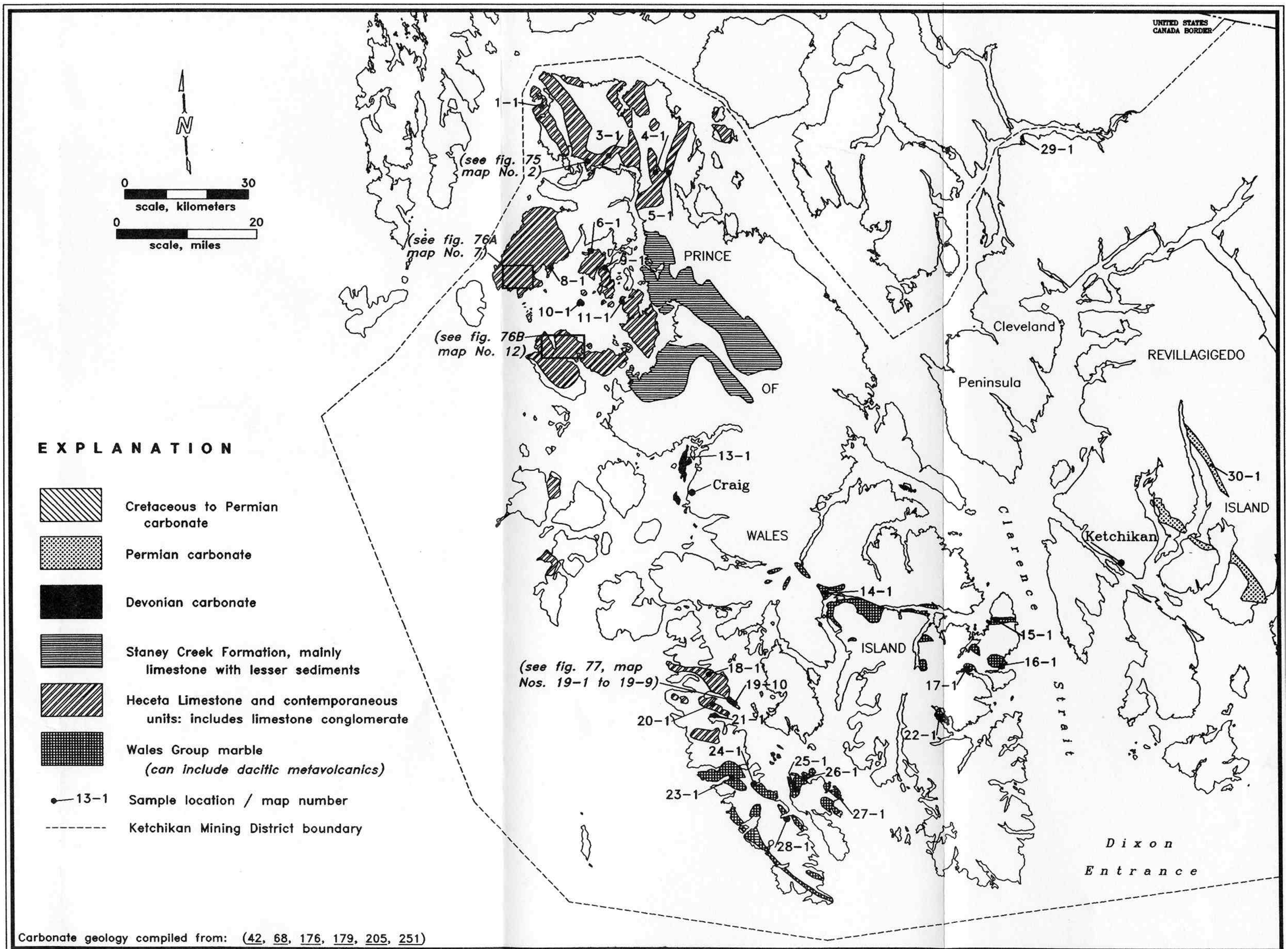

Figure 74. – Generalized carbonate geology in the Ketchikan Mining District, showing sample locations.

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Robert L. Fox, a Seattle marble cutter, was instrumental in the original promotion and development of the Calder, El Capitan, and Tokeen Quarries. His arrival in Southeast Alaska in 1896 coincided with the rapid growth of cities on the West Coast and increased demand for building and ornamental stone (100). Several developments had occurred by 1901. The American Coral Marble Co. was developing claims at North Arm-Moira Sound and Dolomi Bay. The Alaska Marble Co. began development of the Calder quarries, which produced rectangular blocks of marble measuring 1.2 by 1.8 by 1.8 m. This size block or one measuring 1.2 by 1.2 by 1.8 m was cut from most quarries in Southeast Alaska (458). A 68 to 90 mt load of slabs was sent from Calder to the Vermont Marble Co's. finishing plant in San Francisco where they were cut, polished and sold.

The only attempt to install and operate a marble finishing plant for Southeast Alaska quarries occurred at El Capitan in 1904, but since local sand for polishing was scarce the plant never operated (458). The El Capitan Marble Co. shipped a small amount of marble to Seattle in 1904 (387), as did the American Coral Marble Company from the Dolomi claims (9 to 11 mt) (458). By 1905, work progressed rapidly at the North Arm property and a 41-m tunnel had been driven in addition to construction of extensive surface support facilities. By 1907, the American Coral Marble Co. was defunct. Work continued at Calder until 1910, and ceased until 1921, when the Vermont Marble Co. purchased the property. The last cuts were made at Calder in 1926.

In 1912, the Alaska Shamrock Marble Co. was incorporated to operate claims staked at the head of Dickman Bay. A quarry was built and about 68 mt of marble was shipped to Portland for sawing and finishing (458). Work continued for about two years after which time the quarry was abandoned. At about the same time, the Mission Marble Co. attempted to develop claims at both Marble and Orr Islands. The Marble Island venture went nowhere but a quarry was developed on Orr Island and small shipments of marble were sent to San Francisco in 1913 and 1915 (458). The Vermont Marble Co. picked up an option on the El Capitan property in 1912 and took core samples. The marble proved to be of lower quality (less firm and coarsely crystalline) than what their Tokeen quarries produced and the company dropped the property (458). Vermont Marble Co. ran the most productive operation in Southeast Alaska at Tokeen and a brief history follows.

The original claims at Tokeen, Marble Island were staked by 1903 and Robert L. Fox promoted them after selling his interest in the El Capitan marble property in early 1904. The Great American Marble Co. was formed in 1904, but organizational problems and lawsuits stymied activity for the next four years. The Vermont Marble Co. sent a team to investigate Southeast Alaska marble deposits and optioned the Tokeen deposits from Fox. By 1909, the Vermont company had established operations and the first shipment consisting of 26 blocks was sent to San Francisco (458). The company only shipped perfect blocks for finishing from the 8 production quarries that operated at Tokeen from 1909 to 1926 and again in 1932. As an example, in 1913 nearly 65% of the quarried material was shipped, but the very next year only 26% of the quarried blocks were suitable (458). The years 1912-1915 were among the most productive at Tokeen with 4,361 blocks shipped to finishing plants. Exact tonnages and dollar values for total production at Tokeen are not available, but from 1919 to 1925 $797,214 worth of marble was shipped from Tokeen (458). From 1901 to 1925, the value of marble produced in Southeastern Alaska amounted to $2,629,214 (353). The USGS lists nearly 75 buildings throughout the conterminous U.S. which used Tokeen marble (100). The company returned in 1932 to complete one last order for Alaskan marble. No additional production was ever recorded at Alaska's largest and last marble quarry.

The Pacific Coast Cement Co. initiated a comprehensive assessment of limestone deposits throughout Washington, British Columbia and Southeast Alaska in 1926 to find raw material to make Portland cement. After much analysis, the View Cove deposits on Dall Island appeared most promising, so in 1927 the company began preparations to develop a limestone quarry. By 1928 all surface facilities had been constructed and a quarry (final dimensions: 210 by 122 by 18 m high) began to take shape about 45 m (145 ft) above sea level. Shipments were transported on 5,900 mt barges; the first one arrived in Seattle during October, 1928 (458). Crushed limestone was stockpiled in a glory hole and fed by conveyor through a 43-m adit to a loading pier on the shore of View Cove. Pacific Coast operated the quarry until 1931 at which time the property was leased to Superior Portland Cement, Inc. (517). Operations continued on a smaller scale until 1941 at which time the company ceased mining. As the quarry got deeper, the level of impurities increased making the limestone less desirable. After WWII, Permanente Cement Co. acquired the lease at View Cove and resumed mining in 1947-48. Total production from View Cove is estimated to be at least 1.34 M mt, averaging 94.5% $CaCO_3$ (194, 648).

Alcoa Mining Co. carried out exploration and drilling activities in 1946 at Edna Bay, Kosciusko Island. A large block of claims were eventually patented, but no development ensued. Skip Richter currently holds title to this parcel (patent No. 1128902).

J.C. Roehm, a geologist for the Alaska Territorial Dept. of Mines, produced a comprehensive survey of high-calcium limestone deposits in Southeast Alaska in 1946 (448). His work, coupled with Burchard's report published in 1920 (100) provide the basis for the Bureau's current study. The two studies provide background information, specifications, and sample results for both marble deposits (building stone) and chemical-grade limestone.

Sealaska Regional Corporation undertook an extensive evaluation of limestone resources on their company lands beginning in 1989 after market research indicated growth in the West Coast chemical-grade limestone industry. Preliminary results from sampling at Calder indicate the presence of high-brightness, high-purity marbles and Sealaska returned in 1993 to drill this potential resource.

The Bureau of Mines commissioned a study to examine the market potential for chemical-grade limestone in the Western U.S and selected Pacific Rim countries in 1993 (238). Results from this report will be available to the public at a later date.

Geology

The most extensive sequences of carbonate rocks within the KMD belong to the Silurian Heceta Limestone and contemporaneous units, and the pre-Ordovician Wales Group Metamorphic Complex (fig. 74)(207). Wales Group carbonates have been regionally metamorphosed into variegated marbles (white to mottled black/white, white-gray, green, buff orange, etc.) with grain size ranging from fine (0.1 mm) to coarse (>0.5 mm). Textures can vary from fine-grained to sucrosic within the same outcrop. There are dolomitic portions within larger marble beds and some areas where disseminated pyrite has been introduced during metamorphic recrystallization. These marbles are found predominantly on southern Dall Island, northern Long Island, and Southern Prince of Wales Island. Exposures of these marbles are less extensive than those of the Heceta Limestone and commonly the marble is intercalated with metavolcanic and metaclastic rocks. The units range from thin bands interlayered on a centimeter scale to massive, thick-bedded homogenous units greater than 100 m thick. The thickest section of Wales group marble is probably found at the head of Waterfall Bay and Gold Harbor on Dall Island (205). The true thickness of this unit has been exaggerated on maps by a large northwest-trending anticline that cuts through the head of Gold Harbor.

Thick exposures of Wales Group marbles are also present at Shoe Inlet, Cleva Bay, and Elbow Bay on Long Island. A series of northwest-trending anticlines and synclines have been mapped in these areas (205). There are more numerous interbeds of quartz-mica schist and calcareous chlorite schist in the marbles at Shoe Inlet-Cleva Bay than in Elbow Bay. Thin beds of phyllite are locally intercalated with the Elbow Bay marble and were probably derived from the larger phyllite beds mapped to the south during the intense folding events. There are extensive, homogenous outcrops of high purity marble nearly 90 m long occurring along the Long Island road system (1811-road) that are ideally situated above tidewater. Minor mafic dikes have intruded and altered the marbles at Shoe Inlet, in some instances producing very colorful marble varieties.

The type locality for the Silurian Heceta Limestone is Heceta Island where limestone with a maximum thickness exceeding 3,000 m has been mapped on the west side of the island, thinning rapidly eastward (176). It has been stated by previous workers that the Silurian limestones are generally the most uniform, thickest, and purest of all limestone sequences exposed in Southeast Alaska (89). This unit was sampled extensively at Port Alice, Heceta Island (fig. 74, map No. 12); Edna Bay, Kosciusko Island (fig. 74, map No. 7); and at View Cove on Dall Island (fig. 74, map No. 19). Bureau work confirms the presence of uniform, thick, pure limestone sequences (see significant results section). In addition, the recrystallized marble located in the Calder quarry is both high purity (> 98% $CaCO_3$) and high brightness (up to 94.5 % ISO brightness) as the contact metamorphism produced a cleansing effect without dolomitization (fig. 75). This was a very local phenomenon as similar coarse-texture marble found 2 km away at El Capitan was relatively pure, but not bright. The importance of high brightness will be discussed in the marketing section.

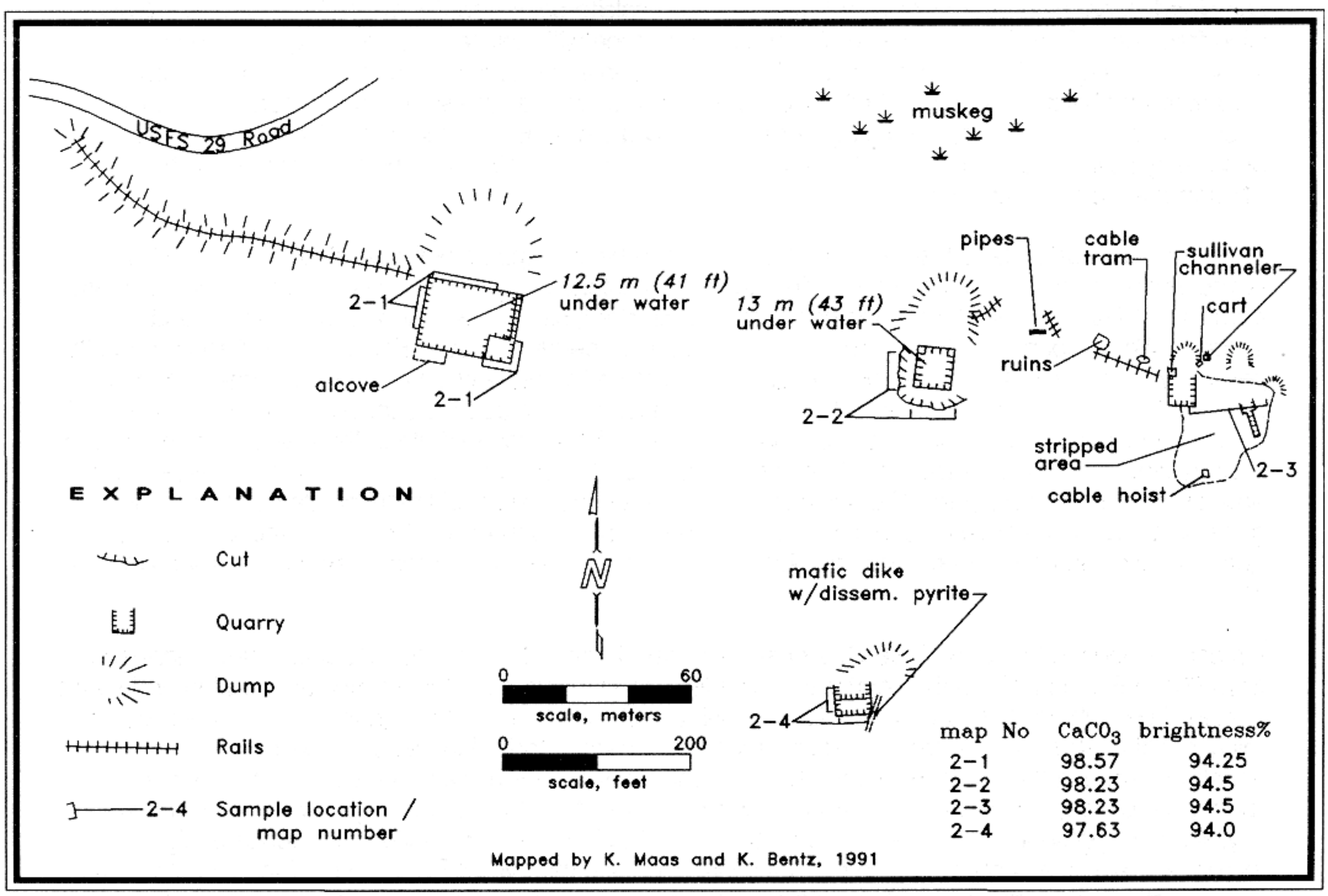

Figure 75. – Calder quarries, showing workings and sample locations.

The Port Alice area covers the north-central part of Heceta Island and is underlain by limestone that is generally a gray-weathering, light gray to buff-colored micrite containing numerous, thin fractures filled with calcite (sparite), and occasionally ankerite, siderite, and/or dolomite. Organic matter has locally been incorporated into the limestone imparting a darker color to the material, but this does not substantially interfere with the purity of the material on testing. Mafic dikes are present in many of the pits sampled on Heceta Island, but overall, they are not volumetrically significant. Some of these dikes fill northwest-trending shears, but the orientations are not necessarily consistent between adjacent outcrops. There are several 20- to 100-m-thick bands of limestone breccia and conglomerate mapped in the Port Alice area. Sampling of limestone breccia reveals similar grades of CaO to the more homogenous limestones (fig. 76). Bedding orientation generally strikes 260° to 290° dipping 20° to 50° N on Heceta Island whereas bedding mapped on Kosciusko and islands to the east strikes similarly but dips in the opposite direction. These structural orientations define the Sea Otter Sound Syncline which bisects Sea Otter Sound and produces the outcrop pattern seen for Heceta Limestone on Kosciusko and Heceta Islands (176).

Heceta Limestone is present on Kosciusko Island along the logging roads stretching from Edna Bay to Cape Pole (fig. 76). The limestone is both light-gray and buff-white micrite, but dark, fine-grained varieties are also present. One pit sampled near Edna Bay has a 25-m-high back wall that is equally split between light- and dark-colored limestone. There was no discernable difference in CaO purity between these two varieties. Other pits in this area expose limestone with silty-limy interbeds and local concentrations of ankerite/siderite in fractures, but other areas, especially along the 1520 road contained clean, micritic limestone with recrystallized calcite pods 3 to 4.5 m across and pure calcite-filled fractures. Some areas expose bioturbated limestone with calcite blebs and organic-rich limy intraclasts. The material breaks well on blasting, as seen in the pits, but undisturbed outcrops are indurated and hard to sample. There is less pyrite in the Heceta Limestone as compared to Wales Group marble. An exception to this generalization occurs near El Capitan where Heceta Limestone has been recrystallized to marble with disseminated pyrite in the hornfels zone north-northeast of the Shakan granodiorite intrusive.

Contemporaneous units to the Heceta Limestone have been mapped as far south as northern Dall Island where massive to thick-bedded, fine-grained limestones crop out in a northwest-southeast swath from Divers Bay to View Cove. Another section of similar limestone is mapped to the south and includes White Mountain. There are subordinant pods of bedded Descon Formation phyllites around the periphery of this limestone mass and smaller lenses of sediments and silty limestone within the larger, massive block of limestone. The rocks in this area have been folded (evident on an outcrop scale) and subjected to regional east-west oriented faulting. This is best observed along the first 1 to 2 km of road leaving View Cove and heading north to Breezy Bay. Both mafic and felsic dikes were observed in this area and most contain pyrite. Oxidation of sulfides produces a surficial limonite/siderite stain. The general nature of the limestone in this area can be summarized from details seen in the View Cove quarry as well as from several pits sampled along the road system to Breezy Bay (fig. 74, map No. 18-1).

Limestone beds in the View Cove Quarry strike generally from 315° to 340°, dipping steeply northeast from 60° to 81° and 75° to the southwest. The limestone in this pit is thin to medium bedded and varies in color from light to dark gray to buff to snow white. Generally the calcite grains can be classified as micritic, although sparite is present, especially filling veinlets. Individual beds, as defined from color variation, range in thickness from 3 to 50 m. These beds can be blocky and relatively homogenous (buff-gray) or may be composed of alternating thin bands (1 to 4 cm thick) of gray and black limestone. Stylolites are present in some of the beds, but are not ubiquitous. The stylolites produce a slight increase in alumina content, but do not markedly decrease the overall CaO grade of the limestone, as they constitute a small portion of the rock. There are a few thin mafic dikes (<0.5 m thick) that crosscut bedding in the southwest corner of the pit, and an 11-m-thick dike is exposed in the

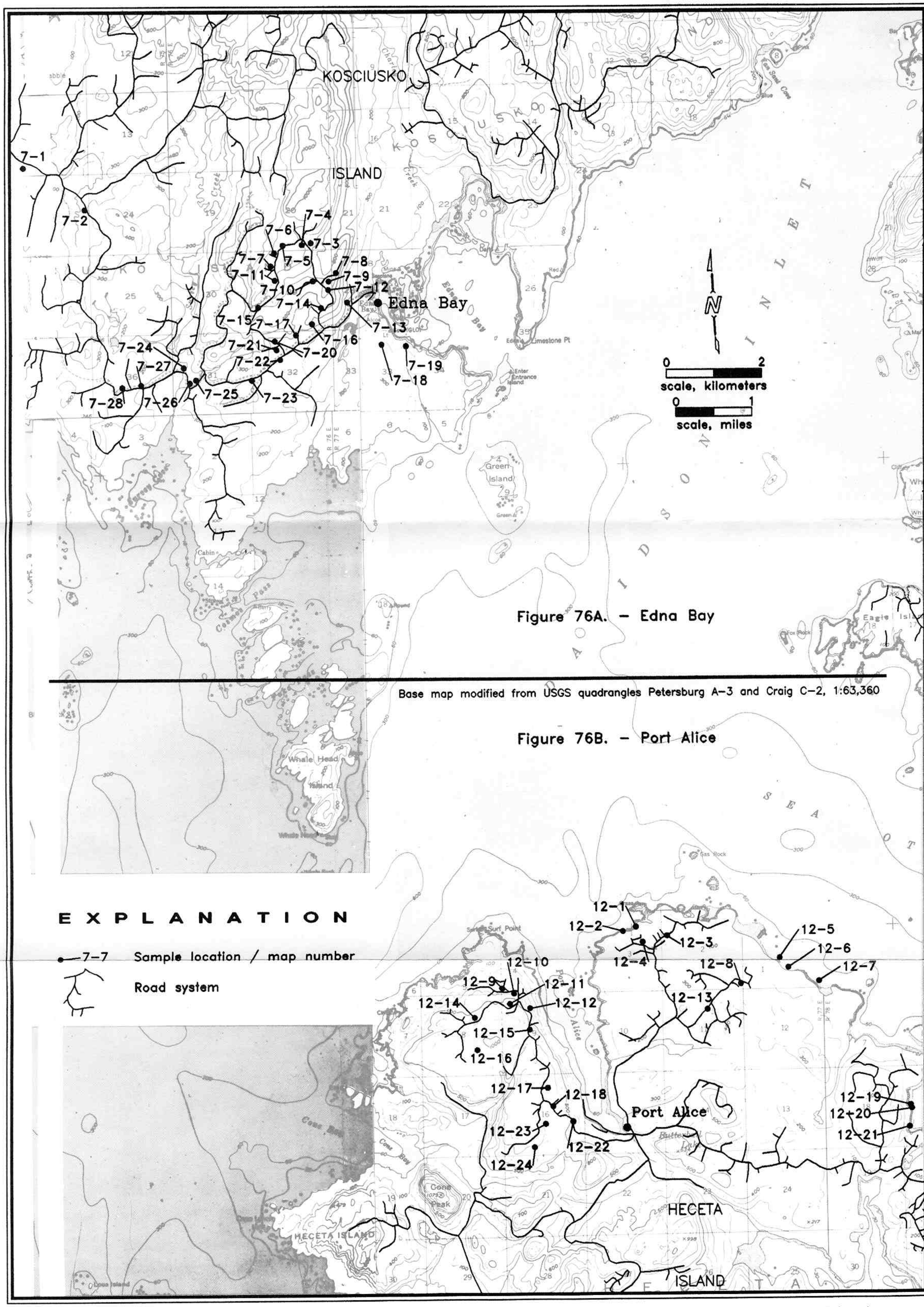

Figure 76. - Carbonate sample locations from Edna Bay, Kosciusko Island, and Port Alice, Heceta Island.

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east end of the pit (fig. 77). The number of dikes generally seems to increase to the southeast along the beach on Reef Peninsula.

The building stone industry in Southeast Alaska exploited marble contained in Wales Group rocks on southern Prince of Wales Island (e.g., North Arm, Moira Sound; Dolomi Bay; Dickman Bay; etc.), as well as recrystallized marble (originally Heceta Limestone) on northern Prince of Wales Island (NPOWI) adjacent to the Shakan granodiorite intrusive (Tokeen, Calder, El Capitan, Orr Island). Although both areas contain variegated marble which attracted prospectors, the NPOWI marble is generally more competent, uniform, and less fractured than its Wales Group counterpart. Even with these attributes, only the Tokeen and Calder marble was able to sustain production over a period of years. The building stone market is very demanding and aesthetics, product competency and uniformity, and transportation infrastructure are the key parameters to success.

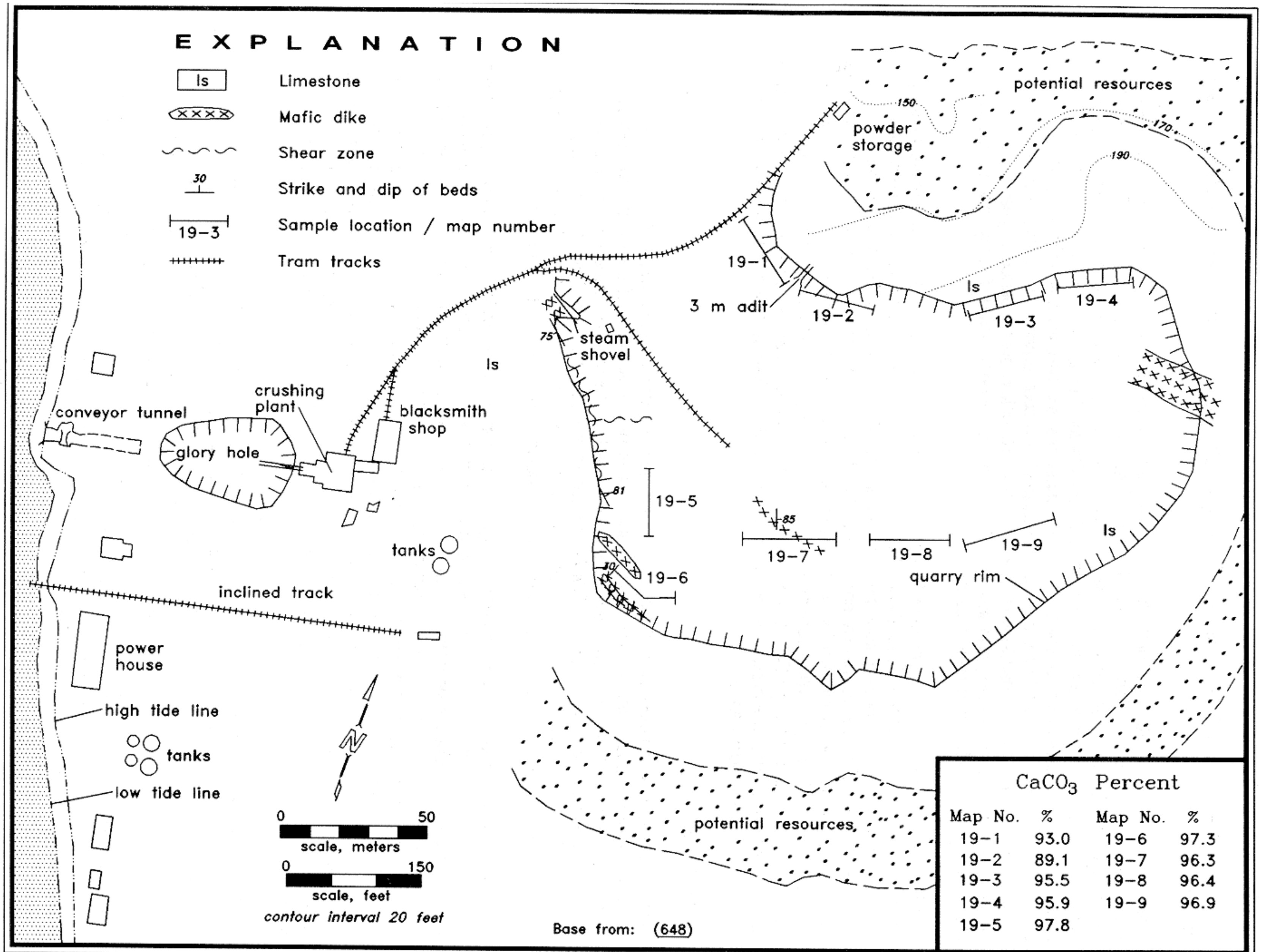
The KMD is predominantly composed of Paleozoic to Mesozoic bedded rocks with extensive Tertiary intrusive rocks comprising the Coast Range Batholith. These intrusives are fairly competent and suitable for quarrying as building stone but they occur within Misty Fiords National Monument Wilderness which is closed to mineral entry. The older bedded rocks have a tectonically-active geologic history that reduces the probability for large-scale product competency. There are, however, several rock types present (e.g., conglomerate near Red Bay and along the north shore of Heceta Island, orange marble near Gotsongni Bay, Coning Inlet, etc.) that can provide the raw material for small-scale lapidary ventures. With the growth of tourism and appeal of Alaska-made products, this may be an opportunity for an entrepreneur.

Bureau Work

Bureau geologists examined most of the abandoned marble quarries in the KMD. Work included preparing survey maps of the workings and taking representative samples of the marble for chemical testing. No structural or engineering tests were performed on the marble. Bureau workers also accessed logging road systems on NPOWI from Labouchere Bay to Whale Pass, at Edna Bay and Port Alice (fig. 76), from View Cove to Breezy Bay, and throughout Long Island. Table D-1 lists all areas visited by the Bureau and provides a general work synopsis, and significant sample results.

Most of the abandoned quarries visited had large dumps containing quarried blocks which did not meet specifications. In most cases, the waste blocks would completely refill the void space, indicating significant development but very little production. A great deal of effort and money was expended trying to create a dimension stone industry in Southeast Alaska. Another observation worth mentioning is the rapidly changing character of the marble across a quarry face. A pure white marble can grade into a black-white mottled variety over a short distance (7 to 10 m). An exception to this generalization occurs at the Calder Quarries where a 30- to 40-m section of high whiteness marble has been exposed in a stripped area and continues west to the first quarry (fig. 75). This material was tested for brightness against an MgO standard and produced the highest value from any sample taken in the district.

Carbonate rocks were sampled and then analyzed to quantify oxide impurities when outcrop lengths of suitable material were 20 m or greater. Suitability was determined visually by consistency of mineralogy, amount of impurities, percentage of clastic or metamorphic interbeds, density of dikes, etc. Outcrop lengths up to 160 m were sampled using spaced chip sampling techniques. Weathering rinds were removed from each sample to better represent the fresh rock surfaces present during an actual mining operation. About 4 to 7 kg of material were generally submitted for analysis. Fracture density was initially thought to be an important parameter, but after examining several pits, roadcuts, and fresh outcrops it was evident that fracture patterns of blasted limestone in no way resemble what is seen in fresh outcrop. Overburden type and thickness was noted and sketches were made of each pit.



Map No.	%	Map No.	%
19-1	93.0	19-6	97.3
19-2	89.1	19-7	96.3
19-3	95.5	19-8	96.4
19-4	95.9	19-9	96.9
19-5	97.8		

Figure 77. – View Cove quarry, showing pit outline, facilities, and sample locations.

Brightness testing performed on a representative suite of high-purity carbonates revealed no direct correlation. High-purity carbonates do not necessarily have high brightness characteristics.

Significant Samples/Resources

Bureau geologists collected 145 samples of carbonate rocks at locations depicted in appendix table C-1. Average values of $CaCO_3$ from selected areas are listed below in table 39.

Table 39. - Calcium carbonate percentage and brightness values from selected localities.

Location	Map No.	Average $CaCO_3$ content, %	Representative brightness % (ISO standard)
Calder Quarry	2	98.1	94.5%
El Capitan	3	98.2	89.74% (marble) 62.29% (limestone)
Tokeen	6	99.35	not tested (variegated/mottled)
Edna Bay	7	97.4	78.86%
Port Alice	12	97.1	73.74%
Breezy Bay	18	96.2	not tested
View Cove	19	96.5	not tested
Oswego	20	96.8	
Cleva Bay	26	97.0	88.91%
Elbow Bay	27	95.7	not tested
Curio	30	53.74 (dolomitic)	

The Calder quarry contains ultra-high purity/high brightness marble. The marble tested 94.5% ISO brightness as compared to an MgO standard and is therefore suitable for use as a ground calcium carbonate filler-extender in many applications. Other samples of marble had brightness values ranging from 84.62% along the Forest Service road above the Calder quarry ($CaCO_3$ = 98.64%) to 89.74% near El Capitan ($CaCO_3$ = 98.71%). The remaining areas listed above contain high to ultra high purity calcium carbonate, but each one tested lower for brightness. Brightness values of Heceta Limestone (and contemporaneous carbonate units) samples ranged from 62.29% contained in a sample from the El Capitan road system ($CaCO_3$ = 97.5%) to 78.86% at Edna Bay on Kosciusko Island. The high purity limestones and marbles prevalent in the KMD are a relatively low-value resource unless they are calcined to lime. There are currently no high-volume, local consumers of lime in Southeast Alaska to support development of this industry, but several proposed mining ventures may require this commodity in the near future.

Ashgrove Cement West, Inc. has drilled limestone at the Oswego Claims, but no resource figures have been released from this work to date. Bureau samples at this location contained an average of 95.9% $CaCO_3$. Holnam Industries, Inc. has explored their claims at Port Alice with drilling and blasting. Both of these companies mine extensive reserves of limestone on Texada Island in British Columbia and provide raw material for the lime and cement industries. They maintain their Alaska properties for future resource extraction options.

Several workers have provided tonnage estimates for limestone resources at various deposits. Roehm provided resource estimates for many of the limestone deposits sampled during this study (448). His numbers are quite high as calculations were based on the extent of visible outcrop (along a beach, bluff, etc.) estimated thickness (usually concealed by vegetation), and topographic height present within an arbitrary distance to a datum (usually the beach). Sealaska Corporation provided resource estimates at Breezy Bay, View Cove, Shoe Inlet-Dova Bay, and at Calder (219). It is possible to generate large tonnage estimates for high-purity limestone within the district as the Silurian Heceta Limestone is a widespread unit.

Marketability

A study exploring the market potential for high-calcium limestone is being prepared for the Bureau by a private contractor (238) . This study reviews the industrial applications for high-calcium limestone and surveys the market potential on the west coast of North America as well as selected Pacific Rim countries. Preliminary results from this study suggest that high brightness, high purity carbonates have a potential export market in the western United States, Japan, Taiwan, and South Korea. Raw materials would be bulk-shipped as chips to the end-user where they would be converted to ground calcium carbonate for use as a filler, coating pigment in paper, and an extender. The delivered price of chips to Japan is reported to be $50 to $60/mt with shipping costs roughly 15% of this value. Additional feasibility studies are required to define competitive prices and quantities for the western U.S. market in Washington and California. These coastal markets are currently supplied by established British Columbia and California producers. However, it is common knowledge throughout the industry that markets can be found for ultra-high purity, high brightness carbonate materials.

Lime is a low-value commodity not suitable for long distance transport. For this reason, lime plants are generally located close to end-users. Exceptions to this rule exist when below cost, back-haul shipping arrangements can be made. As an example, Japan is able to export low-value limestone to Australia on bulk iron-ore and coal carriers that would otherwise be returning to Australia empty (238).

Low-cost fuel enhances the economics of calcination as heat is needed to drive off CO^2 from the original carbonate. Limestone producers on Texada Island adequately supply lime plants in British Columbia, Washington, and Oregon. Alaska currently consumes small quantities of lime and although growth in the mineral industry will provide additional demand for lime, it will be insufficient to justify a large lime facility.

Crushed Stone, and Sand and Gravel

General Overview

Crushed stone, and sand and gravel are common variety minerals used in a variety of construction and public works projects. Most crushed stone is used as aggregate to produce roadbase or road surfacing material. When used with a binder this aggregate can be manufactured into cement and bituminous concrete or asphalt. The aggregate industry in the Ketchikan Mining District is dominated by a single producer of crushed stone and aggregate products, although several small operators produce shot rock on a limited basis. There are virtually no sand and gravel operators in the district, although adequate supplies of glaciofluvial sand and gravel may exist near major stream confluences, and along low-lying bench areas near major rivers and creeks. A concrete batch plant operating out of Klawock on Prince of Wales Island imports sand and gravel from a dragline operation on the Stikine River. The USGS has identified several areas of alluvial and glaciofluvial deposits during their quadrangle-scale mapping (176, 473), but site-specific investigations did not accompany this mapping. In 1985, a Forest Service geologist conducted a reconnaissance inventory to identify potential sand and gravel sites on southern Prince of Wales Island (326).

Shot-rock and crushed stone are produced from diverse bedrock sources. The main factors influencing development of a source are the transportation distance, competition, and land status, rather than material characteristics. This is especially true of rock pits developed for Forest Service road-building. Generally, a hard, dense, massive unit will provide a competent crushed stone product. The only caveat to this generality is that massive units will require tighter blast-hole spacing to break the product into usable size gradations. This element increases production costs, but becomes acceptable when no alternative materials exist. Limestone constitutes about 70% to 75% of all domestic crushed stone production (325). The most durable logging roads are developed from crushed limestone; the drawback to this material is the excessive wear inflicted to truck tires. Crushed stone products are more expensive to produce than aggregate from alluvial sand and gravel deposits.

Pits in the Ketchikan area are quarried out of silicified metasedimentary and metavolcanic rocks. The original rocks have been hornfelsed and silicified by the Deer Mountain intrusive, creating a competent unit with adequate wear characteristics. Some of the pits (e.g., Carlanna Creek Quarry) are quarried out of felsic dikes and plugs. Ultimately these felsic intrusives degrade both physically and chemically to produce clays and other deleterious byproducts. The Los Angeles Abrasion Test[9] is commonly used to evaluate these wear characteristics. Soundness tests are also performed to determine strength and susceptibility of material to frost damage by expansion of absorbed water and chemicals. Other tests quantifying gradation, shape, porosity, chemical compatibility and content of soft particles may be performed on the material depending on its intended use (560).

Ketchikan Ready-Mix and Quarry, located along the shore of Tongass Narrows, opposite the Airport Ferry Terminal, produces a variety of aggregate products for the Ketchikan market as well as several communities on Prince of Wales Island. The quarry operators at Ketchikan Ready-Mix were not willing to discuss details of their business with Bureau personnel for this study. The quarry produces and/or sells a wide variety of aggregate products ranging from crushed stone of all sizes, concrete aggregate, common borrow, and washed building sand for concrete, masonry and blasting purposes. The company runs a concrete batch plant providing fresh concrete delivered by truck as well as pre-mix concrete products. There are several other quarries operating in the Ketchikan area on a limited basis as shown on figure 78. These operators are working pits located on private land, and generally sell rip-rap, pit run, and crushed stone. The operators make use of portable crushing equipment and have no permanent facilities.

Roy Weatherford and Company Redi-Mix operates a small batch plant in Klawock that produces concrete products for Prince of Wales Island construction and public works projects. Weatherford obtains aggregate for cement production from a dragline and barge operator on the Stikine River, near Wrangell. He imports these materials at a cost of nearly $72/m^3$ ($55/yd^3) delivered. Shaan-Seet Corporation sells a limited supply of aggregate products from a crushed stone operation located in Craig. The City of Thorne Bay has leased several thousand tons of material to private contractors in the past (554). The Forest Service provides rock pit locations to private contractors to facilitate development of logging roads. The State of Alaska previously operated a sand and gravel pit on Whipple Creek, north of Ketchikan, providing limited amounts of aggregate products to small non-commercial users.

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9 Defined by AASHTO test T-96; the test determines strength and wear characteristics of material by measuring the proportion of fines produced by abrasion in a revolving metal drum. The standard specification for this test is no more than 40% loss for bituminous cement and concrete aggregate usage (325). Sometimes a special degradation test for Alaska conditions is required for road-base materials.

Crushed stone, and sand and gravel are classified as common variety minerals and are subject to lease and royalty payments when mined on Forest Service land. Persons interested in leasing common variety materials from the Forest Service are initially required to evaluate and prove up an adequate supply of material at their own expense prior to submitting a request to lease. The Forest Service reviews this request and determines the validity of the resource based on the evaluation provided by the lease originator. The material is then advertised for lease on a competitive bid basis. The individual who pays for the initial evaluation has no guarantee to the resource after spending considerable time and money on the preliminary evaluation. This procedure promulgates excessive risk to potential sand and gravel developers and may explain why common variety materials are rarely developed on public lands in the KMD. The Forest Service study describing common variety materials on Prince of Wales Island was an attempt to reduce this risk and focus prospecting efforts (326).

The Forest Service study conducted in the Craig Ranger District on Prince of Wales Island described unconsolidated deposits located along the main road system between Hollis and Klawock and south to Hydaburg, mainly along the Harris River. The study also described deposits near the head of Twelvemile Arm and Trocadero Bay. Investigators used geologic mapping, knowledge of known deposits, on-site visits and shovel probing, and correlative interpretation to evaluate potential resources. The study provided resource estimates based on average thicknesses seen in cutbanks, observed or inferred lengths, and widths inferred from topography. Sand and gravel deposits were classified as either glaciofluvial or alluvial in origin. Alluvial deposits in the actual river course were largely ignored because development would pose significant conflicts to the riparian resources.

Bureau Work

Bureau of Mines personnel made cursory examinations at several sites along the various road networks scattered throughout the district. Sand and gravel samples were taken for engineering analysis at Steelhead Creek, near Cape Pole on Kosciusko Island, and along the Salmon River in Hyder (fig. 78). No samples of crushed stone were collected for engineering analysis. Results of Bureau sampling are included in appendix E.

Clay

Bureau of Mines geologists examined the Holden Clay deposit, located south of Vallenar Bay on the northwest side of Gravina Island (fig. 78). The deposit is located on the south side of the bay, predominantly on two tracts of private land (USS 1350 owned by S. and E. Hewitt; and USS 1768 owned by E. Smeltzer and J. Caldwell). Clay outcrops can also be found along the banks of Vallenar Creek on adjacent Forest Service land. The clay deposits were first mentioned in a USGS report in 1908 (640). An engineer from the Territorial Dep. of Mines examined the deposit and tested the clay in 1945 (445, 446).

The light-gray, uniform-textured clay crops out in the intertidal zone at the head of Vallenar Bay and in layers 3 to 5 m thick along the banks of Vallenar Creek. Exposures occur intermittently for nearly 800 m. Similar clay was also noted at the head of Bostwick Inlet on southeast Gravina Island, about 15 km to the southeast. A 1- to 2-m-thick layer of overburden covers the clay layers except where exposed along creek banks. The clay deposits were derived from lacustrine sediments accumulated during the advance and retreat of glaciers. This conclusion is based on the mineral assemblage identified in the clay. Quartz, albite, other plagioclase varieties, chlorite and other micas were found during x-ray crystalline phase analysis of the clays. There are no actual clay minerals in this deposit, the size

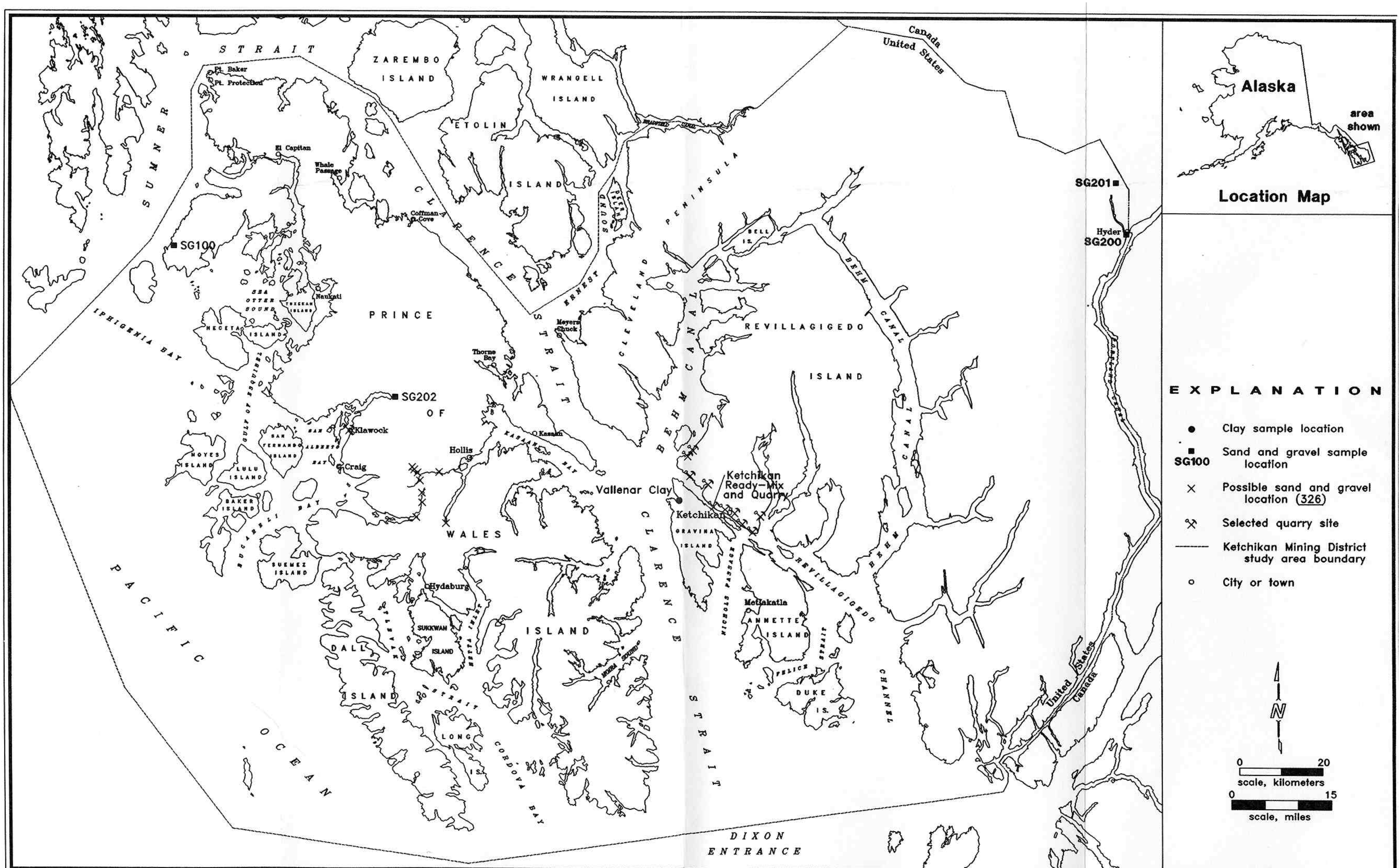

Figure 78. – Sand and gravel locations, crushed rock quarries and clay sample locations.

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gradations are the key component to this classification.

The Mineral Resources Institute at the University of Alabama in conjunction with the Bureau's Tuscaloosa Research Center evaluated samples of the Holden Clay deposit. Test results indicate the clay has a very short firing range and is therefore impractical for use in structural clay products. The clay has good structural properties between 1,000°C and 1,050°C, but melted by 1,100°C. The clay can be mixed with a material of higher melting temperature (e.g., sand) to produce a broader firing range. Unblended, the clay may be suitable for small-scale hobby use. Additional test results are available from the Bureau library in Juneau, Alaska.

ECONOMIC FEASIBILITY OF MINING IN THE KETCHIKAN MINING DISTRICT

Mining prefeasibility studies were conducted for two mineral deposit models that may be found in the Ketchikan Mining District (149). Models for Cu-Zn-Au-Ag volcanogenic massive sulfide and epithermal low sulfide vein gold deposits were developed using simplified cost models for prefeasibility minerals evaluations (103). These were supplemented with additional capital and operating costs for infrastructure components from the Bureau's Cost Estimation System (589) to customize the models for the KMD.

This simplified methodology is particularly suited for making quick cost estimates before specific design parameters are available. Cost estimates were escalated using the Bureau's Alaska Mineral Industry Cost Escalation Factors which reflect the higher cost of labor, transportation, and electricity in Alaska (20). All costs are expressed in 1993 dollars. Published cost information drawn from industry publications, permitting documents, and environmental impact statements were also used.

The cost data for each mine model were used to perform a cash flow analysis, and a discounted cash flow rate of return (DCFROR) was calculated. The goal of the prefeasibility study was to determine the gross revenues per metric ton of minable ore needed to achieve a 15% DCFROR economic threshold. These gross revenue figures per metric ton of minable ore were then related to several deposits sizes to construct the graphs presented in Figure 79. The 15% DCFROR threshold, an industry standard, was selected as the minimum return on investment.

Permitting and environmental costs were estimated at 4% of the total cost of all capital cost items less working capital. Working capital equals 90 days of operating costs, and is recovered in the last year of production. All cash-flow models for both on-site and off-site scenarios have exploration and development expenditures consolidated into three pre-production years with equal amounts of capital invested in each of the three years. The mine will go into full production in the fourth year and production rates remain constant until reserves are depleted in the last year of mining. Recent experience in Southeast Alaska indicates the exploration and permitting time period may be considerably longer.

VOLCANOGENIC MASSIVE SULFIDE DEPOSITS

The volcanogenic massive sulfide deposit models (VMS) are based on the geology and mineralization present at the Niblack and Ruby Tuesday deposits. These VMS deposits are hosted in Wales Group rocks on Prince of Wales Island. Wales Group rocks are the most likely rock package to host a significant VMS deposit in the KMD. Favorable drill intercepts and geological mapping during current exploration at the Niblack and Ruby Tuesday deposits justify additional exploration and possible development. The massive sulfide mine models assume that the structural characteristics of the orebody favor the use of underground cut-and-fill mining methods. Exploration expenditures range from $35-80 million, increasing as the size of the resource delineated increases from 1-32 Mmt.

Twelve underground cut-and-fill mine models were developed and patterned after the Greens Creek Mine on

Admiralty Island, Southeast Alaska. Six use an on-site mill, and six use the existing Westmin Premier Mill, located approximately 19 km north of Hyder, Alaska. It was assumed a flotation circuit would be added to the mill. Based on a comparison of three-product flotation and carbon-in-leach mills, the custom milling fee would be $48 per metric ton of ore, regardless of milling requirements. Average gross revenues required for the off-site mill models were 17% higher (ranging from 7% to 31%) than the equivalent on-site model, and increased as the size of the model increased from 1 Mmt to 32 Mmt of resources.

Underground cut-and-fill mine models incorporate the use of jackleg drills, stopers, and small jumbos. Slushers would move ore from the stope to ore chutes, and Load-Haul-Dumps (LHDs) would move ore from the chutes to ore storage pockets. Hydraulic sand fill is used to fill stopes. After processing, approximately half of the daily ore production would be backfilled into the mine, 28% would be sent to the tailings pond for disposal, with the remaining volume reporting to the concentrates.

Employees would work a 4-weeks-on, 2-weeks-off schedule. One-third of the employees would be on their scheduled days off at anytime. Employees would commute from Ketchikan, located about 55 km from the mine-site via a privately operated shuttle ferry (381). Based on these assumptions, transportation costs will be higher than that usually found in the contiguous U. S. The project would produce its own electric power using diesel-powered generators. Employees would be housed at a permanent complex built on-site.

Two concentrate storage buildings are included in the on-site model, one at the mill-site and one at the port-site, each capable of storing six weeks of production. Concentrate storage buildings are not included for the off-site model. Ore stockpiles would be maintained at the mine and port sites as necessary to support barge shipments to Stewart, B.C.

Concentrates produced at the on-site or off-site mill would be shipped to a smelter, assumed to be in Japan. Fuel storage facilities capable of supplying the operation year-round would be located at the port-site and mill-site areas.

Material handling requirements increased significantly under the off-site mill scenario as compared to the on-site mill scenario. As an example, the 1 Mmt model had an annual ore production rate of roughly 160,000 mtpy, and a concentrate production rate estimated at 34,000 mtpy. The related capital and operating costs for handling and transporting this additional material accounts for the largest cost increase in the off-site models.

The on-site model requires building and maintaining a 3.2-km road to serve the mine/mill site, tailings impoundment, and port. Concentrates would be shipped year-round. The off-site scenario requires building and maintaining the same road, trucking ore 3.2 km, barging the ore 150 km to Stewart, B.C., off-loading it and trucking it an additional 19 km to the mill.

Figure 79 graphically presents the relation between gross revenues per metric ton and deposit size for the massive-sulfide deposit mine-models. The resultant curves indicate that off-site processing is not advantageous, and that larger deposits achieve significant economies of scale except where transportation is involved. Cost savings from elimination of the mill, tailings pond, concentrate storage building construction, and reduced power generation, employee transportation, and housing costs were not enough to offset the higher costs of trucking and barging ore to the off-site mill. The custom milling fee was another significant cost.

Based on the prefeasibility studies, the gross revenues per metric ton of minable ore required to achieve a 15% DCFROR range from $137 for a 32 Mmt (6,100 mtpd) mine using an on-site mill to $526 for a 1 Mmt (450 mtpd) mine using an off-site mill.

LOW SULFIDE VEIN GOLD DEPOSITS

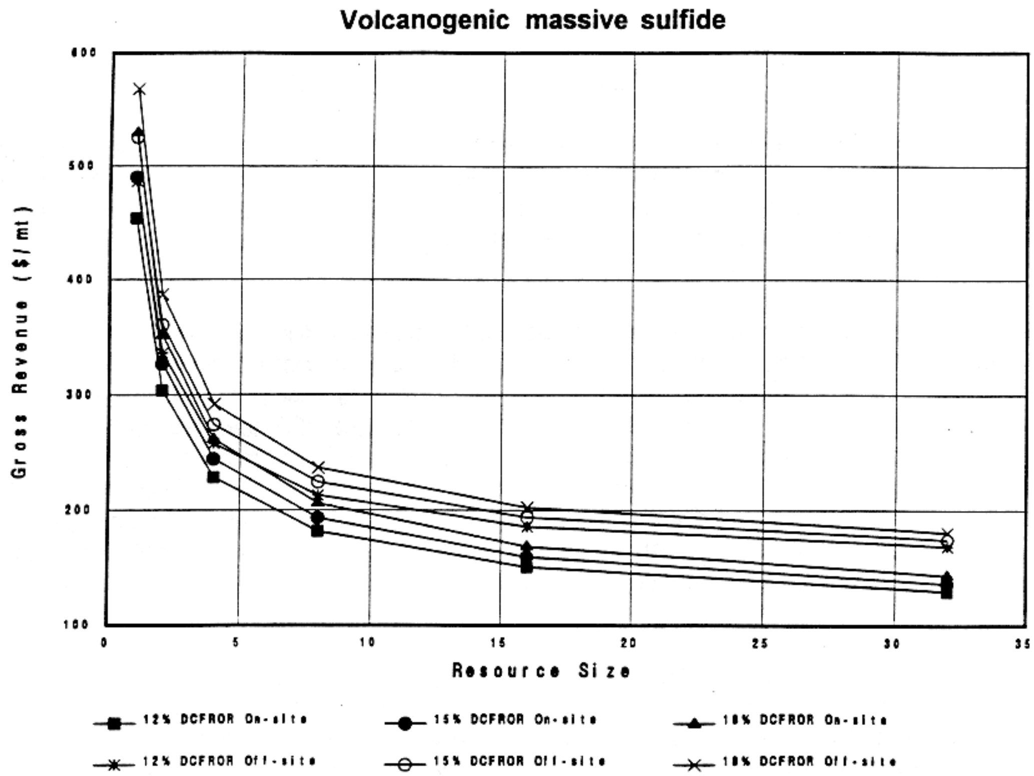
Hazelton Group rocks which host the Westmin Premier Mine orebody are present in the Hyder area and provide the basis for this model. Though the Premier deposit contains high-sulfide, polymetallic veins, an open-pit scenario requires diluting the sulfide content to a level consistent with a low sulfide vein gold model. The gold models developed for this prefeasibility study are patterned after the Westmin Premier pit and based on resource sizes from 1-16 Mmt.

Several assumptions were made to facilitate this feasibility analysis including: 1) ore is mined by open-pit method using rubber-tired front end loaders, diesel trucks, and percussion drills, 2) ore is amenable to carbon-in-leach recovery methods, 3) A stripping ratio of 3.96:1 is anticipated, 4) the mine will operate 350 days per year, two shifts per day, 5) the mill will operate 350 days per year, three shifts per day, 6) 9.6 km of access road will be built to the mine site from the Granduc road, 7) the access road will be built across fairly rugged terrain, 8) the access road will be 4.3 m wide and be capable of handling 50 mt ore trucks, 9) a haul distance of 19.2 km is used for the off-site mill model (this includes 9.6 km of access road), 10) electric power will be produced by diesel generators located on-site, 11) workers will commute at their own expense from Hyder, Alaska, 12) exploration costs will be $2 per mt of proven reserves for all deposit sizes.

For the on-site mill scenario, material requirements for tailings impoundment construction will be equal to 10% of the resource size and the tailings will be 50% by weight solids. The power plant cost for the off-site scenario will be 40% of the comparable on-site scenario. The milling fee for the off-site mill scenario is assumed to be $38.58/mt (230) regardless of the milling rate. The ore is assumed to be amenable with the current process being used at the Westmin Premier Mill.

No low sulfide gold deposits of the size needed to be economic, according to this feasibility study, have been discovered in the district to date. Based on the prefeasibility study, the gross revenues per metric ton of minable ore required to achieve a 15% DCFROR range from $54 for a 16 Mmt (2,900 mtpd) mine using an off-site mill to $100 for a 1 Mmt (360 mtpd) mine using an on-site mill.

Figure 79 graphically presents the relation between gross revenues per metric ton and deposit size for the low sulfide gold deposit mine-models. This graph illustrates that sending ore to the Westmin Premier mill is an advantageous alternative for the smaller mine models. This conclusion has precedent as 113,000 mt of ore from the Silver Butte property, located approximately 12 km from the Westmin Premier Mill, was milled at the Premier in 1991. An on-site mill is more cost-effective for larger deposits.



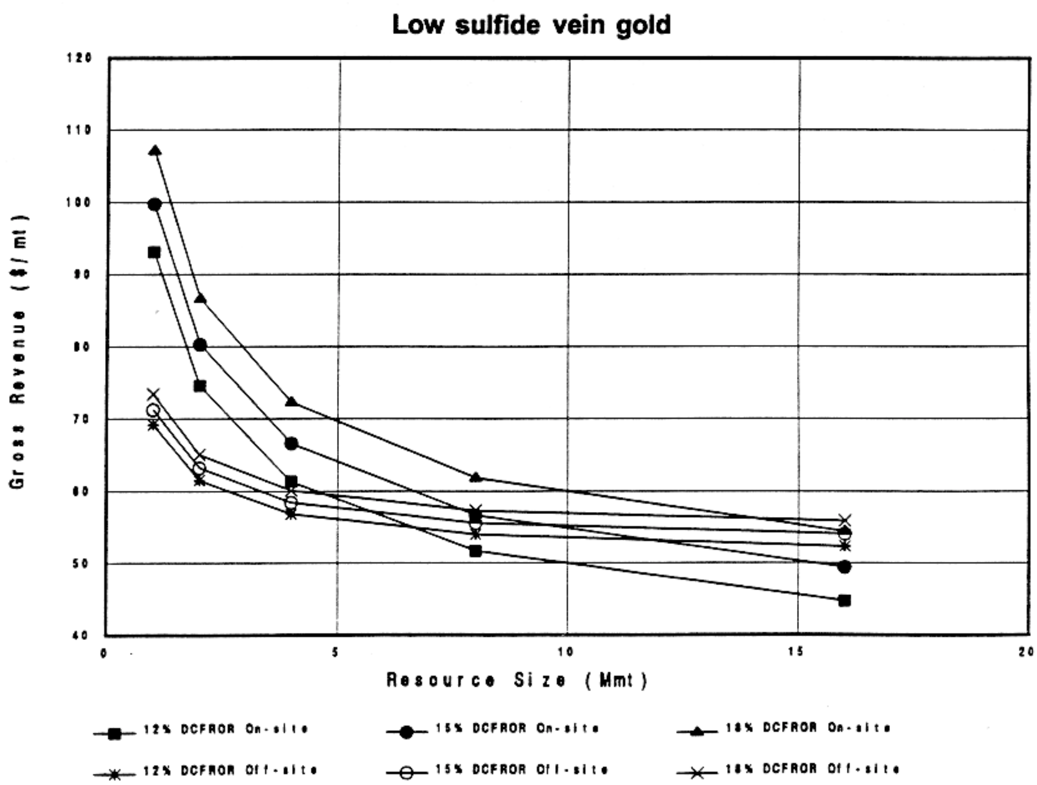


Figure 79. - Gross revenues vs. resource size for VMS and low-sulfide vein gold deposit models

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APPENDIX A - ANALYTICAL RESULTS FROM MINES, PROSPECTS, AND OCCURRENCES

Sample data and analytical results are tabulated in Appendix A-1. In addition to the sample results, the following information is listed in the table: mineral locality name, map number, field sample number, sample type, sample size, and material sampled. The results are organized by map numbers, which are used on the map of localities sampled (fig. 5).

Key to Tables A-2, A-3

All analyses were conducted by a commercial laboratory. Results are given by chemical element symbol in the following units except when noted by an asterisk(*):

Au, Pt, Pd - ppb;
Ag, Cu, Pb, Zn, Mo, Ni, Co, Ba, Cr, Sn, W, Ti, V, Cd, Bi, As, Sb, Hg, Te, Cs, La, Ce, Y, Tb, Yb, Lu, Ta, Th, U, Rb - ppm;
Fe, oxides and "Loss on Ignition" (LOI) values - percent.

If followed by an asterisk, Au and Ag values are in ppm (denoting assay analysis with gravimetric finish) and other elements (including Cu, Pb, Zn, Mo, Fe) are in percent.

Abbreviations

Abbreviations for sample types are as follows: (see Appendix B for definitions)

	Rock Chip		Stream Sample
C	continuous chip	MM	moss mat
CC	chip channel	PC	pan concentrate
CH	channel	PL	placer
G	grab	SS	stream sediment
RC	random chip		
Rep	representative chip		
S	select		
SC	spaced chip		

Abbreviations for sample location types:

FL	float	RC	rubblecrop
MD	mine dump	TP	trench, pit, or cut
MT	mill tailings	UW	underground workings
OC	outcrop		

Abbreviations used in the sample descriptions consist of the capitalized first letter of the four cardinal directions, as well as the following:

@	at
adj	adjacent
alt	altered
an	andesite
ar	argillite
aspy	arsenopyrite
az	azurite
bt	biotite
br	breccia/brecciated
calc	calcite
cg	coarse-grained
cng	conglomerate
chl	chlorite/chloritic
cont	continuous
cp	chalcopyrite
di	diorite
dissem	disseminated/disseminations
ep	epidote
fel	felsic
fest	iron stained
fg	fine-grained
fw	footwall
gd	granodiorite
gn	galena
gp	graphite/graphitic
gs	greenstone
gw	graywacke
hem	hematite
hnbd	hornblende
hn	hornfels
hw	hanging wall
ls	limestone
mag	magnetite
mg	medium-grained
ml	malachite
mo	molybdenite
monz	monzonite
min	mineralized
msv	massive
musc	muscovite
pl	phyllite
po	pyrrhotite
porph	porphyry/porphyritic
py	pyrite/pyritic
qt	quartzite
qz	quartz
sed	sediment
sc	schist
sil	silicified/siliceous
sl	sphalerite
sulf	sulfide
volc	volcanic
w/	with
xcut	crosscut/crosscutting

SAMPLING AND ANALYTICAL PROCEDURES

Sampling

Rock samples collected were of several types, including continuous chip, chip channel, channel, grab, representative chip, select, and spaced-chip. **Continuous chip** samples consist of ore or rock chips taken in a continuous line across an exposure; a **chip-channel** sample is cut across a relatively uniform width and depth across a vein, zone, structure, or mineralized body; **channel samples** consist of chips, fragments, and dust from a channel of uniform width and depth cut across the face or bank of an exposure of ore or mineralized rock; **grab samples** are collections of mineral or rock fragments, some broken from larger pieces, taken more or less at random from an outcrop, as float, or from a dump; **representative chip** samples characterize the proportions of various rock types present at an exposure; **select samples** are grab samples collected from the highest-grade portion of a mineralized zone; and **spaced-chip** samples are composed of rock fragments taken at specified intervals across an outcrop.

Stream samples collected include moss mat, pan concentrate, placer, and stream sediment. **Moss-mat** samples consist of dirt and fine sediments shaken from moss piles lying atop logs and/or rocks above the ambient water level within a stream drainage. These sediments should contain heavy minerals transported during flood stage and can indicate the presence of gold. **Pan-concentrate** samples are taken to determine whether a placer sample is warranted at a specific location. **Placer samples** consist of 16 pans (0.1 yd^3) of material processed through a 1.3-m-long sluice box. The resultant concentrates are visually examined to ascertain free gold content and also submitted for analysis. **Stream-sediment** samples were taken on a limited basis to determine anomalous metal values in an area.

Analytical Results

Samples were prepared and subsequently analyzed using both atomic absorption spectrophotometry (AA) and inductively coupled argon plasma (ICP) techniques. Gold was analyzed by fire assay preconcentration followed by an atomic absorption finish. If the analysis revealed concentrations in excess of 10,000 ppb gold, a gravimetric finish was performed. Silver, copper, lead, zinc, nickel, cobalt, and molybdenum were usually analyzed by atomic absorption techniques. Tungsten was analyzed by colorimetrics and x-ray fluorescence was used for barium and tin. A few samples were analyzed for platinum-group metals using fire-assay techniques. Most rare-earth elements were analyzed using neutron activation methods, although yttrium, cerium, and lanthanum were analyzed by x-ray fluorescence. Selected high-grade samples were analyzed for a suite of elements using the 16-element ICP package. A few samples were analyzed for the same element using two different techniques to quantify analytical error, the lower of the two results will be presented in our tables.

Rock samples were dried, crushed, and pulverized to at least minus 100 mesh. A sample weight of 0.5 gm was put into solution using a hot-extraction HNO_3-HCL technique for the atomic absorption analyses.

Table A-1. - Element detection limits by analytical technique.

Element	Minimum (ppm)	Maximum (ppm)
Fire assay, atomic absorption spectroscopy or gravimetric finish		
Au, Pt, Pd	0.005	none
Atomic absorption spectroscopy (AA)		
Ag	0.1	50
Cu, Zn, Mo, Co, V	1	20,000
Pb	2	10,000
Ni	2	20,000
X-ray fluorescence spectroscopy (XRF)		
Ti	100	none
Ba	20	20,000
Sn	5	20,000
Ce, La	10	10,000
Y	5	10,000
Colorimetrics		
W	2	200
Inductively coupled plasma atomic emission spectroscopy (ICP)		
Ag	0.2	50
Pb	2	10,000
Cu, Zn, Mo, Ni, Co, Cr, Mn	1	20,000
Sn, W	20	2,000
Fe	5	5,000
Bi	2	20,000
As, Sb	5	2,000
Hg	0.05	100
Ba	100	10,000
Te	10	2,000
Direct irradiation and instrumental neutron activation analysis (INAA)		
Sb	0.1	3,000
Zr	200	N/A
Ta	0.5	N/A
Nd	10	10,000
Sm	0.1	200
Eu	1	9,000
Tb	0.5	9,000
Tm, Yb	0.5	200
Sc	0.05	1,000
Th	0.2	9,000
U	0.2	2,000

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
1-1	4695	Salmon Bay/Bay Point	C	1.2																
1-1	4705	Salmon Bay/Bay Point	C	0.6																
1-2	4706	Salmon Bay/Bay Point	C	0.7																
1-2	4707	Salmon Bay/Bay Point	C	2.0																
1-3	4696	Salmon Bay/Bay Point	Rep	5.0																
1-4	4693	Salmon Bay/Pitcher Island	C	0.6																
1-4	4694	Salmon Bay/Pitcher Island	Rep	1.5																
1-5	4692	Salmon Bay/Pitcher Island	Rep	0.1 x 0.15																
1-5	4702	Salmon Bay/Pitcher Island	Rep																	
1-5	4703	Salmon Bay/Pitcher Island	Rep																	
1-5	4704	Salmon Bay/Pitcher Island	C	1.5																
Shakan/El Capitan																				
2-1	4690	Angus Lillie (Dry Pass)	Rep	2.4	<5	0.2	22	13	67	485	9	9			21	<2				
2-1	4691	Angus Lillie (Dry Pass)	C	1.2	8	<0.1	16	3	116	2344	10	16			11	3.4				
2-1	4700	Angus Lillie (Dry Pass)	C	1.2	<5	0.2	9	5	78	**4.60** *	10	11			5	<2				
2-1	4701	Angus Lillie (Dry Pass)	C	1.5	<5	<0.1	5	3	46	534	11	6			12					
3-1	4688	Sutter Lakes	SS		<5	<0.2	28	6	20	38	5	11	460	13		<20	4.73			
3-1	4689	Sutter Lakes	SS		14	<0.2	69	4	40	2	7	11	410	13		<20	3.82			
3-2	4667	Sutter Lakes	SS		6	<0.2	87	6	37	22	9	13	420	17		<20	3.41			
3-2	4668	Sutter Lakes	SS		6	<0.2	115	5	41	42	7	20	420	15		<20	4.32			
3-3	4669	Sutter Lakes	SS		10	<0.2	175	6	59	47	8	17	410	13		<20	3.94			
3-3	4686	Sutter Lakes	Rep	0.03	1188	1.3	1430	11	31	1035	8	9			5	<2				
3-3	4687	Sutter Lakes	SS		6	<0.2	162	6	60	68	8	22	400	13		<20	3.75			
4-1	4663	Shakan (Alaska Chief)	C	1.5	<5	1.1	1358	4	25	13727	9	45			<5	<2				
4-1	4664	Shakan (Alaska Chief)	C	1.4	13	0.8	678	7	25	**3.90** *	13	35			10	<2				
4-1	4665	Shakan (Alaska Chief)	Rep	1.5	11	0.5	568	3	32	261	11	54			11	8.3				
4-1	4674	Shakan (Alaska Chief)	C	1.5	10	0.4	418	3	35	19	11	27			9	3.4				
4-1	4675	Shakan (Alaska Chief)	C	0.9	<5	0.5	152	4	26	2419	6	18			<5	2.5				
4-1	4676	Shakan (Alaska Chief)	C	1.5	32	9.6	2520	6	27	2862	22	121			7	45				
4-1	4677	Shakan (Alaska Chief)	C	1.5	8	4.0	8230	3	21	606	25	107			<5	27				
4-1	4678	Shakan (Alaska Chief)	Rep	1.2	36	2.3	2353	6	54	4163	18	235			13	64				
4-1	4679	Shakan (Alaska Chief)	C	1.5	14	4.1	5188	4	46	15662	44	445			29	<2				
4-1	4680	Shakan (Alaska Chief)	C	1.5	<5	2.9	4896	4	74	8722	16	303			16	17				
4-1	4681	Shakan (Alaska Chief)	C	1.2	5390	<0.1	371	<2	15	112	6	27			6	<2				
5-1	4721	El Cap Gold	Rep	0.6	177	0.7	154	290	20	4	7	3			9	<2				
5-2	1763	El Cap Gold	Rep	1.5	11	<0.1	125	11	13											
5-3	1764	El Cap Gold	C	0.1	**259.4** *	46.4	2255	2835	272											
5-4	1765	El Cap Gold	C	0.1	5689	0.2	70	93	21											
5-5	1766	El Cap Gold	C	0.2	834	0.1	264	121	138											
5-6	4666	El Cap Gold	C	0.4	5329	2.5	256	113	16											
5-7	1767	El Cap Gold	C	0.1	49	<0.1	25	26	13											
5-8	4685	El Cap Gold	S		**2027** *	>50	3009	3351	1431							<2				
5-9	4682	El Cap Gold	C	0.4	**8.30** *	1.5	129	215	167											
5-10	4684	El Cap Gold	C	1.2	53	0.5	10	34	72											
5-11	4683	El Cap Gold	C	0.6	235	7.5	639	1112	413											
5-12	1770	El Cap Gold	C	0.1	446	<0.1	61	10	25											
5-13	1783	El Cap Gold	Soil	0.91down	9	<0.2	60	8	51	2	16	9		24		<20	1.71			

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description	
4695							136	220		1.1	3.9	0.69		9.4	<1.4				OC,	carbonate vein in cg
4705							113	170		1.5	4	0.63		30	<2.9				OC,	mafic dike w/carbonates
4706							4300	4860		1.3	1.1	0.12		45	<2.5				OC,	ls br, py to 5%
4707							319	400		<1.0	<1	0.13		7.1	16				OC,	limy br in ar host
4696							28	61		1.3	4	0.69		22	1.2				OC,	ar w/calc veins
4693							402	639		24	46	6.6		993	2.7				OC,	carbonate-hem vein
4694							41	78		1.6	3.3	0.47		4	1.1				OC,	gw, carbonate br
4692							50.3	88		1.1	26	4.3		99.5	9.2				OC,	carbonate-hem br
4702							15	31		1.5	5.6	0.86		66.5	16				OC,	gw w/carbonate/hem veins
4703							12	23		<1.0	1.3	0.18		2.4	1.4				OC,	hem-carbonate veins in gw
4704							42	70		1	6.8	1.2		36	2.1				OC,	gw w/calc/hem veins
Shakan/El Capitan																				
4690																			TP,	skarn, mo along fractures
4691																			TP,	skarn, mo clots
4700																			OC,	skarn, mo to 50% locally
4701																			TP,	skarn w/garnet, tr mo
4688	<5	<5	<5	0.143																silt, clay, org, no moss
4689	<5	<5	<5	0.078																sand, silt, clay, no oxides
4667	<5	5	<5	0.119																sand, silt, clay, gravel
4668	<5	<5	<5	0.099																sand, silt, clay, gravel
4669	<5	7	<5	0.121																sand, silt, clay, gravel
4686																			OC,	qz vein in hnbd di, mo,cp to 3%
4687	<5	<5	<5	0.153																sand, silt, clay, gravel
4663																			UW,	br di, qz veins w/mo,cp
4664																			UW,	qz vein w/mo, cp, ml
4665																			UW,	hn br, hnbd di, qz veins
4674																			UW,	alt di w/qz veins
4675																			UW,	br alt di, qz veins, clots
4676																			UW,	qz-feldspar vein, min
4677																			UW,	qz vein, msv py, cp
4678																			UW,	di, qz veins
4679																			UW,	alt di, hn, minor qz
4680																			UW,	br zone of di, hn, qz
4681																			UW,	banded hn
4721																			OC,	vein in creek above workings
1763																			OC,	en echelon qz veins in gs wedge
1764																			OC,	ribbon qz in shear hosted in ls, not gs
1765																			OC,	vuggy qz vein in gs w/cp, py
1766																			TP,	qz vein in trench, mainly barren
4666					<0.2														TP,	qz vein, py, tr cp
1767																			TP,	qz vein splay off main vein at face of trench
4685					10.9														TP,	sulf, visible gold
4682																			TP,	qz vein, hw
4684					<0.2														TP,	gs, py to 3%
4683																			TP,	qz vein plus gouge, fw
1770																			TP,	shear w/qz vein, cp, py to 1%, metallic sieve
1783	<5	9	<5	0.041															Till	auger sample above north vein

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
5-14	1782	El Cap Gold	Soil	0.76down	9	<0.2	64	13	67	6	17	10		94		<20	2.38			
5-15	1774	El Cap Gold	Soil	0.84down	10	<0.2	67	9	54	1	20	10		29		<20	1.98			
5-16	1773	El Cap Gold	Soil	0.76down	55	<0.2	59	8	59	5	21	10		31		<20	2.30			
5-17	1784	El Cap Gold	Soil	0.61down	10	<0.2	68	9	76	4	25	12		45		<20	2.71			
5-18	1785	El Cap Gold	Soil	0.69down	17	<0.2	58	7	51	6	13	8		21		<20	1.71			
5-19	1786	El Cap Gold	Soil	0.84down	9	<0.2	55	10	53	<1	14	9		22		<20	1.97			
5-20	1769	El Cap Gold	Rep	0.2	**101.18** *	1.2	84	50	13											
5-21	1768	El Cap Gold	C	0.2	**15.63** *	0.6	200	60	18											
6-1	4647	Devilfish Bay	Rep	4.6	12	3.0	3695	3	950	5	28	28			6	<2				
6-1	4651	Devilfish Bay	S	0.6	16	0.4	2656	4	176	6	20	49			23	22	**31.10** *			
6-2	4636	Devilfish Bay	S		<5	<0.1	28	3	13	2	7	6			<5	<2				
6-2	4637	Devilfish Bay	SS		12	<0.2	<1	4	82	<1	28	17	470	46		<20	3.33			
6-2	4638	Devilfish Bay	Rep	1.2	<5	<0.1	158	<2	40	13	39	21			16	<2				
6-2	4639	Devilfish Bay	Rep	0.3	<5	<0.1	145	3	18	3	14	14			8	2.4				
6-3	4633	Devilfish Bay	SS		6	<0.2	<1	10	107	<1	17	13	360	32		<20	2.89			
6-3	4634	Devilfish Bay	S		<5	<0.1	217	<2	14	8	9	7			<5	<2				
6-3	4635	Devilfish Bay	SS		6	<0.2	<1	4	187	7	26	12	380	42		<20	2.61			
7-1		Blashke Islands		No Samples Taken																
8-1	4643	McCullough Mine	Rep	1.5	34	0.7	1418	7	202											
8-2	4660	McCullough Mine	C	1.5	74	3.5	10279	12	17											
8-3	4645	McCullough Mine	C	1.8	48	4.9	17974	4	23											
8-4	4644	McCullough Mine	S	2 x 6	68	11.9	**4.39** *	4	29											
8-5	4658	McCullough Mine	C	1.8	21	2.2	6329	<2	9	4										
8-6	4672	McCullough Mine	Rep	3.0	53	4.0	14061	3	12											
8-7	4659	McCullough Mine	Rep	1.2 x 1.8	31	1.6	2980	3	7											
8-8	4673	McCullough Mine	C	1.2	41	5.1	**2.09** *	3	14											
8-9	4671	McCullough Mine	C	2.0	50	4.1	10248	3	10											
8-10	4629	McCullough Mine	Rep	0.9	120	3.5	12095	5	16											
8-11	4628	McCullough Mine	S	6 x 9	58	6.8	**3.03** *	4	22											
8-12	4661	McCullough Mine	Rep	1.8	6	<0.2	105	19	187	3	26	13	770	44		<20	4.55			
9-1		Blue Jay		No Samples Taken																
Salt Chuck Area																				
10-1	4656	Rush Peak	C	1.2	9	<0.1	2619	4	23											
10-2	4655	Rush Peak	C	0.9	<5	<0.1	919	3	34											
10-3	4652	Rush Peak	Rep	1.2	<5	<0.1	3738	<2	23											
10-4	4650	Rush Peak	S		<5	<0.1	5565	3	17	<1	12	21		57		<20	2.11			
10-5	4653	Rush Peak	Rep	1.2	<5	<0.1	2797	3	31											
10-6	4657	Rush Peak	C	0.9	10	<0.1	2914	3	8											
10-7	4648	Rush Peak	Rep	1.5	6	<0.1	1550	3	30											
10-8	4649	Rush Peak	Rep	0.6	<5	<0.1	3881	<2	16											
10-9	4654	Rush Peak	C	1.5	<5	<0.1	998	2	36											
11-1		Kathy		No Samples Taken																
12-1		North Pole Hill		No Samples Taken																
13-1	3467	Salt Chuck	Rep		552	<0.1	650			<2	37	51	<100	81		<2			1162	<10
13-1	3468	Salt Chuck	Rep		410	0.5	1324			<2	<20	46	130	78		<2			589	<10

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
1782	<5	<5	6	0.046															Till	auger sample above north vein
1774	<5	16	<5	0.063															Till	auger sample above north vein
1773	<5	8	<5	0.077															Till	auger sample above north vein
1784	<5	<5	<5	0.098															Till	auger sample above north vein
1785	<5	<5	<5	0.069															Till	auger sample above north vein
1786	<5	7	<5	0.058															Till	auger sample above north vein
1769																			TP,	qz w/native Au, Cu, py, cp, metallic sieve
1768																			TP,	qz vein w/visible gold on hw, metallic sieve
4647																			OC,	min hn w/marble
4651																			FL,	mag-rich skarn, cp to 3%
4636																			FL,	min granodiorite
4637	<5	<5	<5	0.114																mixed sediments, no org
4638																			OC,	banded skarn, py to 20%
4639																			OC,	granodiorite, py to 10%
4633	<5	13	<5	0.246																mixed sediments, org
4634																			FL,	alt porph, sulf to 4%
4635	<5	<5	<5	0.174																sand, silt, clay, no org
	No Samples Taken																			
4643																			OC,	sil gw, dissem py
4660																			OC,	br qz w/ar clasts
4645																			OC,	br qz vein, cp to 10%
4644																			MD,	br qz w/sulf
4658					<0.2														OC,	qz vein br w/ar, native copper
4672																			OC,	br qz vein w/sulf
4659																			OC,	br ar w/qz, sulf
4673																			OC,	qz br w/ar clasts, cp to 25%
4671																			OC,	br qz vein, sulf to 10%
4629																			OC,	br qz vein, ar, cp to 5%
4628																			MD,	qz br, cp to 10%
4661	<5	9	<5	0.043															TP,	black ar, py stringers
	No Samples Taken																			
Salt Chuck Area																				
4656																			TP,	gs, ar br in shear zone
4655																			TP,	gouge zone w/br ar, gs
4652																			TP,	br gs, ar
4650	13	<5	<5	0.064															TP,	cp in clots in fractures
4653																			TP,	gs, ar cg, min calc stringers
4657																			TP,	min gouge zone, cp, ml
4648																			TP,	br ar w/calc veins, cp
4649																			TP,	ar, gs, cp, py to 5%
4654																			TP,	sheared ar, gs porph br
	No Samples Taken																			
	No Samples Taken																			
3467		2	0.6														350	1270	MD	tailings
3468		3	0.8														120	1050	MD	tailings

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
13-1	3469	Salt Chuck	Rep		1890	12.9	**2.67** *			<2	<20	55	110	50		<2			265	<10
13-1	3470	Salt Chuck	Rep		743	10.5	**2.14** *			<2	<20	77	450	<50		<2			680	<10
14-1	1753	Rush & Brown	C	0.9	1593	8.9	**2.04** *	7	401											
14-1	4400	Rush & Brown	S		<5	<0.1	235				32	4					**47.98** *	700	210	
14-1	4401	Rush & Brown	G		163	0.5	1381				31	21					**42.58** *	1100	224	
14-1	4402	Rush & Brown	S		4167	42.7	**8.23** *	13	777	2	35	243					**25.08** *	900	118	
14-1	4403	Rush & Brown	G	12.2	5726	12.4	**1.67** *				32	436					**17.72** *	2400	180	
14-1	4404	Rush & Brown	G		82	1.0	1907				25	25					3.92	4400	130	
14-1	4405	Rush & Brown	G		158	0.4	652				36	30					5.68	5200	170	
14-2	1754	Rush & Brown	C	0.4	6582	28.8	**5.66** *	28	317	84	98	631	10	16	<20	<20	>10		72	<1.0
14-3	1757	Rush & Brown	C	0.5	7509	**60.00** *	**10.40** *	16	768	4	76	238	15	15	<20	<20	>10		122	<1.0
14-4	1755	Rush & Brown	C	0.4	5743	22.0	**3.72** *	21	283	4	55	168								
14-5	1756	Rush & Brown	C	0.2	4155	11.9	18600	23	337	8	43	114								
15-1	1747	Venus	S		158	29.3	12718	241	4475	22	35	52	12	20	<20	<20	>10		65	<1.0
15-1	1748	Venus	Rep	0.9	186	24.9	15659	124	1259	45	33	70								
15-1	1749	Venus	Rep	0.9	7	0.5	283	7	66	3	13	10								
15-1	1750	Venus	C	1.8	212	40.2	16839	103	1916	14	71	68	14	7	<20	<20	>10		41	<1.0
15-1	1751	Venus	Rep	3.0	<5	0.9	523	7	60	14	28	23								
15-1	1752	Venus	Rep	4.6	207	39.7	15435	103	7597	4	54	66								
16-1		Paul Young																		
Kasaan Peninsula Area																				
17-1	4631	Copper Center	S	0.1	61	<0.1	675	3	103	27	59	57			<5	<2				
18-1		Big Five		No Samples Taken																
19-1	4538	Tolstoi (Iron Cap prospect)	SS		<5	0.3	57	21	27	<1	2	1	270	8		<20	0.52			
19-1	4539	Tolstoi (Iron Cap prospect)	Rep	7.6	<5	0.2	124	5	56	2	24	28			5	16	>10			
19-1	4540	Tolstoi (Iron Cap prospect)	SC	3.7@0.3	354	1.0	9960	15	186	4	68	136			32	49	**51.54** *	300		
19-1	4551	Tolstoi (Iron Cap prospect)	SC	4.0@0.61	404	2.4	19928	12	134	3	51	108			29	37	**54.42** *	300		
19-1	4552	Tolstoi (Iron Cap prospect)	SC	3.7@.3	20	0.4	2644	4	65	6	17	99			32	51	**54.27** *	500	39	
19-1	4553	Tolstoi (Iron Cap prospect)	SS		<5	<0.2	94	11	39	5	10	29	100	28		<20	>10			
19-1	4554	Tolstoi (Iron Cap prospect)	C	1.5	32	1.4	7836	10	80	<1	22	58					**52.36** *	600	101	
19-1	4555	Tolstoi (Iron Cap prospect)	SC	3.0@0.3	7	0.2	243	9	59	2	20	26			9	3.2	**17.44** *	2600		
19-1	4556	Tolstoi (Iron Cap prospect)	Rep	1.2	11	0.4	564	6	128	2	11	33			17	<2	**22.51** *	1800		
19-1	4557	Tolstoi (Iron Cap prospect)	Rep	2.4	<5	0.2	175	6	72	<1	14	37			16	<2	**29.02** *	2000		
19-1	4558	Tolstoi (Iron Cap prospect)	S		64	1.6	5429	9	110	2	36	187			8	<2	**19.73** *	900		
19-1	4559	Tolstoi (Iron Cap prospect)	SC	4.6@.3	16	1.1	863	93	90	3	18	92			26	15	**66.23** *	400		
19-1	4560	Tolstoi (Iron Cap prospect)	Rep	2.1	88	1.3	2509	125	85	13	16	84			31	37	**66.25** *	300		
20-1		Wallace		No Samples Taken																
21-1	4605	Haida	S	1.5	2700	3.3	5936	11	85	3	17	83			28	5.6				
21-1	4606	Haida	S	3.0	306	1.3	5259	<2	68	<1	19	64			31	<2	**56.16** *			
21-1	4620	Haida	SC	3.0@0.15	776	1.8	10635	4	314	<1	23	76			17	<2				
21-1	4621	Haida	SC	3.0@0.15	963	3.7	14459	4	234	<1	27	106			32	<2	**50.30** *			
21-1	4622	Haida	SC	2.7@0.15	360	1.4	4968	4	172	<1	18	68			13	<2	**32.90** *			
21-1	4623	Haida	C	0.9	3840	8.9	**3.83** *	6	515	<1	29	166			36	<2	**48.71** *		187	
21-1	4624	Haida	C	1.5	846	4.5	13569	6	69	2	12	53			9	<2	**18.99** *			
21-1	4625	Haida	C	0.9	657	6.1	16200	6	51	4	26	58			<5	<2				
21-1	4626	Haida	S		396	1.2	6727	3	165	<1	19	68			30	<2	**57.13** *	400	180	

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
3469		3	2														500	>5000	MD	tailings
3470		3	0.6														270	1430	MD	tailings
1753																			OC,	br meta-an w/cp, ml, py, S of glory hole
4400																			MD,	mag ore, hand sorted
4401																			MD,	mag ore, an host, from dump
4402																			MD,	cpy, mag skarn material
4403																			MD,	mafic volc with py
4404																			MD,	gs br, alt di, limy clastics
4405																			MD,	gs br, alt an, hn
1754	15	20	<5		<10		8		2										UW,	hi-grade min in ore chute, cp, py to 80%
1757	7	146	<5		<10		19		2										UW,	msv sulf ore within fault, cp, py to 90%
1755																			UW,	fault zone w/cp, ml, py, above main splay
1756																			UW,	fault gouge in metavolc host
1747	37	1840	9		<10		<1		4										MD,	cp, sl, po to 70% combined from adit dump
1748																			UW,	msv po layer in sil volcaniclastic
1749																			UW,	same vein as 1748/opposite end of exposure
1750	51	109	5		<10		<1		2										TP,	msv po w/sl, cp, most continuous min on property
1751																			TP,	py in marginal zone of sil volc porph
1752																			TP,	sulf in alt marginal phase, trench 3
Kasaan Peninsula Area																				
4631																			OC,	min gs, py, mag
No Samples Taken																				
4538	<5	<5	<5	0.181																silt, clay, w/in di porph
4539																			OC,	metavolc, gabbro, dacite
4540																	8	4	TP,	skarn, w/mag and cp
4551																	10	5	TP,	mag-sulf rock, cp to 15%
4552																			TP,	ep gs, mag to 55%
4553	10	33	<5	<0.01																silt, clay with 15% gravel
4554																	<5	<1	TP,	ep skarn in gs host
4555																			UW,	gs porph, mag to 40%
4556																			UW,	gs porph, tr sulf
4557																			UW,	gs porph, dissem sulf
4558																			UW,	gs w/cp, py and mag to 25%
4559																			OC,	mag-gs, dissem sulf
4560																			TP,	gs skarn w/mag to 90%
No Samples Taken																				
4605																	<5	4	TP,	min skarn, cp, mag
4606																			TP,	msv mag w/tr ml
4620																			TP,	mag-sulf ore & gs
4621																			UW,	ore rock, mag, cp
4622																			UW,	ore and gs w/skarn, cp, ml
4623																			UW,	min skarn, mag to 50%
4624																			UW,	hn, ep-rich
4625																			TP,	min skarn, cp, mag, py
4626																	11	6	MD,	mag ore w/sulf, sorted

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
21-1	4627	Haida	C	1.1	120	1.4	8552	5	64	<1	16	119			13	<2				
22-1		Charles		No Samples Taken																
23-1		Brown & Metzdorf		No Samples Taken																
24-1	1724	MRA	Rep	0.3	27	0.4	1577	3	66											
24-1	1725	MRA	Rep	0.61 x 1.22	86	5.0	**5.39** *	4	54											
25-1	1723	Alarm	S		5213	9.6	**5.64** *	3	85	4	208	658			<5	2	**12.78** *	68	11	
26-1	4520	It Mine	S		7240	39.4	**13.88** *	7	246	3	264	305			24	3.4	>10			
26-2	4521	It Mine	C	0.9	85	0.8	876	4	49	8	29	34			13	8.7				
26-2	4522	It Mine	C	1.0	1060	45.2	**13.99** *	5	95	5	25	36			13	<2				
26-2	4523	It Mine	C	0.9	3520	24.9	**4.59** *	6	149	18	93	98			8	15				
26-2	4524	It Mine	C	0.8	5040	24.4	**5.81** *	5	98	15	286	268			23	14				
26-2	4534	It Mine	C	1.5	510	4.2	4345	3	43	2	30	31			28	2.1				
26-2	4535	It Mine	S		6620	**97.03** *	**18.69** *	5	592	2	102	174			20	<2				
26-2	4541	It Mine	Rep	0.9	7660	**57.26** *	**22.90** *	10	350	25	213	305			40	24	25.90 *			
26-2	4542	It Mine	Rep		35	0.9	1787	4	43	25	11	9			<5	<2				
27-1	4589	Poorman prospect	C	1.8	57	1.6	579	60	127	5	20	32			12	2.4	>10			
27-2	4588	Poorman prospect	S		388	0.2	580	<2	41	5	37	135			16	65	**58.99** *	200	34	
27-3	4584	Poorman prospect	SC	4.0@0.15	2031	1.5	6675	5	86	26	19	128			22	<2	**25.10** *	1000		
27-3	4585	Poorman prospect	Rep	3.0	125	0.4	1011	3	54	71	10	21			<5	<2				
27-3	4587	Poorman prospect	S		1418	2.4	10452	5	43	19	48	435			23	9.4	**49.75** *	200	29	
27-4	4586	Poorman prospect	C	0.9	250	0.4	1020	4	44	5	31	108			30	92	**63.86** *	300	56	
27-5	4579	Poorman prospect	Rep	0.3	1047	0.8	105	7	116	68	30	513			16	23	**28.18** *	600		
27-6	4583	Poorman prospect	C	1.8	804	0.8	1452	4	66	4	27	76			29	51	**61.03** *	400		
27-7	4565	Poorman prospect	C	1.3	14	0.3	957	<2	11						<5	<2				
27-7	4566	Poorman prospect	C	1.5	12	0.5	2981	<2	8						<5	<2				
27-7	4567	Poorman prospect	C	0.6	30	1.4	10943	<2	7						7	<2				
27-7	4568	Poorman prospect	C	1.0	<5	<0.1	125	<2	26						<5	<2				
27-7	4569	Poorman prospect	C	1.0	<5	<0.1	44	<2	44						5	<2				
27-7	4577	Poorman prospect	C	1.2	12	0.6	2908	<2	9						<5	<2				
27-7	4578	Poorman prospect	Rep	0.6	18	0.2	182	3	32						7	<2				
27-7	4580	Poorman prospect	C	1.8	18	0.4	1348	<2	6						5	<2				
27-7	4581	Poorman prospect	C	1.2	10	0.1	400	<2	4						8	<2				
27-7	4582	Poorman prospect	C	0.5	7	0.2	138	3	49	35					<5	3				
28-1		Iron King		No Samples Taken																
29-1	4515	Copper Queen	S		86	1.8	2681	12	33	10	140	813			10	<2				
29-1	4528	Copper Queen	S		322	3.3	2541	15	32	2	26	352	<20		27	<2				
29-1	4529	Copper Queen	SS		12	1.3	57	75	257	1	26	24	250	27		<20	2.39			
29-1	4530	Copper Queen	C	1.5	561	6.7	1406	10	49	8	21	376			20	5.7				
29-1	4531	Copper Queen	SS		10	0.5	55	30	111	1	20	16	170	22		<20	1.78			
29-1	4608	Copper Queen	C	1.0	626	4.1	3628	18	83	3	36	195	<20		20	<2				
29-2	4514	Copper Queen	C	0.9	131	1.3	2859	5	32	8	10	11			6	<2				
29-2	4526	Copper Queen	C	1.2	91	1.3	2382	5	37	8	15	25			9	2.4				
29-2	4527	Copper Queen	C	1.5	<5	0.3	385	3	36	3	6	10			8	<2				
29-3	4607	Copper Queen	S		64	0.5	575	5	56											
30-1	1688	Uncle Sam	C	1.2	397	3.5	8690	<2	83	4	32	71			<5	<2	**28.14** *	1585	43	
30-2	1691	Uncle Sam	Rep	1.5	445	9.1	**2.34** *	<2	168	10	37	75			<5	5	**23.19** *	1528		

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
4627																			TP,	calc-silicate w/metavolc
No Samples Taken																				
No Samples Taken																				
1724																			UW,	dissem cp in gs below shear
1725																			UW,	cp-bearing skarn (alt volc) in marble
1723																			UW,	cp, py, trace mag in marble skarn, stope wall
4520																			MD,	skarn w/cp to 25%
4521																			UW,	skarn adjacent to shear
4522																			UW,	marble, an dike, cp clots
4523																			UW,	skarn w/sulf
4524																			UW,	skarn, cp, ml, az
4534																			OC,	min skarn, sulf to 15%
4535																			OC,	skarn, cp to 40%
4541																			UW,	min skarn, cp-rich
4542																			TP,	skarn, gs, barren rock
4589																			TP,	marble w/mag rind
4588																			MD,	mag-sulf ore, shaft 3
4584																	7	2	UW,	skarn w/calc blebs, cp, mag
4585																			UW,	alkalic dacite and gs
4587																	<5	4	UW,	mag-sulf ore, adit 2
4586																			UW,	mag ore, adit 1 portal
4579																			TP,	mag skarn, w/calc
4583																			OC,	ore, mag, cp, fest
4565																			TP,	blue-green qz, py, tr cp
4566																			OC,	qz vein w/br gs clasts
4567					0.4														OC,	min qz vein, sulf to 30%
4568																			TP,	qz vein w/gs fragments
4569																			TP,	br gs, py to 3%
4577					0.2														OC,	qz vein w/cp, py
4578																			FL,	qz vein w/gs pods, fest
4580					0.3														TP,	qz vein, minor cp
4581					<0.2														TP,	qz w/shear in gs
4582																			TP,	br qz in gs
No Samples Taken																				
4515																			OC,	min skarn in shear zone
4528																			RC,	ore in metabasalt
4529	<5	66	<5	0.149																mixed silt, clay, sand, gravel
4530																			OC,	alt volc, cp, py, sheared
4531	<5	27	5	0.192																silt, clay, little org
4608																	6	5	UW,	py skarn w/mag adit 2
4514																			UW,	alkalic dacite, cp, ml
4526																			UW,	metavolc, sulf < 3%
4527																			UW,	br metavolc
4607																			MD,	gs w/phenocrysts, barren sulf
1688																			UW,	mv skarn w/mag, cp to 2%, poddy
1691																			UW,	mag skarn, cp, ml, poddy

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
30-3	1692	Uncle Sam	Rep	1.22 x 1.22	130	2.5	4062	<2	131	4	37	127			<5	4	**37.67** *	1113		
30-4	1696	Uncle Sam	Rep		218	5.2	7534	8	86	3	34	75			<5	2	**39.37** *	542		
30-5	1687	Uncle Sam	S		664	12.6	**2.24** *	3	162	5	71	145			<5	4	**35.85** *	862		
30-6	1689	Uncle Sam	Rep	1.52 x 3.05	529	12.3	**3.14** *	5	205	5	73	148			<5	14	**10.66** *	2396		
30-7	1690	Uncle Sam	C	1.5	137	4.2	9697	<2	107	5	28	59			<5	6	**31.51** *	626		
30-8	1693	Uncle Sam	Rep	1.52 x 3.66	160	2.4	5020	<2	123	3	34	61			<5	<2	**37.50** *	637		
30-9	1697	Uncle Sam	Rep	4.6	62	2.1	3184	<2	66	2	22	22			<5	<2	**23.47** *	745		
30-10	1694	Uncle Sam	Rep	1.22 x 2.13	134	5.8	10219	4	121	4	34	52			<5	5	**36.54** *	648	70	
30-11	1695	Uncle Sam	Rep	0.61 x 2.44	61	3.6	6866	9	21	5	17	36			6	<2	**3.41** *	5079		
31-1	4490	Rich Hill Mine	Rep	3.0	898	8.4	**2.66** *	6	90	129	34	105			11	<2				
31-1	4491	Rich Hill Mine	C	1.0	342	6.1	14910	5	123	174	21	47			13	<2				
31-1	4492	Rich Hill Mine	Rep	2.4	566	7.6	**2.54** *	6	64	39	42	82			18	2.4	**12.00** *	2300		
31-1	4493	Rich Hill Mine	S		**11.79** *	43.5	**6.15** *	9	444	187	163	365			21	19	**24.73** *			
31-1	4494	Rich Hill Mine	Rep	0.9	132	6.9	10698	8	31	7	69	35			<5	<2				
31-1	4495	Rich Hill Mine	C	1.2	194	3.3	9039	5	94	172	17	42			<5	<2				
31-1	4496	Rich Hill Mine	S		3420	28.7	**8.03** *	6	168	129	48	247			9	<2	>10			
31-1	4511	Rich Hill Mine	Rep	4.6	1126	11.9	**3.69** *	9	150	88	74	165			23	<2	>10	1000		
31-1	4512	Rich Hill Mine	C	1.2	570	7.2	**2.14** *	5	102	10	29	115			<5	<2	5.47			
31-1	4513	Rich Hill Mine	C	1.2	1696	17.6	**6.32** *	6	237	7	70	173			9	<2	9.60			
31-2	4497	Rich Hill Mine	C	1.5	178	7.9	**2.89** *	5	21	3	24	24			7	<2				
31-2	4498	Rich Hill Mine	C	1.5	33	1.2	2508	6	17	4	8	7			6	<2				
31-2	4499	Rich Hill Mine	C	1.2	46	2.1	5498	5	47	10	15	22			<5	<2				
31-3	4510	Rich Hill Mine	Rep	1.5	474	4.9	8300	5	112	4	78	196			9	<2				
32-1		Peacock/Tacoma		No Samples Taken																
33-1		Hole-In-The-Wall		No Samples Taken																
34-1	4609	Hadley Smelter	G		2560	9.3	1945	42	258	26	23	57					>10			
34-1	4610	Hadley Smelter	G		58	0.8	4612	3	495	27	18	172					**35.78** *	1700		
34-1	4611	Hadley Smelter	G		58	<0.2	3118	11	829	16	12	116	100	52		<20	>10			
34-1	4612	Hadley Smelter	G		60	<0.2	3535	21	1508	18	10	144	90	61		<20	**38.30** *			
34-1	4613	Hadley Smelter	G		2555	10.8	**5.10** *	7	511	10	49	240	30	65		<20	**51.50** *			
35-1	1759	Mamie	SC	6.1@0.15	26	1.0	1430	5	85	87	84	221			<5	<2	**37.60** *			
35-1	1760	Mamie	SC	6.1@0.15	526	2.2	8439	5	76	214	41	263			8	<2	**36.85** *	872		
35-1	1761	Mamie	SC	6.1@0.15	242	1.0	3562	4	76	14	70	227			<5	<2	**34.97** *			
35-1	4517	Mamie	S		125	0.3	696	6	19	78	6	12			6	<2				
35-1	4570	Mamie	SC	3.7@0.3	196	1.0	4328	4	42	49	19	111			16	<2	**53.03** *	200	38	
35-1	4571	Mamie	SC	3.0@0.15	367	1.5	6150	4	37	43	15	232			20	<2	**41.45** *	200		
35-1	4572	Mamie	SC	4.6@.46	1331	4.1	17219	4	57	70	22	197			19	<2	**51.99** *	200		
35-1	4573	Mamie	SC	6.1@0.3	135	3.4	7961	3	151	12	31	64			<5	<2	**9.62** *			
35-2	4518	Mamie	SC	4.6@0.15	862	5.7	14206	23	302	3	37	94			37	2.6	**44.13** *	600	118	
35-2	4519	Mamie	S	15 x 6	12	0.3	598	3	29	5					<5	<2				
35-2	4532	Mamie	C	1.2	362	3.7	7410	8	129	2	101	314			26	4.4	**58.94** *	300	56	
35-2	4533	Mamie	S		1106	6.3	**2.72** *	5	235	3	34	130			24	<2	**42.44** *	600		
35-2	4574	Mamie	SC	3.0@0.3	2926	9.2	**3.35** *	118	1500	8	30	118			<5	<2	**22.02** *	1300		
35-3	4561	Mamie	SC	7.6@0.3	181	6.1	18362	10	100	18	18	36			8	<2	>10			
35-3	4562	Mamie	Rep	4.6@0.3	510	4.5	14003	6	65	4	19	18			23	<2	**53.92** *	900		
35-3	4563	Mamie	Rep	3.0 x 4.5	47	0.6	1678	3	62	198	17	10			10	<2	**33.50** *	700		

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
1692																			TP,	small pod at end of upper cut, cp, mag
1696																			TP,	mag pod in open cut
1687																			MD,	mag skarn, py to 25%, cp to 5%
1689																			UW,	mag skarn, cp <1%, pods in syenite
1690																			UW,	syenite skarn w/mag, cp ep, calc
1693																			UW,	mag, cp pod in upper open stope
1697																			UW,	mag to 50%, cp, ml, ep, calc
1694																	<0.002	<0.002	UW,	mag pod w/cp, ep, calc
1695																			UW,	syenite skarn in shear zone, cp
4490																			TP,	min skarn, glory hole
4491																			TP,	gs & metasediment, py to 15%, cp
4492																			TP,	metasediment host, cp in shear
4493																			TP,	min gs, cp w/ml, az
4494																			UW,	skarn/alkalic dacite dike
4495																			UW,	min ep skarn, cp, py
4496																	<5	27	MD,	metavolc w/min, cp-rich
4511																	<5	10	TP,	min gs, metased, cp
4512																			UW,	min gs in shear, adit 2
4513																			UW,	min gs, faulted, adit 2
4497																			UW,	min gs in shear
4498																			UW,	gs, adit 1
4499																			UW,	br qz vein in gs, cp, ml
4510																			UW,	gs, minor sulf
	No Samples Taken																			
	No Samples Taken																			
4609																	10	<1	MD,	tailings pile
4610																			MD,	mag-sulf tailings
4611	17	<5	<5	<0.01															MD,	beach worked tailings pile
4612	21	<5	<5	<0.01															MD,	slag from smelter
4613	76	<5	<5	<0.01															MD,	clinker material
1759																			UW,	mag skarn w/cp, chl, hnbd, calc
1760																			UW,	cont w/1759, more sulf here
1761																			UW,	to contact w/tactite, cont w/1760, best interval
4517																			MD,	epidotized alkalic dacite
4570																			UW,	mag skarn, adit 1
4571																			UW,	min marble skarn, shear
4572																	<5	4	UW,	mag-sulf skarn, adit 1
4573																			UW,	skarn in alt gs, cp, py
4518																	<5	2	TP,	skarn in sheared mag, min
4519																			MD,	di porph near shaft
4532																	<5	2	OC,	ore rock, mag-rich, glory hole
4533																			MD,	mag-sulf skarn
4574																			TP,	gs w/marble lenses, cp to 5%
4561																			TP,	skarn, min locally, spotty
4562																	9	12	TP,	min skarn w/gs, mag, cp
4563																			TP,	mag-cp,py skarn

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
35-3	4575	Mamie	SC	9.1@0.1	312	6.2	19524	5	118	151	31	42			26	<2	**53.92** *	700	59	
35-3	4576	Mamie	SC	1.5@0.15	99	1.8	11578	4	173	62	22	28			<5	<2	**12.50** *			
35-4	1758	Mamie	Rep		201	7.0	**2.50** *	7	135	24	36	47			<5	<2	**34.43** *			
36-1	1704	Peacock	Rep	1.22 x 2.13	66	7.2	15689	3	116	11	37	108			<5	3	**22.15** *	1743		
36-2	1703	Peacock	Rep	0.9	178	19.3	**4.28** *	6	160	20	38	163			6	6	**21.65** *	1891	74	
36-3	1706	Peacock	C	1.8	548	9.1	**2.36** *	6	163	18	26	176			<5	<2	**9.49** *	3163		
36-4	1708	Peacock	Rep	3.7	48	4.7	12762	6	177	14	32	89			<5	<2	**30.52** *	1809		
36-5	1707	Peacock	Rep	1.22 x 3.05	957	21.5	**4.89** *	13	171	11	33	202			<5	4	**12.97** *	2212		
36-6	1705	Peacock	Rep	1.52 x 2.13	36	5.5	14119	7	103	6	16	86			9	3	**10.38** *	2379		
36-7	1710	Peacock	Rep	0.91 x 0.91	49	8.0	19365	17	133	7	18	87			<5	2	**10.78** *	2581		
36-8	1712	Peacock	Rep	2.1	169	4.7	17323	<2	101	15	30	119			<5	5	**44.72** *	999		
36-9	1711	Peacock	Rep	1.8	14	1.5	1326	3	80	4	24	76			<5	<2	**53.97** *	968	78	
36-10	1709	Peacock	SC	2.13@0.15	520	13.3	**3.21** *	5	232	11	54	240			<5	2	**17.15** *	2471		
36-11	1718	Peacock	Rep		50	2.2	8690	3	121	15	24	83			<5	<2	**40.99** *	1282		
36-12	1715	Peacock	Rep	1.22 x 1.83	329	31.7	**6.98** *	7	430	36	43	244			<5	5	**32.01** *	731	59	
36-13	1714	Peacock	Rep	1.22 x 1.22	48	4.0	8439	3	108	25	21	72			<5	<2	**24.73** *	1956	88	
36-14	1716	Peacock	Rep	0.91 x 1.83	60	5.4	14174	3	119	81	29	90			<5	<2	**32.72** *	2093	118	
36-15	1717	Peacock	Rep	1.52 x 1.52	134	6.8	13010	5	126	5	133	306			<5	<2	**14.44** *	1625		
36-16	1719	Peacock	Rep	3.0	<5	0.3	187	30	46	7	25	35			<5	<2	**2.15** *	4512		
36-17	1721	Peacock	Rep	1.52 x 3.05	69	10.7	**2.48** *	9	38	5	26	58			<5	<2	**7.28** *	2349		
36-18	1720	Peacock	Rep	1.22 x 2.13	51	9.5	**2.37** *	8	66	10	28	83			<5	2	**13.98** *	2052	112	
36-19	1713	Peacock	Rep		<5	0.3	222	7	63	3	18	27			<5	<2	**12.43** *	2459		
37-1	1722	Rico	Rep	1.52 x 2.44	342	1.9	10045	<2	90	9	30	100			<5	<2	**40.00** *	1519	85	
37-1	1726	Rico	Rep	3.7	42	1.1	2190	4	134	20	61	118			<5	<2	**45.68** *	1053	108	
37-1	1727	Rico	Rep	4.6	565	4.5	13829	<2	194	11	34	105			<5	2	**44.84** *	974		
37-1	1728	Rico	Rep	3.7	2694	8.9	**2.37** *	3	251	26	33	194			<5	<2	**33.29** *	900		
37-1	1729	Rico	Rep	3.7	656	5.3	15126	3	116	6	123	309			<5	3	**35.59** *	1101		
37-1	1730	Rico	Rep	3.4	222	3.4	4151	5	114	6	276	511			<5	5	**34.38** *	964		
38-1	4483	Stevenstown	Rep	4.6	2500	9.3	**3.25** *	9	540	3	41	242	<20		25	<2	**30.57** *	500		
38-1	4484	Stevenstown	Rep	1.5	1512	5.2	**2.46** *	6	92	2	26	149			23	<2	**32.45** *	1400		
38-1	4485	Stevenstown	Rep	3 x 12	1020	12.0	**5.32** *	10	140	7	28	145	80		19	<2	**21.07** *	1400		
38-1	4505	Stevenstown	Rep	9.1	1147	4.9	16336	5	271	3	34	97			22	<2	**41.45** *	700	146	
38-1	4506	Stevenstown	C	1.2	1076	13.4	**4.83** *	12	163	3	23	150			17	4.2	**19.73** *	1200		
38-1	4507	Stevenstown	Rep	0.9 x 1.5	2980	17.0	**7.33** *	8	110	2	34	215	<20		27	<2	>10			
38-2	4486	Stevenstown	Rep	6.1	922	4.5	13645	4	311	3	23	98	<20		29	<2	**57.33** *	400	91	
38-2	4487	Stevenstown	Rep	3.0	412	3.8	**1.55** *	5	91	6	21	107	<20		23	<2	**47.17** *	900		
38-2	4488	Stevenstown	Rep	3.0	724	4.0	19343	6	109	11	23	119	80		12	<2	**31.76** *	1800		
38-2	4489	Stevenstown	Rep	3.0	1566	20.9	**7.07** *	6	189	24	29	227	<20		29	<2	**28.63** *	1000		
38-2	4508	Stevenstown	Rep	1.5 x 3	2460	10.6	**4.96** *	6	213	5	34	551	<20		23	<2	>10			
38-2	4509	Stevenstown	Rep	1.5 x 6	3620	24.4	**7.33** *	9	775	2	54	283			23	<2	>10			
38-3	1734	Stevenstown	Rep	3.0	419	4.0	15435	3	88	12	28	138			<5	<2	**47.26** *	941		
38-4	1674	Stevenstown	Rep	1.83 x 4.57	6	0.2	762	2	93	4	21	34			<5	<2	**28.28** *	1975		
38-5	1680	Stevenstown	Rep	1.83 x 3.05	12	1.4	3520	7	140	7	15	28			<5	<2	**5.95** *	2927		
38-6	1675	Stevenstown	Rep	1.83 x 4.57	<5	<0.1	611	<2	75	4	18	22			5	<2	**25.66** *	2152	185	
38-7	1676	Stevenstown	Rep	1.83 x 4.57	<5	0.3	825	3	71	16	15	21			<5	<2	**16.11** *	2366		
38-8	1677	Stevenstown	Rep	1.83 x 4.57	<5	0.2	500	<2	70	103	15	21			<5	<2	**15.07** *	2217		

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
4575																			TP, mag skarn, mag to 50%, cp
4576																			TP, mag skarn, cp, py
1758																			MD, Preston adit, calc, cp bands in skarn
1704																			TP, mag, ep, cp skarn bounded by dikes
1703																	<0.002	<0.002	TP, mag, ep skarn, cp to 4%
1706																			TP, fault cutting skarn w/cp to2%, mag
1708																			TP, hnbd-mag skarn w/ cp to 3%
1707																			TP, cp replaces mag in ep-hem-mag skarn
1705																			TP, dissem cp in hornblendite adj to fault
1710																			UW, mag-cp skarn in alt volc
1712																			TP, mag-cp skarn in main stope
1711																	<0.002	<0.002	OC, mag pod above dump near shafts
1709																			UW, hnbd-mag skarn adj to fault, cp to 3%
1718																			UW, mag-ep skarn on side of shaft
1715																	<0.002	<0.002	UW, best min (cp to 40%) in mid-stope between shears
1714																	<0.002	<0.002	UW, mag-ep skarn in stope/lower adit
1716																	<0.002	<0.002	UW, opposite side of stope from 1715, less cp
1717																			UW, mag-ep skarn w/ cp to 5%
1719																			UW, ep skarn w/ cp to 1% adj to shear
1721																			UW, ep skarn w/ dissem sulf, near ore chute
1720																			UW, mag pod in ep skarn, cp to 5%
1713																			UW, spotty cp in lower adit adj to shear
1722																	<0.002	<0.002	UW, mag-cp zone below fault zone
1726																			TP, mag-ep skarn in trench near portal
1727																			TP, mag-ep skarn w/metavolc inclusions
1728																			TP, mag-ep skarn in trench wall, cp to 2%
1729																			TP, hnbd-mag-ep, py skarn, cp to 8%
1730																			TP, mag-ep skarn in metavolc, local hnbd
4483																			TP, mag sulf skarn, glory hole 1
4484																			TP, min skarn, glory hole 2
4485																			TP, min skarn zone
4505																	<5	2	TP, mag skarn, gs host
4506																			TP, skarn w/mag, py, cp
4507																			TP, skarn, sulf, cp
4486																	<5	2	TP, mag skarn, glory hole 3
4487																			TP, mag skarn w/chl, ep, cp
4488																			TP, skarn, mag, cp, py
4489																			TP, skarn w/mag, cp
4508																			TP, mag skarn, cp, ml/az
4509																			TP, skarn, glory hole 3
1734																			TP, mag, cp skarn near upper shaft
1674																			UW, mag skarn w/1% cp, ep
1680																			UW, skarn w/cp, ml, py, mag
1675																	<0.002	<0.002	UW, mag skarn w/1% cp, ep
1676																			UW, mag skarn, cp < 1%
1677																			UW, mag skarn, cp > 1%

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
38-9	1678	Stevenstown	Rep	1.83 x 6.10	<5	0.3	830	4	56	4	13	16			<5	<2	**10.86** *	2806		
38-10	1679	Stevenstown	Rep	1.83 x 6.10	6	0.2	1095	2	87	40	17	41			<5	<2	**21.04** *	1894	124	
38-11	1681	Stevenstown	Rep	1.83 x 4.57	<5	0.5	1048	5	53	20	15	21			<5	<2	**16.57** *	2541		
39-1	4481	Mount Andrew Mine	SC	4.6@0.3	872	26.3	**5.99** *	8	749	4	34	263	<20		37	<2	**53.43** *	600		
39-1	4482	Mount Andrew Mine	SC	9.1@0.6	546	4.5	13669	6	214	7	23	91			25	<2	**48.26** *	1100		
39-1	4502	Mount Andrew Mine	Rep	6.1	560	4.9	13578	5	139	4	31	159			19	<2	**55.22** *	500	61	
39-1	4503	Mount Andrew Mine	S		722	25.8	**7.55** *	10	641	4	36	260			31	<2	**41.80** *	900		
39-1	4504	Mount Andrew Mine	S		412	12.7	**3.26** *	6	271	4	32	156			42	<2	**57.04** *	600	90	
39-2	4525	Mount Andrew Mine	C	1.7	90	7.3	15049	7	184	5	30	150			22	35	**48.31** *	1300	57	
39-2	4536	Mount Andrew Mine	C	1.2	29	1.6	3856	9	96	<1	22	35			16	<2	**37.42** *	1300		
39-2	4543	Mount Andrew Mine	C	1.2	2239	23.5	**3.72** *	24	646	2	57	356			24	98	**52.61** *	600	46	
39-2	4544	Mount Andrew Mine	C	2.1	12	0.5	555	4	80	3	13	23			8	3.2				
39-2	4545	Mount Andrew Mine	C	1.1	47	4.8	9452	8	131	7	21	73			16	<2	**33.80** *	1700		
39-2	4546	Mount Andrew Mine	C	1.2	558	18.1	**3.92** *	15	254	15	40	297			14	<2	**26.29** *	2400		
39-2	4590	Mount Andrew Mine	SC	4.6@0.3	458	3.1	9419	6	117	47	29	148			24	3.7	**46.77** *	1000		
39-2	4591	Mount Andrew Mine	SC	4.6@0.3	157	2.7	7400	6	201	26	19	80			11	<2	**27.98** *	2700		
39-2	4592	Mount Andrew Mine	SC	3.7@0.3	496	3.5	11310	4	131	18	24	117			24	<2	**51.64** *	900		
39-3	4537	Mount Andrew Mine	SC	4.6@0.3	278	1.3	3836	4	99	7	29	123			25	3.4	**52.43** *	800		
39-3	4547	Mount Andrew Mine	C	1.5	18	0.7	1015	15	144	4	23	111			5	<2				
39-3	4548	Mount Andrew Mine	C	1.5	28	1.8	7634	6	144	2	39	64			22	<2	**56.56** *	800	103	
39-3	4549	Mount Andrew Mine	SC	4.6@0.3	695	4.9	15581	9	206	13	56	143	<20		15	2.9	**33.47** *	900		
39-3	4550	Mount Andrew Mine	SC	2.4@0.15	171	4.6	10957	9	155	24	30	81			12	<2	>10			
39-4	4479	Mount Andrew Mine	Rep	3.0	354	4.4	8810	9	110	8	51	109			24	2.4	**56.26** *	600		
39-4	4500	Mount Andrew Mine	S	0.9	1594	17.1	**7.26** *	8	197	11	68	249			32	14	**48.81** *	500		
39-5	4477	Mount Andrew Mine	Rep	6.1	90	3.2	11340	7	99	13	37	74				21	**33.70** *	2000		
39-5	4478	Mount Andrew Mine	Rep	6.1	393	1.7	7425	8	142	26	29	98			9	<2	**22.66** *	2500		
39-5	4480	Mount Andrew Mine	G	15 x 6	1567	5.7	**2.27** *	6	79	32	38	170			11	3.8	**29.82** *	300	35	
39-6	4596	Mount Andrew Mine	SC	6.7@0.3	1176	1.3	2193	7	110	2	32	64			27	<2	**50.35** *	900		
39-6	4597	Mount Andrew Mine	SC	5.2@0.3	38	1.1	1991	6	98	1	29	56			25	<2	**57.85** *	700		
40-1	4602	Goodluck/Mayflower	C	1.2	419	3.7	8016	5	219	4	23	67			18	<2	**39.67** *	1500	85	
40-1	4604	Goodluck/Mayflower	SC	3.7@0.15	82	3.0	5565	4	302	44	22	83			28	<2	**44.48** *	1300		
40-2	4598	Goodluck/Mayflower	SC	3.2@0.15	<5	2.3	5653	6	233	2	20	96			11	<2	**39.36** *	1200		
40-2	4599	Goodluck/Mayflower	SC	1.4@0.15	85	4.2	16662	4	152	2	24	112			27	<2	**43.19** *	600		
40-2	4600	Goodluck/Mayflower	SC	2.1@0.15	1720	17.5	**5.31** *	5	762	2	31	172			17	<2	**30.32** *	1600		
40-2	4601	Goodluck/Mayflower	SC	4.6@0.3	638	4.3	12886	4	296	2	30	129			17	<2	**51.50** *	700		
40-3	1731	Goodluck/Mayflower	SC	6.1@0.15	240	3.5	11990	2	183	4	29	86			<5	<2	**47.49** *	1123	92	
40-3	1732	Goodluck/Mayflower	SC	6.1@0.15	134	3.2	8577	3	200	6	22	73			<5	2	**23.46** *	2203		
40-3	1733	Goodluck/Mayflower	SC	6.1@0.15	20	0.4	943	3	113	10	27	36			<5	<2	**21.73** *	2636		
40-4	4594	Goodluck/Mayflower	SC	3.7@0.15	370	1.9	5511	5	199	2	22	70			25	<2	**49.85** *	900		
40-4	4595	Goodluck/Mayflower	SC	1.6@0.15	146	2.5	5332	4	315	<1	25	63			19	<2	**48.66** *	700		
40-4	4603	Goodluck/Mayflower	SC		33	0.5	822	9	60	22	7	11			<5	<2	2.38			
40-5	4593	Goodluck/Mayflower	SC	2.9@0.15	792	4.5	10274	5	92	6	16	63			11	<2	**25.74** *			
41-1		Cachelot-Big Six		No Samples Taken																
42-1	3015	Noyes Island	CC	0.15	<5	21.7	505	8966	10789	5	<1	9	20	19		<10	7.18			
42-1	3054	Noyes Island	SC	3.05	<5	<0.2	28	160	704	<1	13	15	180	14		<10	6.27			

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
1678																			UW, mag skarn, cp < 1%
1679																			UW, mag skarn, cp, ep
1681																			UW, mag skarn, trace cp, end of zone
4481																			TP, skarn, mag lens w/in dike
4482																			TP, mag skarn w/ml-az
4502																	<5	9	TP, mag, cp, py in skarn, shear
4503																			TP, msv cp within mag skarn
4504																			TP, mag skarn, cp, py
4525																	5	7	UW, mag-sulf ore material
4536																			UW, skarn, irregular, ml/az
4543																	<5	38	UW, metavolc porph, shear
4544																			UW, skarn br
4545																			UW, min skarn, shear
4546																			UW, skarn, subparallel to shear
4590																			UW, mag ore, adit 1 skarn pods
4591																			UW, skarn w/intercalated gs
4592																			UW, mag skarn, adit 1
4537																	10	5	UW, skarn, alt gs
4547																			UW, min gs porph
4548																	8	4	UW, skarn, mag, adit 2
4549																			UW, gs, skarn w/mag, cp
4550																			UW, gs with calc veins, ml, az
4479																			OC, min skarn, above adit 2
4500																			OC, skarn, cp, adjacent to dike
4477																			TP, skarn w/cp, mag, py
4478																			TP, epidotized skarn, mag to 30%
4480																	<5	9	MD, ore from dump, cp in calc pods
4596																	10	3	TP, mag w/sulf, compound orebody
4597																			TP, mag skarn, compound orebody
4602																	14	9	TP, min gs, mag contact zone
4604																			TP, skarn, mag, cp, py
4598																			UW, gs, adit 2 raise, fault
4599																	<5	8	UW, skarn w/mag, ml, az
4600																			UW, gs, adit 2 portal
4601																			UW, skarn, mag, cp, py
1731																	<0.002	<0.002	UW, mag bed w/cp, up to 5.5' thick but thins
1732																			UW, ep skarn w/lenses of mag, cp to 2%
1733																			UW, mag-ep skarn similar to 1732, cp <1%
4594																			TP, mag-sulf ore in pods
4595																	7	6	UW, mag skarn, adit 1, shear
4603																			UW, skarn, minor sulf
4593																			TP, min gs, shears
	No Samples Taken																		
3015	58	19	180	3.059															OC, qz-calc vein is br and recemented
3054	7	32	<5	0.225															OC, sil ls, fest outcrop w/qz veinlets

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
43-1	3587	San Juan Bautista, SW	Rep		<5	0.2	326	2	48	3	8	15			8	<2				
43-1	3588	San Juan Bautista, SW	Rep		<5	0.2	129	<2	62											
43-1	3589	San Juan Bautista, SW	Rep		<5	0.2	276	4	36											
43-1	3590	San Juan Bautista, SW	Rep		11	0.6	1162	6	56											
43-1	3591	San Juan Bautista, SW	S		11	1.0	98	132	277											
43-1	3592	San Juan Bautista, SW	Rep		15	0.3	270	6	53											
44-1		St. Ignace Island		No Samples Taken																
45-1	3009	Veta Bay	CC	0.15	1294	**385.0** *	2192	16	28	1	5	9	<20	128		22	>10			
47-1	9101	Port San Antonio	G		9	**86.74** *	104	4500	**2.04** *	<1	8	8	12	277	<20	<20	1.46		7	226
47-1	9102	Port San Antonio	C	0.8	129	3.8	93	73	336	4	17	6	30	229	<20	<20	3.28		23	1.2
47-1	9103	Port San Antonio	C	0.9	<5	0.3	58	16	187	14										
47-1	9104	Port San Antonio	C	1.6	8	0.8	92	22	120	7	32	11	69	142	<20	<20	3.68		79	<1
47-1	9105	Port San Antonio	C	0.3	451	9.5	33	32	294	<1										
47-1	9382	Port San Antonio	C	0.9	46	0.5	62	11	84	6	35	10	58	104	<20	<20	3.44		86	<1
47-1	9383	Port San Antonio	C	0.6	<5	0.3	67	11	82	7	42	12	91	119	<20	<20	3.92		63	<1
47-1	9384	Port San Antonio	C	0.4	621	4.3	46	542	627	4										
47-1	9385	Port San Antonio	C	0.4	329	2.0	52	70	270	8										
48-1	9106	Baker Island	SC	9.1@0.3	<5	0.2	64	6	30	254	6	1	28	249	<20	<20	1.17		6	<1
48-1	9107	Baker Island	SC	9.1@0.3	<5	<0.1	57	5	24	178										
48-1	9108	Baker Island	SC	9.8@0.3	<5	<0.1	93	3	27	284										
48-1	9109	Baker Island	S		<5	0.2	118	5	45	1248	8	3	10	337	<20	<20	1.87		2	<1
48-1	9110	Baker Island	S		17	0.4	19	9	7	14003	5	<1	9	341	<20	<20	0.90		2	<1
48-1	9386	Baker Island	SC	7.9@0.3	<5	0.2	85	9	26	88										
48-1	9387	Baker Island	SC	7.9@0.3	<5	<0.1	79	45	19	925	6	2	19	378	<20	<20	1.44		6	<1
48-1	9388	Baker Island	SC	7.9@0.3	<5	<0.1	89	8	19	242										
48-1	9389	Baker Island	SC	5.8@0.3	<5	<0.1	48	7	22	67										
48-1	9390	Baker Island	SC	11.3@0.3	<5	<0.1	100	9	31	112	3	2	21	186	<20	<20	1.63		9	<1
50-1	3326	Pelegroso	SC	3.0@0.15	6	0.3	15	24	75	9	4	6	610	45		<10	4.15			
50-1	3327	Pelegroso	C	1.22	11	1.9	136	130	331	7	14	12	670	61		<10	4.61			
50-1	3328	Pelegroso	SC	3.0@0.15	<5	0.3	41	20	109	7	2	8	560	51		<10	3.92			
50-1	3329	Pelegroso	C	1.52	12	0.5	5	16	400	<1	12	3	90	49		<10	2.41			
50-1	3475	Pelegroso	S		20	0.7	182	2	16	1	6	2	220	11		<10	3.08			
50-1	3476	Pelegroso	Rep	3.05	47	1.0	253	14	31	13	2	3	300	65		<10	1.35			
50-1	3477	Pelegroso	S	0.46	36	4.2	550	242	363	<1	7	14	100	44		26	3.37			
50-1	3531	Pelegroso	Rep																	
50-1	3532	Pelegroso	S		<5	9.0	317	137	22											
50-2	3323	Pelegroso	SC	4.0@0.3	12	0.4	17	34	173	8	16	3	1600	121		<10	2.51			
50-2	3324	Pelegroso	S	0.91	<5	0.6	13	19	110	6	3	10	560	49		<10	5.64			
50-2	3325	Pelegroso	SC	6.1@0.3	6	0.2	6	7	51	4	2	9	710	36		<10	5.13			
51-1	3516	Black Lake	S		42	1.3	4970	5	43	39										
51-1	3517	Black Lake	Rep		<5	<0.1	102	4	29	6										
51-2	3169	Black Lake	SC	2.4@0.15	<5	1.3	357	<2	42	23	7	112	840	97		23	>10			
51-2	3240	Black Lake	SC	6.1 @ 0.15	<5	1.3	143	<2	45	101	6	34	2000	145		10	>10			
51-2	3241	Black Lake	SC	6.1 @ 0.3	9	1.1	127	<2	35	48	6	18	970	175		12	>10			
51-2	3518	Black Lake	Rep		<5	<0.1	378	3	28	15										
51-3	3166	Black Lake	SC	3.0@0.15	<5	0.4	199	<2	32	5	16	27	900	58		<10	4.40			

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
3587																			FL,	gd w/ dissem sulf
3588																			OC,	intrusive w/ dissem sulf
3589																			FL,	intrusive w/ dissem sulf
3590																			OC,	intrusive w/ dissem sulf
3591																			OC,	fault gouge; select for sulf
3592																			OC,	intrusive w/ sulf in fractures
No Samples Taken																				
3009	7	150	8	1.003															OC,	min qz vein in gd
9101	273	12	7		67		<1		<1										FL,	qz w/gn 2%,py 1%, sl (?)
9102	5	553	<5		<10		1		3										UW,	sheared qz vein w/py 5% & sil ar
9103																			UW,	ar & sil ar w/minor po 1%
9104	6	<5	<5		<10		6		9										UW,	ar & qt w/po,py
9105																			UW,	sheared qz w/fg py 10%
9382	<5	300	<5		<10		5		8										UW,	qz vein w/py 3%
9383	5	15	<5		<10		4		7										UW,	sil ar w/py 3%
9384																			UW,	qz vein w/py 5%
9385																			UW,	qz vein w/py 5%
9106	<5	5	<5		<10		5		4										OC,	di w/minor mo,py
9107																			OC,	di w/minor mo,py
9108																			OC,	di w/minor mo,py,po
9109	<5	<5	5		<10		1		1										OC,	mo- & py-bearing stringers in qz di
9110	14	8	42		<10		<1		1										RC,	qz vein in alt qz di
9386																			OC,	qz di porph w/py 1%,po<1%,mo<1%
9387	<5	10	<5		<10		2		3										OC,	qz di porph w/py 1%,po<1%,mo<1%
9388																			OC,	qz di porph w/py 1%,po<1%,mo<1%
9389																			OC,	qz di porph w/py 1%,po<1%,mo<1%
9390	<5	<5	<5		<10		4		6										OC,	qz di porph w/py 1%,mo<1%
3326	<5	<5	<5	0.047			96	148		<1	3.3	0.49		25	7.1				TP,	quarry, syenite
3327	<5	94	11	0.217			110	169		<1	3.8	0.58		29	7.5				TP,	quarry, sheared syenite
3328	<5	12	7	0.047			90	148		<1	4.3	0.64		22	7.1				TP,	quarry, alt syenite
3329	<5	<5	11	0.057			21.7	21		<1	1.4	0.19		1.6	3.4				TP,	quarry, limy hn, S wall of pit, calc vein,
3475	6	<5	12	<0.010			23	38		<1	1.3	0.14		<0.5	<1				TP,	S wall pit, ca vein, Pelegroso carbonatite
3476	<5	<5	<5	0.046			137	210		<1	5.5	0.8		33	8.9				OC,	syenite, alt porph at contact
3477	50	851	30	0.363															OC,	calc skarn, minor ep, w/po 30%, py 10%, trace cp
3531							82	145	31										TP,	syenite
3532																			TP,	sulf along fault surface
3323	<5	<5	5	0.092			123	182		1.2	5.6	0.91		32.9	9				TP,	quarry, ls, chert, and gw
3324	<5	<5	<5	0.066			90	142		<1	3.2	0.47		20.6	5.7				FL,	log road, syenite
3325	<5	<5	6	0.028			89.4	141		<1	3.1	0.46		22	5.5				TP,	quarry, syenite, sample taken along strike
3516																			OC,	msv py + limonite
3517							10	22	5										OC,	pegmatite dike
3169	<5	12	<5	<0.010															OC,	porph di, 20-30% py in qz stringers
3240	<5	11	<5	0.022															OC,	br di porph, py, mt
3241	<5	8	5	<0.010															OC,	br di porph, minor py, mt
3518							15	25	32	0.3	1.1	0.18		4.6	<1				RC,	pegmatite/br pipe
3166	<5	<5	<5	<0.010															TP,	skarn, alt di, py 5-20%

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
51-3	3167	Black Lake	C	0.61	7	1.1	718	4	48	40	29	82	870	83		<10	>10			
51-3	3168	Black Lake	SC	2.4@0.15	<5	0.5	207	2	21	33	7	12	2000	56		<10	4.03			
51-3	3238	Black Lake	SC	4.3 @ 0.15	23	2.5	2288	6	185	90	29	72	1400	79		13	>10			
51-3	3239	Black Lake	C	1.22	6	<0.2	5317	27	92	2	153	315	240	32		<10	5.42			
52-1		Saxe		No Samples Taken																
53-1		Constitution		No Samples Taken																
54-1		Swenning		No Samples Taken																
55-1		Independent		No Samples Taken																
56-4	3046	Dew Drop	CC	0.15	**36.55** *	**344.2** *	1520	**7.02** *	19330	7	6	29	<20	62		<10	2.61			
56-4	3047	Dew Drop	CC	0.15	**60.07** *	**9476** *	7937	**7.16** *	**6.79** *	11	8	16	90	123		251	>10			
56-5	3048	Dew Drop	C	1.22	2051	42.1	48	871	502	2	9	11	570	154		<10	6.55			
56-5	3049	Dew Drop	CC	0.30	9105	**67.54** *	56	374	870	2	6	7	30	248		<10	3.19			
56-4	3062	Dew Drop	S		**25.89** *	**873.9** *	2133	**12.54** *	**4.84** *	28	22	42	30	130		<10	>10			
56-1	3098	Dew Drop	C	3.05	162	5.4	75	164	339	<1	38	22	530	70		<10	5.66			
56-6	3099	Dew Drop	Rep	1.52	477	7.1	46	167	244	1	23	20	490	53		<10	6.41			
56-9	3150	Dew Drop	C	1.07	40	1.1	88	16	93	2	36	21	300	68		<10	6.14			
56-4	3205	Dew Drop	SC	3.66	17	2.8	55	108	262	<1	35	20	510	43		<10	5.99			
56-4	3206	Dew Drop	CC	0.30	**31.47** *	**3229** *	3103	**1.49** *	14333	11	9	5	<20	308		<10	5.37			
56-8	3207	Dew Drop	C	1.22	116	7.2	47	61	136	3	164	32	270	162		<10	6.62			
56-10	3208	Dew Drop	CC	0.30	21	5.9	9	19	19	<1	<1	7	<20	10		14	0.90			
56-10	3209	Dew Drop	CC	0.15	327	2.1	12	5	30	<1	6	4	40	220		<10	2.86			
56-9	3210	Dew Drop	C	0.91	250	2.6	56	40	30	2	3	4	220	82		<10	4.22			
56-4	3554	Dew Drop	Rep	0.18	**49.89** *	74.6	2459	**1.15** *	13082						<5	<2				
56-5	3555	Dew Drop	C	0.18	2211	**85.71** *	53	1440	474											
56-2	3594	Dew Drop	C	0.58	8221	**707.3** *	754	6374	2292											
56-1	3595	Dew Drop	Rep		112	2.5	180	181	500											
56-2	3596	Dew Drop	C	0.43	8110	**738.9** *	1614	7539	**4.72** *											
56-3	3597	Dew Drop	C	0.37	2989	**481.0** *	405	4978	1800											
56-3	3598	Dew Drop	C	0.15	**19.61** *	**1340** *	1082	8590	35		16	9			<5	9.5				
56-7	3599	Dew Drop	Rep	0.34	**28.18** *	**1155** *	1007	2581	54											
56-7	3612	Dew Drop	Rep	0.27	6580	**120.0** *	168	743	2830	<5	<20	<10	<100	<360	<200	<18	4.70			<22
56-4	3765	Dew Drop	S	0.15	**36.17** *	**327.4** *	1280	**11.00** *	**6.69** *	24	12	30	<20	131		<20	>10			
57-1	3412	Lucky Nell No. 1	C	0.85	489	1.4	29	412	539	2	3	4	360	91		<10	2.54			
57-1	3413	Lucky Nell No. 1	C	0.64	7653	47.5	262	**2.13** *	16885	13	7	11	80	104		<10	>10			
57-1	3414	Lucky Nell No. 1	C	0.76	49	1.0	99	42	465	4	7	15	420	14		<10	6.19			
57-1	3417	Lucky Nell No. 1	C	0.55	191	1.1	41	13	57	1	4	9	480	29		<10	4.12			
57-1	3418	Lucky Nell No. 1	C	0.73	168	1.4	113	52	108	1	6	13	350	26		<10	5.14			
57-1	3422	Lucky Nell No. 1	CC	0.55	202	1.8	69	166	227	1	6	13	310	31		<10	5.04			
57-1	3419	Lucky Nell No. 2	CC	0.55	**41.04** *	**103.5** *	665	**6.44** *	19430	13	6	11	80	72		<10	2.09			
57-1	3420	Lucky Nell No. 2	CC	0.61	3854	6.3	75	223	285	1	10	13	220	98		<10	6.73			
57-1	3421	Lucky Nell No. 2	CC	0.46	6245	32.5	357	336	13582	10	7	13	110	94		<10	8.57			
57-1	3478	Lucky Nell No. 2	C	0.91	4239	19.4	317	1658	1799	7	10	13	100	170		<10	8.20			
57-1	3479	Lucky Nell No. 2	C	0.94	4136	14.9	178	702	2178	4	8	11	200	64		<10	6.52			
57-1	3480	Lucky Nell No. 2	C	0.70	2800	8.8	110	880	2061	2	8	10	220	89		<10	5.88			
57-1	3337	Lucky Nell No. 3	C	0.37	**118.1** *	**349.0** *	2834	**3.40** *	**4.58** *	15	26	39	<20	194		<10	2.68			
57-1	3338	Lucky Nell No. 3	C	0.30	**53.55** *	**231.4** *	4724	**1.70** *	**7.30** *	22	14	47	<20	114		170	2.24			

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
3167	<5	30	12	<0.010															TP,	alt di (ep hn), py 35%, mt 7%
3168	<5	12	<5	<0.010															TP,	alt di & hn, py 5-15%
3238	<5	6	<5	0.046															TP,	iron skarn in di, py, po, mt
3239	43	<5	21	<0.010															TP,	iron skarn, py, marcasite, po
	No Samples Taken																			
	No Samples Taken																			
	No Samples Taken																			
	No Samples Taken																			
3046	50	>2000	384	3.919															RC,	br msv sulf
3047	36	>2000	>2000	5.936															RC,	qz vein
3048	<5	>2000	35	0.097															OC,	shear hosting qz vein, qz w/ boxworks
3049	<5	>2000	70	0.127															OC,	qz vein
3062	74	>2000	1365	5.392															RC,	qz vein, vein may parallel structure
3098	<5	645	10	0.019															OC,	br qz vein, w/some rubblecrop
3099	<5	878	11	0.075															RC,	sheared di, directly across from Dew Drop adit
3150	<5	123	7	0.036															OC,	chl sc, adjacent to sample 3210
3205	<5	56	6	0.021															OC,	sil br zone contains highly min vein material
3206	19	>2000	>2000	2.076															RC,	alt zone, qz vein, br at contact
3207	6	112	16	0.057															UW,	sheared di, w/py
3208	10	59	21	0.018															OC,	calc vein pinches and swells along strike
3209	<5	1170	<5	0.015															OC,	qz vein, local br, vein width varies
3210	<5	40	6	0.044															OC,	sheared chl sc, local stockworks
3554					<0.2														RC,	qz vein in shear
3555																			OC,	qz vein in 2.1m-wide shear
3594																			OC,	qz vein + fault gouge
3595																			OC,	metavolc
3596																			OC,	qz vein w/ sulf lenses
3597																			OC,	shear with .15m qz vein
3598					<0.2														OC,	qz vein w/ sulf
3599																			OC,	qz vein in metavolc
3612		>10000	146		<20	<1	<5	<10		<1	<5	<0.5	<1	<0.5	<0.5	<10			OC,	qz vein; outcrop in streambed
3765																			RC,	.15m sulf band on qz vein margin
3412	<5	103	<5	0.021															UW,	qz vein, S rib
3413	13	947	42	0.765															UW,	qz vein
3414	<5	33	<5	0.038															UW,	S rib, sheared qz vein
3417	<5	77	<5	0.014															UW,	qz vein & sheared an, vein pinches out at face
3418	<5	76	<5	0.347															UW,	sheared vein, gouge at hw and fw
3422	<5	83	<5	0.026															UW,	vein at face, sheared qz vein
3419	40	1883	113	1.609															UW,	ribbon qz vein, hw is mafic dike, adit face
3420	<5	385	10	0.052															UW,	N rib, ribbon qz vein
3421	15	475	71	0.667															UW,	ribbon qz vein, sulfs concentrated at contact
3478	7	592	40	0.127															UW,	qz vein, sample cut across portal
3479	7	293	29	0.160															UW,	N rib, qz vein
3480	6	274	10	0.148															UW,	N rib, ribbon qz vein
3337	55	>2000	754	3.573															UW,	2.4m from portal, back, qz w/msv sulf
3338	66	1695	518	3.737															UW,	5.2m to portal, back, qz w/msv sulf

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
57-1	3339	Lucky Nell No. 3	C	0.18	3988	20.7	262	337	793	<1	10	20	170	118		<10	>10			
57-1	3340	Lucky Nell No. 3	C	0.73	2436	16.2	271	326	736	<1	8	13	310	124		<10	6.82			
57-1	3341	Lucky Nell No. 3	C	0.46	2253	6.7	325	1054	3192	3	8	14	360	57		<10	6.74			
57-1	3342	Lucky Nell No. 3	C	0.15	3276	22.6	2462	88	127	1	9	28	120	107		<10	8.85			
57-1	3343	Lucky Nell No. 3	C	0.85	**33.53** *	**638.7** *	2507	**8.19** *	11281	9	27	19	30	186		<10	>10			
57-1	3355	Lucky Nell No. 3	C	1.52	233	1.8	105	92	126	<1	5	12	290	20		<10	5.57			
57-1	3356	Lucky Nell No. 3	C	0.46	**16.73** *	**85.03** *	1834	489	1031	13	12	44	140	136		<10	>10			
57-1	3357	Lucky Nell No. 3	C	0.61	7813	37.7	754	1289	1713	5	9	21	180	85		<10	9.51			
57-1	3358	Lucky Nell No. 3	C	1.52	137	1.6	89	51	112	<1	5	12	220	28		<10	5.52			
57-1	3359	Lucky Nell No. 3	CC	0.18	1909	3.6	167	82	208	<1	9	11	150	175		<10	4.08			
57-1	3360	Lucky Nell No. 3	CC	0.06	1912	24.3	3566	210	1799	2	7	17	90	68		<10	>10			
57-1	3361	Lucky Nell No. 3	CC	0.12	**28.80** *	**81.60** *	3955	2044	9966	5	13	52	80	160		<10	2.37			
57-1	3362	Lucky Nell No. 3	C	1.83	7136	14.3	769	438	817	<1	14	24	230	60		<10	8.00			
57-1	3363	Lucky Nell No. 3	SC	3.0@0.15	49	1.0	65	26	92	<1	6	14	250	41		<10	6.23			
57-1	3002	Lucky Nell No. 4	S		**36.17** *	**115.9** *	2926	6987	6692	3	25	56	<20	112		<10	>10			
57-1	3344	Lucky Nell No. 4	C	0.91	2639	19.1	107	1323	639	56	8	16	110	110		<10	7.22			
57-1	3345	Lucky Nell No. 4	C	0.15	1649	16.1	87	1174	311	3	17	13	40	205		<10	4.68			
57-1	3346	Lucky Nell No. 4	C	0.85	48	1.9	26	104	91	14	7	19	120	29		12	7.20			
57-1	3347	Lucky Nell No. 4	C	0.21	8203	22.2	1125	1212	1758	4	9	27	110	116		<10	8.30			
57-1	3348	Lucky Nell No. 4	C	0.91	9618	18.5	155	157	686	<1	11	14	140	212		<10	7.05			
57-1	3349	Lucky Nell No. 4	C	0.76	356	7.8	171	89	169	<1	7	15	440	72		<10	5.48			
57-1	3350	Lucky Nell No. 4	C	0.06	**14.50** *	**111.1** *	3241	147	118	<1	8	57	<20	195		17	>10			
57-1	3364	Lucky Nell No. 4	CC	0.24	**9.94** *	**66.51** *	1087	5576	4449	8	24	18	110	154		83	9.23			
57-1	3365	Lucky Nell No. 4	C	1.22	1031	6.8	90	705	925	2	40	25	120	60		<10	8.84			
57-1	3366	Lucky Nell No. 4	C	0.46	**67.23** *	**176.9** *	5227	**3.03** *	14467	9	22	41	30	104		<10	3.09			
57-1	3367	Lucky Nell No. 4	C	1.22	748	29.8	744	199	232	<1	6	18	160	19		<10	8.93			
57-1	3368	Lucky Nell No. 4	C	0.91	**15.39** *	**96.34** *	534	3941	2472	2	19	46	<20	157		<10	1.96			
57-1	3369	Lucky Nell No. 4	CC	0.18	7560	23.8	388	769	759	<1	17	42	<20	121		<10	2.58			
57-1	3370	Lucky Nell No. 4	C	1.07	1005	9.3	190	774	1549	1	8	15	280	63		<10	5.77			
57-1	3371	Lucky Nell No. 4	C	0.49	7162	**50.74** *	547	**1.38** *	9670	8	21	21	<20	222		<10	>10			
57-1	3372	Lucky Nell No. 4	C	1.22	116	2.9	69	169	197	<1	58	28	860	68		<10	8.27			
57-1	3373	Lucky Nell No. 4	C	1.22	18	0.8	58	50	137	1	8	16	330	56		<10	6.19			
57-1	3380	Lucky Nell No. 4	C	1.19	3239	17.6	135	479	686	5	27	20	70	76		<10	7.84			
57-1	3381	Lucky Nell No. 4	C	0.34	**12.55** *	**55.20** *	463	841	1695	7	19	23	120	171		<10	8.90			
57-1	3382	Lucky Nell No. 4	C	1.25	7498	17.8	760	1128	2315	2	7	15	200	81		<10	7.34			
57-1	3383	Lucky Nell No. 4	C	0.61	**12.21** *	**50.40** *	2824	1899	4332	4	14	24	90	182		<10	>10			
57-1	3384	Lucky Nell No. 4	C	1.16	407	2.2	147	55	112	<1	5	12	210	42		<10	4.45			
57-1	3385	Lucky Nell No. 4	Rep	0.12	2359	5.2	167	49	65	<1	5	12	50	41		<10	4.21			
57-1	3386	Lucky Nell No. 4	C	1.22	51	0.8	48	8	25	<1	10	14	210	35		<10	4.80			
57-1	3415	Lucky Nell No. 5	C	0.91	661	1.6	25	117	306	2	5	8	130	103		<10	4.85			
57-1	3416	Lucky Nell No. 5	C	0.61	711	2.5	84	38	1785	2	3	8	190	82		<10	4.77			
57-1	3423	Lucky Nell No. 5	CC	0.24	2042	6.9	199	223	4755	6	7	18	130	152		<10	8.90			
57-1	3424	Lucky Nell No. 5	CC	0.46	86	1.1	34	15	152	<1	16	18	770	30		<10	5.62			
57-1	3425	Lucky Nell No. 5	CC	0.46	458	0.9	8	51	61	<1	6	4	<20	217		<10	2.67			
58-1		Pin Peak		No Samples Taken																
									Hollis Area											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
3339	<5	1064	47	0.414															UW, 7.6m to portal, back, qz w/msv sulf
3340	<5	329	26	0.460															UW, 7.6m to portal, back, sheared di
3341	7	190	10	0.477															UW, 13m to portal, N rib, sheared di
3342	10	223	12	0.351															UW, 17m to portal, N rib, qz in sheared di
3343	17	1635	1285	1.074															OC, 5.5m from portal, qz w/msv sulf
3355	<5	48	<5	0.435															UW, alt di, hw to main vein
3356	12	1214	141	0.707															UW, qz vein, local shearing, irregular contact w/intrusive
3357	5	476	66	0.670															UW, ribbon qz vein, not continuously min
3358	<5	35	6	1.163															UW, alt di, hw of adit 3 vein
3359	<5	149	8	0.146															UW, qz-calc vein, splay from main vein
3360	9	97	<5	0.176															UW, qz-calc vein, crosscutting vein, gp partings
3361	44	1405	51	0.314															UW, qz vein, not sure if sample penetrated fw
3362	8	275	7	0.187															UW, alt di, across back, includes 2 splays of veins
3363	<5	71	5	0.032															OC, alt di, fw of vein, by portal
3002	19	>2000	511	0.847															MD, min qz vein, dump of Lucky Nell No. 4 adit
3344	<5	600	35	2.499															UW, 41m from sta 6, sheared di
3345	<5	480	46	0.685															UW, 41m N of sta 6, qz vein
3346	7	40	15	1.004															UW, 15m N of sta 6, sheared and alt di
3347	11	265	11	1.309															UW, 17m N of sta 6, qz vein
3348	<5	496	41	0.174															UW, 9m S of sta 5, sheared di
3349	<5	275	10	0.095															UW, 9m S of sta 5, sheared di
3350	18	599	162	0.222															UW, 9m S of sta 5, qz vein
3364	10	637	95	0.143															UW, qz vein in hw, back of adit 4
3365	<5	316	15	0.162															UW, alt di, across back to include vein
3366	46	>2000	549	1.146															UW, qz sulf vein, high-sulf vein in sheared di
3367	<5	250	66	0.953															UW, alt di w/sulf, sample excludes vein
3368	19	1813	247	0.598															UW, qz sulf vein, very siliceous
3369	21	1903	81	0.142															UW, qz sulf vein, gouge at hw contact
3370	<5	451	13	0.162															UW, sheared di, gouge at fw contact
3371	11	954	111	0.373															UW, qz sulf vein forms hw of drift
3372	<5	96	<5	0.237															UW, bleached micro di, fw to main vein, py in veinlets
3373	<5	26	<5	0.020															OC, alt and sheared di, at portal of adit 4
3380	11	1389	36	3.316															UW, drift, qz vein .27m thick
3381	13	1820	56	1.230															UW, drift, .27m qz vein w/sulf
3382	8	411	38	1.082															UW, drift, qz vein .55m thick
3383	7	655	107	0.828															UW, drift, qz vein w/sulf
3384	<5	71	<5	0.094															UW, drift, qz vein
3385	<5	169	8	0.087															UW, ca qz vein, argillic alteration along fault
3386	5	37	<5	0.199															UW, alt di, no discrete qz veins
3415	<5	282	<5	0.045															UW, face of lower adit, qz vein splits and dips 66N
3416	<5	229	<5	0.051															UW, qz vein more msv here than at face
3423	6	570	9	0.187															W w ribbon qz vein, W wall of trench
3424	<5	76	7	<0.010															TP, 7.6m from portal, py ar
3425	<5	148	<5	<0.010															OC, qz vein, updip extension of sample 3416
No Samples Taken																			
Hollis Area																			

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
59-1	9090	Lone Jack	RC		102	1.4	1590	15	20											
59-1	9091	Lone Jack	Rep		20	2.2	2467	7	18	<1	4	2	8	260	<20	<20	1.19		<1	1.9
59-1	9375	Lone Jack	C	0.6	176	3.6	2516	127	104											
59-2	9088	Lone Jack	S		399	3.9	28	15	11											
59-2	9089	Lone Jack	S		130	0.4	33	7	153	7	4	61	13	57	<20	<20	6.13		49	<1
59-2	9374	Lone Jack	C	0.5	1452	10.8	30	121	139	<1	8	1	5	396	<20	<20	0.68		<1	7.3
60-1	3789	Flagstaff	G		1850	12.7	13	717	15	84	<20	<10	<100	700	<200	<2	1.20			<10
60-2	3628	Flagstaff	G	0.50	71	13.3	86	69	54											
60-3	3627	Flagstaff	G		301	3.0	9	76	12											
60-4	3626	Flagstaff	C	1.28	2930	24.3	23	299	8											
60-4	3788	Flagstaff	C	0.37	1280	8.3	59	220	15											
60-5	3625	Flagstaff	C	0.61	260	1.5	12	13	15	49	5	2			5	2.5				
60-6	3624	Flagstaff	G		295	6.4	25	174	13											
60-7	3254	Flagstaff	C	1.22	2278	10.7	75	48	38	4	6	2	<20	340		<10	0.89			
60-7	3623	Flagstaff	G		4220	21.9	39	207	24											
60-7	3787	Flagstaff	C	1.50	<5	1.5	34	35	50	<1	25	7			3700	6.5				
60-8	3042	Flagstaff	S		4971	43.1	23	204	11	86	4	1	<20	275		<10	1.22			
60-8	3111	Flagstaff	S		2163	18.9	40	247	12	43	3	1	<20	303		<10	1.25			
60-8	3622	Flagstaff	G		1080	15.3	18	564	18	28	<20	<10	<100	830	<200	<2	1.00			<10
60-9	3255	Flagstaff	C	0.30	<5	0.6	11	4	103	<1	8	15	190	124		<10	7.48			
60-9	3256	Flagstaff	C	0.30	249	0.5	8	<2	88	<1	3	8	180	116		<10	4.09			
60-9	3790	Flagstaff	C	0.24	80	1.1	10	18	53											
60-10	3068	Flagstaff	S		505	4.0	54	54	13	6	2	2	<20	230		<10	1.46			
60-10	3110	Flagstaff	S		1676	13.7	116	88	14	27	3	3	<20	267		11	2.71			
60-11	3649	Flagstaff	RC		3070	29.4	26	294	12											
60-12	3648	Flagstaff	C	0.46	2570	9.7	10	254	26	4	<20	<10	<100	890	<200	<2	1.20			<10
60-12	3796	Flagstaff	C	0.06	671	4.4	19	166	7											
60-12	3797	Flagstaff	Rep		191	2.3	14	19	9											
60-13	3798	Flagstaff	C	0.64	535	5.8	110	37	16											
60-14	3659	Flagstaff	C	0.43	533	7.3	5	2	6	4	14	5	<20	439		<20	1.68			
60-15	3658	Flagstaff	C	0.06	3211	25.7	11	123	6											
60-16	3657	Flagstaff	Rep	0.21	391	5.3	8	4	5											
60-17	3656	Flagstaff	C	0.37	691	6.3	18	38	8											
60-18	3654	Flagstaff	C	0.08	298	1.7	11	6	10											
60-18	3655	Flagstaff	Rep	0.10	446	4.6	8	8	5	9	6	<1			<5	<2				
60-19	3653	Flagstaff	C	0.85	83	1.0	6	<2	7	2	5	<1			<5	<2				
60-20	3652	Flagstaff	C	0.24	2085	14.2	8	4	4											
60-21	3001	Flagstaff	S		**11.01** *	**100.8** *	2817	2771	7	94	15	6	<20	195		159	6.27			
60-21	3031	Flagstaff	C	0.76	28	1.3	6	52	7	2	2	2	540	41		<10	0.79			
60-21	3032	Flagstaff	CC	0.46	339	3.7	49	26	21	41	40	22	150	139		<10	5.16			
60-21	3033	Flagstaff	C	0.76	**32.06** *	**369.3** *	15148	**7.04** *	13	120	20	5	<20	219		<10	>10			
60-21	3034	Flagstaff	C	0.52	5423	**48.00** *	1701	3697	12	82	24	13	<20	214		<10	3.36			
60-21	3035	Flagstaff	C	0.85	4869	**63.77** *	1763	2224	4	52	9	3	<20	292		<10	3.37			
60-21	3036	Flagstaff	C	0.61	3798	33.1	5182	2098	6	132	13	6	<20	212		<10	3.68			
60-21	3037	Flagstaff	CC	0.34	7831	**117.9** *	3336	1247	5	117	13	6	<20	265		<10	4.85			
60-21	3038	Flagstaff	CC	0.46	3019	27.3	964	710	6	129	11	5	<20	224		<10	3.42			

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
9090																			RC,	qz w/minor py<1%,cp<<1%
9091	<5	<5	40		<10		<1		<1										RC,	qz w/cp 2%,py 2%
9375																			OC,	qz w/minor py +cp
9088																			MD,	qz w/py 10%
9089	<5	5	5		<10		3		4										MD,	alt diabase dike w/py 20%
9374	8	<5	17		<10		<1		<1										OC,	qz vein w/py 3%
3789		4	4.6		<20	<1	<5	<10		<1	<5	<0.5	<1	<0.5	0.8	<10			MD,	qz from orepile
3628																			UW,	qz vein up to .3m-.6m thick
3627																			MD,	qz from probable ore pile
3626																			TP,	small trench w/ qz vein
3788																			TP,	qz in small stringers
3625					2.2														TP,	approximately .9m qz vein
3624																			MD,	qz taken from across dump
3254	<5	<5	<5	0.172															TP,	qz vein, trench at upper workings,
3623																			MD,	qz taken from across dump
3787					<0.2														OC,	qz vein, no visible sulf, ep veining
3042	<5	5	<5	0.799															MD,	qz vein on upper mine dump
3111	<5	<5	8	0.872															MD,	qz vein from upper adit dump
3622		5	1.6		<20	<1	<5	<10		<1	<5	<0.5	<1	<0.5	0.9	<10			MD,	representative of qz on dump
3255	<5	<5	<5	0.078															UW,	sheared qz vein, face of adit 2
3256	5	6	<5	0.017															UW,	shear zone, adit follows shear
3790																			UW,	qz + fault gouge
3068	<5	17	<5	0.290															MD,	qz vein, adit still covered by snow
3110	<5	5	<5	0.425															MD,	qz vein, lower adit
3649																			MD,	qz from millsite orepiles
3648		9	2		<20	<1	<5	<10		<1	<5	<0.5	<1	<0.5	1	<10			UW,	qz vein in gd
3796																			UW,	qz vein in gd
3797																			MD,	qz vein in gd
3798																			OC,	qz vein & stringers
3659	<5	<5	<5	0.085															OC,	qz vein adjacent to mafic dike
3658																			OC,	qz vein w/ no sulf
3657																			FL,	qz vein w/ minor sulf
3656																			OC,	qz vein in gd
3654																			OC,	qz vein; outcrop in creek
3655					3														RC,	qz vein w/ minor sulf
3653					0.4														OC,	qz vein; 0 to .85m thick
3652																			OC,	qz vein in gd
3001	<5	<5	7	2.027															MD,	sheeted qz vein from mine dump
3031	9	<5	<5	0.052															UW,	calc-qz vein near face of Flagstaff main adit
3032	7	<5	<5	0.375															UW,	qz-calc vein, floor of drift
3033	40	50	12	>50															UW,	qz-calc vein, highly fractured
3034	8	10	<5	<0.010															UW,	qz vein, vein moderately fractured
3035	20	39	8	<0.010															UW,	qz vein, between raises in stoped area
3036	<5	<5	6	<0.010															UW,	qz vein, highly fractured
3037	<5	<5	<5	<0.010															UW,	qz vein, highly stoped area, moderately fractured
3038	8	<5	<5	0.904															UW,	qz vein, .03m gouge on hw and fw

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
60-21	3039	Flagstaff	C	0.61	320	5.8	56	51	3	56	12	5	<20	314		<10	1.52			
60-21	3040	Flagstaff	C	0.85	238	1.7	38	8	3	10	8	3	<20	259		<10	1.02			
60-21	3041	Flagstaff	C	0.76	872	6.3	46	146	2	32	8	3	<20	305		<10	2.00			
60-21	9373	Flagstaff	C	0.5	521	4.8	219	150	119	<1	76	36	57	92	<20	<20	5.25		125	1.6
60-22	9087	Flagstaff	C	0.2	445	4.3	103	10	13											
60-23	9085	Flagstaff	C	0.2	125	1.5	23	13	21											
60-23	9086	Flagstaff	Rep		<5	<0.1	71	15	102	<1	54	31	46	68	<20	<20	4.90		91	1
60-23	9371	Flagstaff	C	0.2	145	1.6	27	15	32											
60-23	9372	Flagstaff	S		61	0.6	18	23	20											
61-1	3180	Buckhorn	S	0.91	2151	15.7	105	13	8	4	8	6	<20	316		<10	3.48			
61-1	3259	Buckhorn	C	0.30	126	0.6	6	2	9	<1	6	4	<20	285		<10	1.51			
61-1	3629	Buckhorn	G		2280	8.6	26	15	5											
61-1	3630	Buckhorn	C	0.18	437	2.3	11	4	5	<1	6	3			6	<2				
61-1	3791	Buckhorn	Rep		358	3.2	12	9	6	3	<20	<10	<100	820	<200	<2	1.00			<10
61-2	3179	Buckhorn	S	1.2x1.2	1055	9.4	143	76	31	3	6	5	<20	265		<10	2.20			
61-2	3257	Buckhorn	C	0.30	7	0.8	10	4	4	1	8	4	<20	389		<10	1.19			
61-2	3258	Buckhorn	S		528	3.2	143	101	8	1	5	5	<20	302		<10	1.68			
61-3	3631	Buckhorn	Rep	0.10	372	1.7	27	18	27	14	17	10								
61-3	9058	Buckhorn	Rep		<5	<0.1	70	9	101	<1	56	38	71	50	<20	<20	5.37		171	<1
61-4	3635	Buckhorn	Rep	0.15	152	0.7	5	4	7											
61-5	3632	Buckhorn	C	0.12	47	0.6	4	5	7	9	<20	<10	<100	620	<200	<2	0.80			<10
61-5	3792	Buckhorn	Rep		234	1.4	5	5	7											
61-6	3633	Buckhorn	Rep	0.24	114	1.3	5	<2	5											
61-6	3634	Buckhorn	Rep		235	2.9	23	9	8		8	3								
62-1	3640	Lucky Jim	C	0.30	321	3.0	126	42	10	<1	5	<1			<5	<2				
62-1	3641	Lucky Jim	C	0.40	22	0.2	117	18	39											
62-1	3642	Lucky Jim	Rep		531	5.0	129	39	14											
62-1	3643	Lucky Jim	G		422	2.8	107	7	8											
62-2	3393	Lucky Jim	S		14	1.3	221	9	38	5	23	6	50	164		<10	1.10			
62-2	3394	Lucky Jim	S		1623	29.3	3601	9904	251	179	8	1	<20	286		<10	2.50			
62-2	3395	Lucky Jim	Rep		8	0.5	44	80	17	5	8	3	50	148		<10	1.17			
62-2	3409	Lucky Jim	CC	0.30	1282	26.9	749	9270	55	202	7	2	<20	226		<10	2.91			
62-2	3636	Lucky Jim	Rep		<5	<0.1	53	4	16	30	22	2			<5	<2				
62-2	3637	Lucky Jim	Rep		<5	<0.1	25	6	16											
62-2	3638	Lucky Jim	Rep		188	13.6	3819	6371	345	92	<20	<10	120	490	<200	<5	1.40			<34
62-2	3639	Lucky Jim	Rep	0.52	150	2.3	82	370	12											
62-2	3793	Lucky Jim	Rep		<5	0.3	32	4	14											
62-2	3794	Lucky Jim	C	0.27	259	8.9	1085	1427	34	120	<20	<10	<100	670	<200	<2	2.00			<10
62-2	3795	Lucky Jim	Rep		69	25.1	1818	1444	131	98	7	2								
63-1	3044	Puyallup	CC	0.15	**8.16** *	12.0	70	580	504	2	9	9	510	139		<10	4.05			
63-1	3061	Puyallup	C	0.52	**12.96** *	47.8	123	1619	1757	2	16	13	450	156		<10	6.22			
63-1	3159	Puyallup	C	1.22	7	1.2	169	5	71	2	105	38	370	66		<10	6.67			
63-1	3181	Puyallup	C	0.06	**75.46** *	**139.5** *	275	5807	864	6	11	13	70	242		<10	4.67			
63-1	3182	Puyallup	C	1.07	69	1.2	39	48	91	16	8	21	360	41		<10	5.14			
63-1	3227	Puyallup	CC	0.15	**16.97** *	13.1	94	84	63	<1	7	4	30	183		<10	3.49			
63-1	3228	Puyallup	CC	0.30	4609	8.1	110	225	188	2	17	11	<20	183		<10	5.52			

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
3039	<5	<5	<5	0.024															UW,	qz vein
3040	<5	<5	<5	0.117															UW,	qz vein, stoped area
3041	<5	<5	<5	0.093															UW,	qz vein, taken at stope
9373	<5	<5	7		<10		2		15										UW,	diabase dike, hw of vein
9087																			OC,	qz vein w/minor py<1%, limonite
9085																			UW,	qz w/minor py & bounding diabase
9086	<5	<5	<5		<10		2		14										UW,	diabase dike
9371																			UW,	qz vein w/cp 3%
9372																			UW,	qz vein w/cp 2%
3180	<5	9	<5	0.545															MD,	.9mx 1.8m area, qz vein
3259	<5	<5	<5	0.066															UW,	qz vein, minor py
3629																			UW,	qz vein in gd
3630					2.9														UW,	qz vein in shear zone
3791		4	1.9		<20	<1	<5	<10		<1	<5	<0.5	<1	<0.5	<0.5	<10			MD,	qz from ore pile
3179	<5	5	<5	0.581															MD,	qz vein, trace py
3257	<5	<5	<5	0.124															TP,	qz vein, vuggy & crystalline, minor py
3258	<5	8	<5	0.292															MD,	qz vein, trace py
3631																			RC,	.02m-.08m qz vein in shear
9058	<5	<5	<5		<10		3		15										OC,	diabase dike w/minor py
3635																			MD,	up to .15m qz vein; no sulf
3632		1	1.3		<20	<1	<5	<10		<1	<5	<0.5	<1	<0.5	<0.5	<10			TP,	.08m-.11m qz vein; no sulf
3792																			MD,	qz vein w/ fest
3633																			MD,	qz vein .25m-.30m thick
3634					2.6														MD,	qz near trench; no sulf
3640					2.6														UW,	qz in shear in gd
3641																			UW,	qz stringers in sheared gd
3642																			MD,	qz from ore pile
3643																			FL,	qz near small trench/pit
3393	<5	58	<5	0.089															RC,	br jasperoid, on strike w/prospect
3394	6	290	1210	>50															MD,	vuggy qz vein, similar to vein W of Flagstaff
3395	<5	8	12	0.693															OC,	gd, hw to vein
3409	<5	74	311	31.900															TP,	qz vein, trench at 810m el
3636					0.5														TP,	qz in siliceous slate
3637																			TP,	sil gd
3638		353	923		<20	<1	<5	<10		<1	<5	0.6	<1	0.6	<1.3	<10			MD,	qz w/ sulf
3639																			TP,	qz vein; fest
3793																			FL,	qz vein near slate/gd contact
3794		120	339		<20	<1	<5	<10		<1	<5	<0.5	<1	<0.5	<0.5	<10			OC,	qz vein; minor fest
3795																			TP,	qz vein from dump
3044	6	107	9	0.139															OC,	qz-calc vein, 0.09m gouge on hw
3061	9	218	8	0.544															OC,	qz vein in gs, outcrop on bank of creek
3159	<5	12	5	<0.010															OC,	chl sc, intense weathering, some br, 45m el
3181	<5	371	31	1.155															UW,	60m stope at surface, qz vein
3182	<5	20	6	0.010															UW,	90m stope at surface, gs
3227	<5	170	5	0.149															OC,	ribbon qz vein
3228	<5	83	<5	0.196															OC,	ribbon qz vein

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Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
63-1	3304	Puyallup	PL	.076 m3	**16.83** *	22.9	205	58	530	6	41	25	1300	107		<10	8.06			
63-1	3526	Puyallup	PL	0.08m3	5098	11.5	159	69	590											
63-2	3043	Puyallup	CC	0.18	9198	7.6	76	659	173	2	5	2	<20	277		<10	1.40			
63-2	3045	Puyallup	CC	0.12	**18.41** *	6.0	52	200	187	1	17	6	<20	216		<10	2.49			
63-2	3060	Puyallup	C	0.21	44	2.1	60	40	89	1	16	8	270	140		<10	3.51			
63-2	3503	Puyallup No. 3	C	0.18	2138	4.2	151	411	1028											
63-2	3504	Puyallup No. 3	C	0.12	3023	9.7	297	310	430											
63-2	3752	Puyallup No. 3	C	0.12	1997	2.6	97	16	30											
63-2	3753	Puyallup No. 3	C	0.12	**19.54** *	28.8	201	448	1076											
63-3	3147	Puyallup	CH	0.15	4903	2.6	71	365	285	<1	10	4	<20	282		<10	1.63			
63-3	3523	Puyallup	G		554	0.2	19	51	46											
64-1	3537	Crackerjack No. 1	G		202	10.9	1601	49	**6.04** *											
64-1	3754	Crackerjack No. 1	Rep	0.10	217	4.7	101	382	1540	8										
64-1	3755	Crackerjack No. 1	Rep	0.61	162	3.7	48	335	707											
64-2	3104	Crackerjack	Rep	0.91	**44.50** *	**213.9** *	323	459	380	20	12	1	60	271		<10	1.58			
64-2	3105	Crackerjack	Rep	0.46	8523	**90.17** *	130	259	1111	9	9	4	320	171		<10	2.69			
64-2	3374	Crackerjack	CH	0.09	10	0.8	40	6	278	2	17	3	720	80		<10	5.78			
64-2	3375	Crackerjack No. 2	CC	0.30	87	2.8	134	163	576	10	40	5	450	286		<10	2.56			
64-2	3376	Crackerjack No. 2	C	1.07	94	1.9	20	11	76	1	2	12	1900	14		<10	4.98			
64-2	3377	Crackerjack No. 2	C	0.76	428	1.7	64	483	652	4	18	2	150	362		<10	1.12			
64-2	3378	Crackerjack No. 2	C	1.37	183	1.1	32	17	90	1	3	9	1100	12		<10	4.02			
64-2	3379	Crackerjack No. 2	C	1.07	1232	3.2	123	1057	248	6	39	5	330	350		<10	2.07			
64-2	3387	Crackerjack No. 2	C	1.19	148	3.1	87	35	282	6	50	9	720	71		<10	3.80			
64-2	3388	Crackerjack No. 2	C	0.61	119	3.8	34	42	52	2	12	9	600	87		<10	5.45			
64-2	3389	Crackerjack No. 2	C	0.76	42	4.5	87	498	593	9	20	3	140	225		<10	1.86			
64-2	3390	Crackerjack No. 2	C	0.64	81	1.9	48	30	452	22	74	9	140	248		<10	2.32			
64-2	3391	Crackerjack No. 2	C	1.22	**16.66** *	**860.9** *	1425	2133	1520	10	34	3	90	301		<10	1.23			
64-2	3401	Crackerjack No. 2	C	0.91	619	5.3	46	62	213	6	39	4	140	275		<10	1.63			
64-2	3402	Crackerjack No. 2	C	1.07	565	4.7	38	31	126	2	7	13	700	27		<10	5.63			
64-2	3403	Crackerjack No. 2	C	2.13	160	1.1	18	31	200	5	23	3	<20	294		<10	1.36			
64-2	3404	Crackerjack No. 2	C	1.37	1693	3.7	89	999	486	13	32	6	570	208		<10	1.57			
64-2	3405	Crackerjack No. 2	C	0.70	145	5.6	87	264	943	10	33	5	250	172		<10	2.60			
64-2	3406	Crackerjack No. 2	C	0.61	205	2.3	62	531	656	8	10	2	70	331		<10	0.78			
64-2	3407	Crackerjack No. 2	C	0.61	128	4.9	92	217	519	11	39	6	550	234		<10	1.92			
64-2	3450	Crackerjack No. 2	CC	0.30	34	0.6	11	47	160	7	12	2	<20	312		<10	0.72			
64-2	3451	Crackerjack No. 2	C	0.46	9103	17.3	111	4139	1003	5	16	3	70	398		<10	2.04			
64-2	3452	Crackerjack No. 2	C	0.46	1642	3.3	38	140	567	6	5	<1	<20	327		<10	0.53			
64-2	3453	Crackerjack No. 2	CC	0.30	313	1.1	11	146	87	3	10	<1	<20	398		<10	0.58			
64-2	3454	Crackerjack No. 2	C	0.98	**63.12** *	**177.3** *	1708	6837	3920	20	9	1	<20	295		<10	2.40			
64-2	3461	Crackerjack No. 2	Rep	1.22	70	1.8	80	50	165	12	53	6	510	158		<10	1.83			
64-2	3462	Crackerjack No. 2	C	0.24	78	3.5	37	46	87	2	14	14	640	18		<10	7.36			
64-2	3463	Crackerjack No. 2	C	1.52	507	4.9	104	139	1312	16	57	5	230	226		<10	1.48			
64-2	3464	Crackerjack No. 2	C	1.22	**15.67** *	**45.94** *	190	1142	1117	5	6	3	100	251		<10	1.35			
64-3	3336	Crackerjack No. 3	Rep	0.61	48	0.9	41	15	125	<1	2	16	1200	21		<10	7.11			
64-4	3335	Crackerjack No. 3	C	0.06	1218	2.2	22	46	326	4	9	3	490	313		<10	1.52			
64-5	3763	Crackerjack No. 3	C	0.18	**12.21** *	15.9	138	461	210											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
3304	<5	65	20	2.128																sand and gravel, 40m el
3526																				placer sample
3043	<5	97	<5	0.083															OC,	qz vein
3045	<5	47	<5	0.123															OC,	qz-calc vein pinches and swells along strike
3060	<5	35	<5	<0.010															OC,	qz vein in alt ls, small vein
3503																			UW,	qz vein; parallel fault
3504																			UW,	qz vein + faulted metavolc
3752																			UW,	qz vein; along fault
3753																			UW,	qz vein; along fault
3147	<5	>2000	6	0.030															OC,	qz-calc vein, country rock 295/22S
3523																			MD,	qz, chl sc, gs; adit 4(?) dump
3537																			MD,	qz vein w/ sulf, minor fest
3754																			OC,	qz vein, from shear in slate
3755																			OC,	qz + qz/slate br vein
3104	<5	145	217	0.346															OC,	siliceous limy ar, qz vein swarm
3105	<5	169	75	0.643															TP,	sil limy ar w/ qz veins/veinlets
3374	<5	5	6	0.039															OC,	br qz-calc vein
3375	<5	82	9	0.321															UW,	crackle br and qz vein, fw is dike
3376	<5	23	7	0.119															UW,	aphanitic dike, fw of vien
3377	<5	44	<5	0.718															UW,	crackle br & qz vein
3378	<5	18	<5	0.891															UW,	aplite dike, fw to vein
3379	<5	67	17	1.746															UW,	crackle br, abundant gp
3387	5	97	7	0.102															UW,	ar, qz vein/lens, dike
3388	<5	207	6	0.628															UW,	dike, dissem py 5%
3389	<5	124	20	1.411															UW,	qz vein in ar, minor sulf
3390	<5	99	18	3.493															UW,	ar & qz crackle br
3391	<5	196	905	2.267															UW,	br qz vein w/py, cp
3401	<5	51	7	1.582															UW,	qz vein in ar, qz-ar br
3402	<5	90	<5	0.863															UW,	dacite dike, fw of vein
3403	<5	57	<5	1.219															UW,	qz vein ar, trace py
3404	<5	28	19	2.947															UW,	ar, hw of vein
3405	<5	131	21	2.009															UW,	qz vein in ar, minor py
3406	<5	22	19	4.099															UW,	qz vein w/ minor fg py
3407	<5	78	23	3.229															UW,	qz vein in ar, minor py
3450	<5	32	<5	0.424															UW,	qz vein, aplite dike forms fw
3451	<5	122	30	3.583															UW,	qz vein, aplite dike forms fw
3452	<5	17	17	1.693															UW,	qz vein, ar fw, aplite hw
3453	<5	18	<5	0.919															UW,	qz vein, dike fw, crackle br hw
3454	11	179	186	6.340															UW,	qz vein, very siliceous
3461	<5	37	7	0.685															UW,	ar w/qz veins, minor py
3462	7	79	6	0.456															UW,	dacite dike, py along fractures
3463	<5	43	27	4.266															UW,	ar w/qz vein, br
3464	<5	136	62	3.252															UW,	br qz vein w/ py & dike fragments
3336	<5	10	<5	0.237															UW,	dacite dike, minor dissem py
3335	<5	65	<5	1.203															UW,	qz vein, trace py
3763																			UW,	qz vein & dike in intrusive

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
64-6	3354	Crackerjack No. 3	C	1.22	1397	3.5	65	58	156	6	37	12	1300	157		<10	3.49			
64-7	3353	Crackerjack No. 3	C	0.61	169	4.1	35	44	133	<1	7	12	760	26		<10	5.45			
64-8	3299	Crackerjack No. 3	C	0.61	1869	24.2	57	127	436	<1	8	8	460	153		<10	4.03			
64-9	3297	Crackerjack No. 3	C	0.61	1826	**354.2** *	852	534	729	2	19	6	270	254		<10	1.25			
64-10	3298	Crackerjack No. 3	CC	0.46	467	12.0	88	195	303	2	15	4	110	300		<10	1.10			
64-11	3331	Crackerjack No. 3	C	0.37	**14.88** *	14.6	713	260	1353	2	15	4	40	195		<10	1.59			
64-12	3332	Crackerjack No. 3	C	0.24	1372	4.0	153	14	56	<1	49	38	210	45		<10	8.17			
64-13	3300	Crackerjack No. 3	C	0.30	2102	9.1	508	1056	1365	9	24	3	180	292		<10	1.81			
64-14	3351	Crackerjack No. 3	C	1.22	293	11.4	121	56	372	16	54	7	380	280		<10	1.81			
64-15	3333	Crackerjack No. 3	C	0.91	1401	12.1	136	44	740	5	31	5	200	242		<10	2.08			
64-15	3334	Crackerjack No. 3	C	0.18	345	18.3	39	68	262	5	16	2	30	330		<10	0.99			
64-16	3352	Crackerjack No. 3	C	1.52	1699	**79.54** *	532	213	3928	10	66	8	2200	156		<10	1.63			
64-17	3330	Crackerjack No. 3	C	1.22	22	1.2	262	12	992	15	134	15	950	176		<10	1.82			
64-18	3226	Crackerjack	C	1.22	3702	8.6	79	198	312	10	10	2	220	407		<10	1.45			
64-19	3608	Crackerjack No. 4	C	0.52	523	4.2	77	64	457											
64-20	3782	Crackerjack No. 4	C	0.21	28	0.5	15	11	259											
64-21	3609	Crackerjack No. 4	C	0.21	12	0.7	37	10	413											
64-22	3781	Crackerjack No. 4	C	0.37	8	0.3	16	11	295											
64-23	3219	Crackerjack No. 4	CC	0.46	**87.39** *	35.2	232	1507	837	8	23	6	90	266		<10	4.03			
64-24	3154	Crackerjack No. 4	C	0.37	2478	7.4	376	881	1458	15	18	2	190	356		<10	0.94			
64-25	3220	Crackerjack No. 4	C	0.91	863	32.5	41	235	2303	9	14	3	70	381		<10	2.45			
64-26	3155	Crackerjack No. 4	Rep	0.30	5180	23.7	64	235	1532	14	12	2	170	273		<10	1.67			
64-27	3780	Crackerjack No. 4	C	0.37	**11.73** *	16.0	180	1887	2302	<1	15	3								
64-28	3221	Crackerjack No. 4	C	0.91	5175	24.3	203	942	1414	2	20	7	140	328		<10	2.01			
64-29	3156	Crackerjack No. 4	C	0.30	1522	4.1	64	86	284	6	13	1	100	370		<10	0.51			
64-30	3222	Crackerjack No. 4	C	0.61	1580	41.6	510	6708	5822	11	9	1	130	354		<10	0.96			
64-31	3223	Crackerjack No. 4	C	1.22	1999	11.2	37	204	316	5	16	3	<20	334		<10	1.49			
64-32	3157	Crackerjack No. 4	C	0.76	**19.17** *	32.0	352	1337	2721	10	30	4	70	352		<10	3.92			
64-33	3224	Crackerjack No. 4	C	0.91	533	7.0	29	756	760	9	14	3	70	364		<10	1.57			
64-34	3225	Crackerjack No. 4	C	0.85	977	3.9	50	1073	829	5	20	6	600	352		<10	1.91			
64-35	3158	Crackerjack No. 4	C	1.22	188	4.4	92	111	276	11	42	6	880	207		<10	1.81			
64-36	3151	Crackerjack No. 4	C	0.61	**29.18** *	**66.17** *	315	1313	2879	30	13	3	<20	292		<10	2.29			
64-37	3213	Crackerjack No. 4	C	0.61	**18.24** *	28.0	195	561	2037	3	9	3	40	286		<10	1.22			
64-38	3214	Crackerjack	CC	0.09	1041	6.1	70	57	180	5	14	2	<20	242		<10	0.99			
64-39	3152	Crackerjack	C	0.52	2204	14.1	251	927	6058	15	18	3	730	277		<10	1.97			
64-40	3153	Crackerjack	C	0.76	1034	7.8	79	2202	1317	7	10	2	240	393		<10	1.52			
64-41	3215	Crackerjack	CC	0.30	**122.1** *	**1414** *	3097	4664	4156	14	10	2	70	300		<10	1.45			
64-42	3216	Crackerjack	C	0.91	6205	10.4	160	2112	1792	16	27	5	160	251		<10	4.28			
64-43	3190	Crackerjack No. 5	C	0.18	**22.01** *	**303.8** *	628	2574	1338	15	11	2	<20	250		<10	1.18			
64-44	3189	Crackerjack No. 5	C	0.15	**26.67** *	**48.34** *	247	1503	1760	17	12	2	60	267		<10	2.37			
64-45	3188	Crackerjack No. 5	C	0.46	**36.00** *	19.2	143	1227	707	3	10	6	480	198		<10	2.58			
64-46	3187	Crackerjack No. 5	C	0.61	1692	5.4	160	104	1055	9	57	5	60	268		<10	1.67			
64-47	3186	Crackerjack No. 5	C	0.30	2488	5.7	39	1261	775	2	8	1	<20	252		<10	1.03			
64-48	3185	Crackerjack No. 5	C	0.76	3152	12.0	134	397	2598	26	34	3	260	226		<10	1.78			
64-49	3184	Crackerjack No. 5	C	0.30	855	15.9	73	223	3134	14	32	3	140	209		<10	2.57			
64-50	3183	Crackerjack No. 5	CC	0.09	**7.78** *	9.9	34	874	564	7	5	<1	<20	284		<10	0.52			

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
3354	<5	62	9	0.608															UW, crackle br in black ar, minor py
3353	<5	78	7	0.468															UW, alt aplite dike, no visible sulb
3299	<5	261	23	2.089															UW, mafic dike, fw to crackle br
3297	<5	125	636	>50															UW, br qz vein, minor py
3298	<5	78	31	2.257															UW, crackle br in black ar, py, trace cp
3331	<5	159	78	3.811															UW, qz vein, 3-5% py at margins, cp/ml
3332	<5	462	19	0.724															UW, dacite dike w/ local qz veinlets, py
3300	<5	94	9	1.541															UW, qz and crackle br, hw & fw of black ar
3351	<5	68	42	2.392															UW, crackle br in sheared ar
3333	<5	81	16	1.407															UW, qz vein & stringers in ar
3334	<5	88	27	1.050															UW, br qz vein, trace py
3352	7	109	310	>50															UW, br ar, crosscutting qz veinlets
3330	<5	68	15	0.435															UW, ar, minor qz, calc, no visible sulf
3226	<5	66	53	1.147															OC, qz vein, parallel to ar foliation
3608																			UW, qz vein & stringers in slate
3782																			UW, qz vein in black slate
3609																			UW, qz vein + black slate
3781																			UW, qz lenses + black slate
3219	<5	225	99	5.943															UW, qz vein, minor gn, py
3154	<5	36	9	1.831															UW, qz stringers in ar, minor py
3220	<5	238	29	0.828															UW, qz vein, 0.06m. gouge on fw, mafic dike on hw
3155	<5	137	20	1.114															UW, qz stringers in ar, no visible sulf
3780																			UW, qz vein; in stope to surface
3221	<5	125	60	3.870															UW, qz vein, mafic dike concordant w/vein
3156	<5	14	26	2.438															UW, qz vein, trace py
3222	9	69	352	>50															UW, qz vein, ar same attitude as vein
3223	<5	113	44	3.704															UW, qz vein, vein by fault, and dike
3157	<5	226	196	>50															UW, qz vein in ar. 5-25% py
3224	<5	112	15	2.239															UW, qz vein contains much br ar
3225	<5	160	17	3.158															UW, qz vein, po, py
3158	<5	51	26	1.614															UW, gp ar w/qz, no visible sulf
3151	<5	225	128	4.348															UW, qz vein in ar, emplaced along shear, py 5%
3213	<5	111	137	5.998															TP, qz vein, py, po
3214	<5	62	41	1.286															OC, qz vein along fold axis, by creek,
3152	9	137	117	10.869															OC, qz vein & stringers in ar
3153	<5	85	58	5.249															OC, qz vein w/ clasts of ar
3215	9	266	>2000	>50															TP, open cut, qz vein, crackle br
3216	<5	262	47	3.027															OC, qz vein, min spotty, crackle br
3190	<5	156	641	>50															UW, qz vein, py dissem & veinlets
3189	<5	153	372	11.876															UW, qz vein, thin veinlets of py
3188	<5	169	125	6.149															UW, qz vein in ar, minor py
3187	<5	95	26	3.174															UW, qz vein in ar, 10-15% py
3186	<5	58	19	1.624															UW, qz vein, pods & dissem py, trace gn
3185	<5	103	49	6.259															UW, qz vein in ar, py 1-3%
3184	<5	260	35	3.932															UW, qz vein in ar, py 5%, gn
3183	<5	22	43	3.354															UW, qz vein & stringers in ar, py, gn

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
64-51	3217	Crackerjack	C	0.15	185	3.3	26	42	260	7	19	3	<20	282		<10	0.71			
64-51	3218	Crackerjack	CC	0.30	14	0.5	7	6	38	<1	4	2	<20	164		<10	0.43			
64-52	3533	Crackerjack No. 6	C	0.61	1686	**82.63** *	167	1210	1093											
64-52	3534	Crackerjack No. 6	C	0.18	**43.37** *	**86.74** *	250	461	2219											
64-52	3535	Crackerjack No. 6	C	0.73	**29.79** *	**65.14** *	226	2371	2719											
64-52	3536	Crackerjack No. 6	C	0.49	7171	34.1	195	621	1676											
64-52	3539	Crackerjack No. 6	CC	0.37	**61.75** *	39.0	194	1957	3360											
64-52	3540	Crackerjack No. 6	C	0.34	6378	**57.26** *	219	4495	1772											
64-52	3541	Crackerjack No. 6	C	0.24	3578	4.3	52	32	101											
64-52	3542	Crackerjack No. 6	C	0.91	1195	**79.20** *	359	263	485											
64-52	3543	Crackerjack No. 6	C	1.43	350	3.5	39	29	61											
64-52	3544	Crackerjack No. 6	C	0.52	6168	11.7	141	169	422											
64-52	3559	Crackerjack No. 6	C	0.21	191	**521.1** *	955	725	1955											
64-52	3560	Crackerjack No. 6	C	0.98	5933	**99.77** *	1282	330	313	<1	11	4	20	465		<20	1.27			
64-52	3561	Crackerjack No. 6	C	0.73	331	20.6	118	232	761						19	3.4				
64-52	3562	Crackerjack No. 6	C	0.79	61	3.7	119	18	456											
64-52	3610	Crackerjack No. 6	C	0.98	6320	20.4	83	228	1057	9	45	13			7	<2				
64-52	3611	Crackerjack No. 6	C	1.58	8930	11.3	82	117	559											
64-52	3768	Crackerjack No. 6	C	0.21	**17.18** *	21.6	390	896	928											
64-52	3769	Crackerjack No. 6	C	0.27	904	9.0	99	1097	965											
64-52	3770	Crackerjack No. 6	C	0.24	3772	**56.23** *	1919	237	2372											
64-52	3772	Crackerjack No. 6	C	0.70	544	30.2	64	1746	604											
64-52	3773	Crackerjack No. 6	C	0.30	**8.98** *	**159.8** *	272	655	264											
64-52	3774	Crackerjack No. 6	C	0.43	1310	1.6	38	61	179											
64-52	3783	Crackerjack No. 6	C	0.61	**11.93** *	**1498** *	2400	1984	1587	15	27	5			<5	6.8				
64-52	3784	Crackerjack No. 6	C	0.61	3690	43.6	92	165	209	8	30	4			<5	<2				
64-52	3785	Crackerjack No. 6	C	0.46	**52.63** *	**356.6** *	509	1001	609	14	<20	<10	<100	530	<200	<2	0.60			<10
64-52	3786	Crackerjack No. 6	C	0.55	953	11.0	30	70	204											
65-1	3551	Cascade	C	0.64	8590	15.2	391	1705	214											
65-1	3552	Cascade	C	0.24	**44.54** *	**40.11** *	314	512	173											
65-1	3646	Cascade	G		**184.7** *	**73.71** *	81	144	50											
65-1	3647	Cascade	RC		**27.36** *	31.6	79	302	1597	7	8	3			<5	4.8				
65-1	3764	Cascade	C	0.18	**24.82** *	**170.4** *	570	2241	1359											
66-1	3085	Dawson	C	2.13	34	1.4	52	46	171	21	15	2	1200	156		<10	1.77			
66-1	3125	Dawson	C	1.52	347	2.6	140	261	830	23	52	11	440	215		<10	3.74			
66-1	3126	Dawson	CC	0.61	13	2.6	47	13	525	<1	30	28	950	24		<10	7.45			
66-1	3127	Dawson	CH	0.15	23	1.0	56	40	256	12	25	3	680	230		<10	2.18			
66-2	3086	Dawson	C	0.91	28	2.2	84	26	784	10	31	4	1100	106		<10	2.43			
66-2	3087	Dawson	C	0.61	28	2.2	215	42	1594	8	91	23	970	86		<10	4.68			
66-2	3088	Dawson	C	0.76	89	2.2	133	677	832	22	39	4	510	104		<10	3.92			
66-2	3089	Dawson	C	1.07	22	2.5	61	14	188	18	10	2	830	180		<10	0.72			
66-2	3128	Dawson	C	0.91	35	1.3	112	57	725	14	38	7	730	131		<10	4.94			
66-2	3129	Dawson	C	1.22	22	1.1	22	17	352	11	16	1	890	116		<10	1.48			
66-2	3130	Dawson	S		**11.55** *	44.0	58	855	2323	1	6	3	40	259		<10	1.12			
66-2	3131	Dawson	C	0.91	26	0.5	30	23	214	10	16	7	110	312		<10	0.91			
66-2	3132	Dawson	S		749	3.6	89	77	2018	5	6	2	60	314		<10	2.00			

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
3217	<5	10	11	0.401															OC,	ar and qz, highly friable, much br
3218	<5	<5	<5	0.040															OC,	qz-calc vein w/abundant ar fragments in vein
3533																			UW,	qz vein hosted by diabase dike
3534																			UW,	qz stringers in black slate
3535																			UW,	qz veins in black slate
3536																			UW,	qz vein, black slate, dike
3539																			UW,	qz vein in black slate
3540																			UW,	qz vein
3541																			UW,	qz vein in black slate
3542																			UW,	qz vein adjacent diabase dike
3543																			UW,	diabase dike w/ dissem sulf
3544																			UW,	qz vein in black slate
3559																			UW,	vein at intersection of 2 faults
3560																			UW,	qz/slate br vein; along dike hw
3561					<0.2														UW,	qz vein & qz stringers in slate
3562																			UW,	qz vein & qz stringers in slate
3610																			OC,	qz vein & stringers in black slate
3611																			OC,	qz vein & stringers in black slate
3768																			UW,	qz vein, along dike hw
3769																			UW,	qz veinlets in mafic dike
3770																			UW,	qz vein; hw=slate, fw=dike
3772																			UW,	qz vein; hw=slate, fw=dike
3773																			UW,	qz lenses/pods in mafic dike
3774																			UW,	qz vein; along dike hw
3783																			UW,	qz vein; hw=slate, fw=dike
3784																			UW,	qz vein + black slate
3785		136	322		<20	<1	<5	<10		<1	<5	<0.5	<1	<0.5	<1	<10			UW,	qz vein/veinlets in black slate
3786																			UW,	qz vein; hw=slate, fw=dike
3551																			OC,	qz veins & veinlets in shear
3552																			UW,	qz veins hosted by shear
3646																			MD,	qz; near trench; small sample
3647																			MD,	qz from ore pile; minor sulf
3764																			OC,	qz vein w/ py & minor gn
3085	<5	58	10	0.051															OC,	ar, fw of ore zone, above No. 5 adit
3125	<5	183	14	0.463															OC,	sheared and intensely br ar
3126	<5	15	6	0.039															OC,	an dike on vein trend
3127	<5	44	7	0.035															OC,	qz-calc crackle br zone
3086	<5	67	7	0.336															UW,	sheared ar, portal, Free Gold vein,
3087	<5	107	7	0.137															UW,	limonitic ar, Free Gold vein, portal
3088	<5	108	9	0.107															TP,	ar w/qz stringers, N side of trench above adits
3089	<5	42	10	0.332															UW,	ar , portal of doghole
3128	<5	153	17	0.046															OC,	highly sheared limy ar
3129	<5	41	<5	0.112															OC,	siliceous limy ar, W portal
3130	<5	46	9	0.584															TP,	crusher pit, qz vein sampled from crusher rejects
3131	<5	21	<5	<0.010															TP,	crackle br, old surface workings
3132	<5	191	<5	0.559															TP,	sloughed pit, vuggy qz vein

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
66-2	3133	Dawson	C	0.91	19	0.9	27	12	207	20	18	2	470	172		<10	1.27			
66-3	3119	Dawson	C	0.91	49	3.0	17	25	430	20	16	2	4800	153		<10	2.02			
66-3	3120	Dawson	CC	0.30	1089	3.5	29	314	779	2	7	2	180	321		<10	0.75			
66-3	3121	Dawson	C	0.91	145	2.6	46	23	469	15	30	6	1300	240		<10	2.12			
66-3	3122	Dawson	C	0.91	331	1.8	8	64	89	2	7	2	<20	358		<10	0.65			
66-3	3123	Dawson	C	1.22	305	2.7	59	35	695	10	30	8	730	165		<10	2.78			
66-3	3124	Dawson	CC	0.30	<5	0.4	20	2	29	2	17	8	420	408		<10	0.60			
66-3	3137	Dawson	Rep	1.22	**10.70** *	14.2	223	896	1388	5	10	3	370	262		<10	1.45			
66-3	3138	Dawson	Rep	0.91	1114	5.9	135	176	374	4	23	7	110	329		<10	1.57			
66-4	3003	Dawson	S		**10.05** *	19.8	556	509	15614	14	16	4	<20	232		<10	>10			
66-4	3069	Dawson	CC	0.46	190	11.3	290	569	1043	8	19	5	210	222		<10	2.19			
66-4	3070	Dawson	CC	0.37	1431	6.8	134	1001	1527	6	7	2	60	204		<10	1.08			
66-4	3071	Dawson	C	0.76	262	9.1	47	318	537	11	30	4	380	156		<10	2.79			
66-4	3072	Dawson	C	0.76	300	4.2	107	118	1273	12	42	7	370	182		<10	2.99			
66-4	3081	Dawson	C	0.76	550	6.3	105	381	707	17	29	6	380	171		<10	3.59			
66-4	3082	Dawson	C	0.76	3153	**69.60** *	181	610	2089	10	14	2	160	238		<10	2.46			
66-4	3083	Dawson	C	0.30	1136	10.8	65	1609	963	7	11	2	40	387		<10	1.53			
66-4	3084	Dawson	C	0.61	305	5.7	66	209	794	17	18	5	490	169		<10	2.77			
66-4	3113	Dawson	C	0.91	41	1.0	42	27	261	11	18	6	920	73		<10	1.73			
66-4	3114	Dawson	C	0.76	**178.7** *	**91.54** *	203	546	684	5	6	2	<20	315		<10	1.47			
66-4	3115	Dawson	C	0.91	485	12.7	43	237	363	7	22	6	370	136		<10	2.33			
66-4	3116	Dawson	C	0.61	412	3.3	90	77	329	7	17	3	920	135		<10	1.77			
66-4	3117	Dawson	C	0.61	**21.81** *	19.7	84	2087	1498	3	20	5	120	223		<10	5.43			
66-4	3118	Dawson	CC	0.30	**16.08** *	18.8	68	3081	3121	3	16	3	<20	309		<10	8.50			
66-4	3410	Dawson	C	0.91	**36.62** *	25.7	106	755	512	10	14	3	120	232		<10	2.54			
66-5	3134	Dawson	CC	0.30	121	6.1	57	2182	80	2	24	13	70	45		<10	5.71			
66-5	3135	Dawson	Rep	1.07	29	1.9	82	61	1434	27	53	6	250	198		<10	1.70			
66-5	3136	Dawson	CC	0.61	14	1.2	53	19	389	<1	12	18	500	21		<10	4.57			
67-1	3171	Harris River	S	0.30	154	4.6	85	17	401	8	32	12	3200	159		<10	3.79			
67-1	3172	Harris River	S	0.30	26	2.2	61	65	712	4	24	6	2600	221		<10	1.74			
67-1	3173	Harris River	S	0.30	134	2.4	10	8	8	3	9	1	350	358		<10	0.60			
67-1	3174	Harris River	S	0.30	1978	6.4	62	95	23	1	14	29	2700	119		11	8.48			
67-1	3242	Harris River	S		2524	2.3	66	78	478	5	37	15	800	101		<10	7.26			
67-1	3243	Harris River	S		9548	5.8	23	323	860	5	9	2	730	267		<10	0.98			
67-1	3244	Harris River	S		1138	4.5	119	983	489	1	62	29	2100	103		<10	6.33			
67-1	3245	Harris River	S		6	1.3	49	16	170	<1	17	20	2600	29		<10	5.61			
68-1		Burke & Lang		No Samples Taken																
69-1		Stella		No Samples Taken																
70-1		Kina Cove		No Samples Taken																
71-1	3556	Sunny Day	C	1.19	111	10.1	131	51	103											
71-1	3557	Sunny Day	C	0.98	36	1.3	152	14	83											
71-1	3558	Sunny Day	G		174	20.7	4.02	12	473						29	4				
71-1	3578	Sunny Day	C	1.16	30	2.1	2139	4	40											
71-1	3579	Sunny Day	S		<5	<0.1	60	3	25											
71-1	3580	Sunny Day	S		52	6.0	4761	10	62	<1	51	467			31	<2	>10			

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
3133	<5	34	10	0.064															TP,	W end of open cut, limy ar
3119	<5	60	13	0.435															OC,	black ar, local qz along partings
3120	<5	51	8	0.220															OC,	qz vein contains argillic partings
3121	<5	53	10	0.293															OC,	crackle br in ar, fw to 3120 vein
3122	<5	41	<5	0.032															OC,	qz vein, weathered and locally vuggy
3123	<5	156	8	0.137															OC,	sheared black ar, intense gouge at contact
3124	<5	8	<5	0.034															OC,	qz vein pinches and swells
3137	<5	95	52	1.169															UW,	strong qz vein and crackle br
3138	<5	118	33	0.302															UW,	Humboldt adit, qz vein, very poor ground
3003	18	1548	62	>50															FL,	min qz vein, qz float in trench
3069	<5	54	24	0.593															OC,	br gp ar, hw above vein
3070	<5	51	15	0.503															OC,	qz vein & gp ar, fw below vein
3071	<5	131	13	0.473															OC,	gp ar, fw below vein
3072	<5	175	15	0.626															OC,	sheared gp ar, fault gouge below fw
3081	<5	73	37	1.641															OC,	ar, fw of ore zone
3082	<5	190	173	4.262															OC,	ar w/qz stringers from 20-80% of rock
3083	<5	91	41	1.339															OC,	qz vein from .15-.3m
3084	<5	80	27	1.351															OC,	ar, hw of ore zone
3113	<5	33	7	0.100															TP,	siliceous black ar, hw of Humboldt vein
3114	<5	93	160	1.921															TP,	qz vein and crackle br, sulf distribution erratic
3115	<5	96	18	0.349															TP,	sheared gp ar, fw of 3114 vein
3116	<5	42	9	0.167															TP,	siliceous black ar, hw of 3117 vein
3117	<5	635	26	0.545															TP,	qz vein and crackle br, py dissem & in masses
3118	<5	824	23	0.650															TP,	qz vein, only vein sampled, br avoided
3410	<5	87	73	1.191															TP,	qz vein in ar, 4m S of 3184
3134	10	159	10	0.022															TP,	quarry, qz-carbonate vein in highly sheared ar
3135	<5	58	14	0.135															TP,	quarry, siliceous black ar, fw to 3134
3136	<5	74	6	0.074															TP,	an dike, similar to other dikes in quarry w/py
3171	<5	128	9	0.073															MD,	qz in pl
3172	<5	28	10	0.135															MD,	sil pl
3173	<5	29	7	0.011															MD,	qz vein
3174	<5	391	14	0.040															MD,	sil an w/qz
3242	<5	50	6	0.572															MD,	ball mill tailings
3243	<5	30	13	0.438															MD,	qz vein debris, selected from dumps and mill area
3244	<5	267	<5	0.084															TP,	min qt and gw, from pit dug in mine dump
3245	8	17	<5	0.033															MD,	qz vein,
	No Samples Taken																			
	No Samples Taken																			
	No Samples Taken																			
3556																			UW,	gs; no evident mineralization
3557																			UW,	gs; adit driven along fault
3558					0.7														FL,	po- & py-rich float; fest
3578																			TP,	porphyry w/ sulf lenses
3579																			TP,	limonite w/ ep in marble
3580					6.6														MD,	msv sulf; mainly py & po

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
71-1	3581	Sunny Day	RC	1.22	267	3.7	7331	13	121		22	270								
71-1	3582	Sunny Day	Rep	0.55	750	11.3	19500	7	406	12	30	673	<100	<50	<200	<2	>10			<10
71-1	3766	Sunny Day	Rep	0.82	213	2.1	31	696	136											
71-1	3767	Sunny Day	C	0.40	1158	19.4	188	6900	**0.38** *											
72-1	3616	Baker Point	S		<5	<0.1	18	3	48	<2	<20	29	270	80	<200	<2	**6.86** *			<10
72-1	3617	Baker Point	S		12	<0.1	34	3	39								**7.41** *			
72-2	3100	Baker Point	CH	0.15	14	9.6	128	<2	92	2	19	45	<20	49		103	>10			
72-2	3618	Baker Point	S		<5	<0.1	15	3	61								**72.13** *			
72-2	3619	Baker Point	C	0.91	14	0.2	193	5	41		6	36		71			**12.88** *		275	
73-1	3093	Shelton	Rep	0.30	8	11.8	**1.92** *	4	15	3	10	5	<20	261		<10	4.64			
73-1	3094	Shelton	Rep	0.46	<5	0.9	926	3	43	6	13	8	<20	294		<10	0.97			
73-2	3144	Shelton	Rep	0.91	11	2.5	4820	3	10	3	8	5	<20	291		<10	1.02			
73-2	3145	Shelton	Rep	0.61	8	4.2	7810	3	12	<1	11	12	<20	227		<10	1.92			
73-2	3146	Shelton	Rep	0.30	8	12.3	18136	6	19	6	15	11	<20	265		<10	4.79			
73-2	3583	Shelton	C	0.98	7	3.3	6810	8	27											
73-2	3584	Shelton	G		13	2.6	6540	3	24	3	<20	22	<100	420	<200	<2	1.90			<10
74-1	3021	Big Harbor	C	1.52	297	2.9	456	29	181	103	<1	46	<20	72		<10	3.29			
74-1	3022	Big Harbor	C	1.52	261	5.1	2173	45	2909	40	<1	16	<20	28		<10	2.87			
74-1	3056	Big Harbor	SC	6.10	157	2.8	2480	13	451	18	<1	8	<20	96		<10	5.09			
74-1	3057	Big Harbor	SC	6.10	131	2.8	4406	4	113	11	<1	13	<20	64		<10	>10			
74-1	3058	Big Harbor	SC	4.57	77	1.3	1382	4	68	8	<1	8	<20	81		<10	6.97			
74-1	3600	Big Harbor	S		521	**80.23** *	**11.71** *	111	12095				80							
74-2	3017	Big Harbor	C	1.52	35	1.6	270	22	87	11	<1	4	30	41		14	>10			
74-2	3018	Big Harbor	C	1.52	37	1.6	113	8	79	8	<1	8	<20	36		15	>10			
74-2	3019	Big Harbor	C	1.52	47	2.1	1658	5	89	5	<1	10	<20	36		15	>10			
74-2	3020	Big Harbor	C	1.52	39	2.2	1126	6	110	4	<1	7	<20	28		20	>10			
74-2	3028	Big Harbor	CC	0.30	129	2.3	794	142	8043	5	<1	4	90	39		<10	2.61			
74-2	3029	Big Harbor	C	0.91	40	3.1	917	65	1149	1	<1	2	290	51		<10	5.86			
74-2	3030	Big Harbor	CC	0.61	1590	**54.51** *	**11.01** *	132	2376	<1	<1	6	<20	18		<10	2.20			
74-2	3059	Big Harbor	C	1.22	106	1.4	196	58	1511	<1	<1	11	210	12		<10	8.87			
74-3	3023	Big Harbor	S		181	7.6	7032	517	2040	4	<1	4	100	58		<10	7.58			
74-3	3024	Big Harbor	CH	0.15	470	32.8	**15.20** *	871	11195	57	<1	9	80	28		<10	3.03			
74-3	3025	Big Harbor	C	0.91	134	13.9	2119	43	1063	<1	<1	<1	600	45		<10	8.52			
74-3	3026	Big Harbor	CC	0.30	3560	38.9	**8.80** *	409	1931	43	<1	1	100	79		<10	>10			
74-3	3027	Big Harbor	CC	0.61	239	24.6	5359	783	**7.37** *	45	<1	3	530	31		661	>10			
75-1	3501	Cable Creek	C	0.79	22	<0.1	25	6	17											
75-1	3502	Cable Creek	S		790	11.6	**2.55** *	8	10076	9	13	15	110							
75-1	3511	Cable Creek	C	0.40	7	<0.1	32	6	147											
75-1	3751	Cable Creek	SC	2.2@0.15	24	<0.1	61	7	41											
76-1		Nancy		No Samples Taken																
77-1		Marble Heart		No Samples Taken																
78-1	3507	Dolly Varden	C	0.64	<5	0.2	104	7	26											
78-1	3508	Dolly Varden	C	0.67	<5	<0.1	12	4	18											
78-1	3756	Dolly Varden	C	0.15	21	0.6	339	12	41											
78-1	3757	Dolly Varden	C	0.30	20	7.6	1329	7	168	5	18	3				<2				

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
3581																			TP,	alt intrusive w/ sulf
3582		5	0.6		<20	<1	<5	31		<1	<5	<0.5	<1	<0.5	<0.5	<10			TP,	msv sulf in alt intrusive
3766																			OC,	ls band w/ dissem sulf; fest
3767																			UW,	gs; sampled across shear
3616		6	1.7		<20	1	16	27		<1	<5	<0.5	<1	2.5	1.1	31			OC,	lenses of mag in metavolc
3617																			OC,	lenses of mag in metavolc
3100	<5	52	36	0.019															OC,	magnetite pod in pyroxinite
3618																			RC,	select for mag; in metavolc
3619		<5															<5	5	OC,	bands of mag in banded chert
3093	26	18	<5	0.047															FL,	180m el in creek, br qz vein
3094	<5	10	<5	<0.010															FL,	230m el in creek, br qz vein
3144	<5	<5	<5	<0.010															RC,	vuggy qz vein, in creek,
3145	8	10	<5	<0.010															RC,	qz vein, in creek,
3146	13	54	<5	0.039															RC,	br vein material w/large fragments
3583																			OC,	qz vein w/ sulf
3584		9	1.2		<20	<1	<5	<10		<1	<5	<0.5	<1	<0.5	<0.5	<10			FL,	qz w/ py, cpy, ml
3021	31	20	7	1.118															UW,	msv sulf zone
3022	26	6	9	1.445															UW,	sulf zone in qz mica sc
3056	7	22	<5	1.799															UW,	qz-mica sc, py 10%, ml <1%
3057	<5	47	<5	0.763															UW,	qz-mica sc, py 10%, ml <1%
3058	11	19	<5	0.145															UW,	qz-mica sc, py
3600																			UW,	msv sulf; in silicic volc
3017	<5	40	<5	0.068															UW,	qz-mica sc, py 4%
3018	<5	29	<5	0.113															UW,	qz-mica sc, py 4%, trace cp
3019	<5	30	<5	0.157															UW,	qz-mica sc, local intense chl, py, cp
3020	5	34	<5	0.118															UW,	qz-mica sc, py 4%, trace cp
3028	12	25	<5	1.754															UW,	qz-mica-chl sc. py, cp, sl
3029	<5	8	<5	0.180															OC,	qz-chl sc w/dissem py
3030	<5	<5	<5	0.705															OC,	msv py, cp
3059	8	12	<5	0.178															UW,	chl sc, minor py
3023	<5	21	<5	0.434															UW,	mafic sc w/sulf, muck from stope
3024	<5	<5	10	4.112															UW,	msv py, cp, sulf zone in mafic sc
3025	<5	11	<5	0.327															UW,	chl-qz-mica sc, hw,
3026	<5	16	<5	0.620															UW,	qz w/cp, cp + py 5-25%
3027	19	17	8	>50															UW,	chl sc, fw of msv sulf zone
3501																			OC,	talc-chl sc w/sulf
3502																			RC,	msv sulf in sc
3511																			OC,	talc-chl sc w/ dissem py
3751																			OC,	talc-chl sc w/ sulf
	No Samples Taken																			
	No Samples Taken																			
3507																			UW,	grey marble + fault gouge
3508																			UW,	siliceous marble w/ minor sulf
3756																			UW,	marble + clay minerals
3757																			UW,	marble w/ minor ml

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
Khayyam Area																				
79-1	3175	Khayyam, Kimball Adit	C	1.22	<5	0.5	121	2	18	<1	10	14	<20	49		<10	4.18			
79-1	3176	Khayyam, Kimball Adit	SC	3.0@0.15	<5	0.4	39	4	19	<1	9	16	<20	57		<10	3.78			
79-1	3246	Khayyam, Kimball Adit	C	1.52	25	0.5	27	6	38	<1	5	23	30	41		<10	6.58			
79-1	3247	Khayyam, Kimball Adit	C	1.52	<5	0.4	34	<2	16	<1	17	16	<20	92		<10	3.36			
79-1	3248	Khayyam, Kimball Adit	S	1.52	<5	<0.2	<1	21	3257	3	12	24	90	16		<10	4.20			
79-1	3249	Khayyam, Kimball Adit	SC	3.05	<5	0.8	13	<2	111	2	16	33	110	44		13	>10			
79-1	3250	Khayyam, Kimball Adit	SC	3.05	<5	0.3	18	<2	42	<1	18	13	<20	61		<10	3.59			
79-2	3164	Khayyam No. 5	C	0.46	315	9.9	3897	<2	162	7	26	225	<20	110		52	>10			
79-2	3165	Khayyam No. 5	C	0.52	1390	19.2	2888	<2	862	10	36	616	<20	120		71	>10			
79-2	3237	Khayyam No. 5	C	2.44	1007	34.0	**3.38** *	4	3663	12	82	945	<20	158		14	>10			
79-2	3178	Khayyam No. 6	C	1.52	1910	15.1	**2.85** *	41	6319	6	14	211	<20	92		<10	4.42			
79-2	3253	Khayyam No. 6	C	2.13	796	12.7	16523	47	15413	44	15	147	<20	95		<10	4.22			
79-2	3196	Khayyam	C	1.52	826	4.5	1465	17	131	46	11	71	<20	132		<10	3.87			
79-2	3268	Khayyam	C	2.44	2029	18.5	**2.74** *	42	14610	20	15	172	<20	170		<10	3.87			
79-2	3593	Khayyam	S		2460	**72.69** *	**4.88** *	15	**5.72** *											
79-3	3160	Khayyam No. 1	C	1.22	9	0.8	50	<2	234	1	43	16	<20	179		<10	8.80			
79-3	3229	Khayyam No. 1	C	1.37	10	0.7	51	3	35	<1	73	15	<20	259		<10	6.53			
79-3	3230	Khayyam No. 1	C	2.44	55	9.2	208	<2	146	5	22	44	<20	183		55	>10			
79-3	3192	Khayyam No. 2	S	0.91	354	9.0	6459	18	545	1	9	133	<20	121		<10	3.56			
79-3	3193	Khayyam No. 2	S	7.62	630	7.7	3602	19	2353	7	9	54	<20	140		<10	3.70			
79-3	3194	Khayyam No. 2	C	1.68	2614	23.2	4402	14	152	8	9	295	<20	171		<10	3.58			
79-3	3195	Khayyam No. 2	C	0.91	5802	14.8	1408	23	80	72	5	6	<20	51		<10	3.91			
79-3	3260	Khayyam No. 2	S		872	4.8	8992	39	5833	29	11	75	<20	137		<10	3.44			
79-3	3261	Khayyam No. 2	S		658	7.3	**2.61** *	46	15384	18	11	76	<20	106		<10	3.77			
79-3	3262	Khayyam No. 2	S		961	5.5	13415	34	16720	22	10	71	<20	140		<10	3.69			
79-3	3263	Khayyam No. 2	C	1.83	48	0.9	448	<2	293	2	36	18	<20	184		<10	4.97			
79-3	3264	Khayyam No. 2	S		1602	14.6	7340	30	611	19	9	40	<20	157		<10	3.51			
79-3	3265	Khayyam No. 2	S		1148	14.5	7576	17	280	13	11	83	<20	209		<10	3.73			
79-3	3162	Khayyam No. 3	Rep	0.91	8	0.6	477	<2	24	<1	10	104	<20	30		<10	5.68			
79-3	3163	Khayyam No. 3	SC	3.0@0.15	7	0.7	764	<2	60	2	19	102	<20	42		<10	7.60			
79-3	3161	Khayyam No. 4	C	0.91	<5	0.3	102	<2	21	<1	9	16	<20	29		<10	3.92			
79-3	3231	Khayyam No. 4	C	0.91	859	40.7	**4.66** *	36	**1.66** *	14	54	433	<20	132		<10	>10			
79-3	3232	Khayyam No. 4	C	0.91	50	2.8	2406	16	1569	4	72	29	<20	175		<10	>10			
79-3	3233	Khayyam No. 4	C	1.52	2144	34.0	**4.68** *	33	4256	7	55	888	<20	144		<10	>10			
79-3	3177	Khayyam No. 7	C	0.91	146	<0.2	1894	40	127	<1	12	7	<20	24		<10	5.36			
79-3	3251	Khayyam No. 7	C	1.22	<5	0.9	451	3	560	<1	29	49	<20	87		<10	>10			
79-3	3252	Khayyam No. 7	SC	5.49	<5	0.5	110	<2	82	2	32	16	<20	123		<10	6.71			
79-3	3234	Khayyam	C	1.52	11	0.2	149	<2	50	<1	12	8	<20	81		<10	2.77			
79-3	3235	Khayyam	SC	3.05	<5	0.4	84	<2	28	<1	8	11	<20	54		<10	3.00			
79-3	3236	Khayyam	C	1.83	502	22.3	19769	<2	1490	4	35	219	<20	165		29	>10			
79-3	3266	Khayyam	C	3.66	468	4.4	6408	20	9628	9	8	58	<20	165		<10	3.75			
79-3	3267	Khayyam	C	1.52	1445	42.4	**9.57** *	21	4722	14	10	17	<20	70		<10	2.88			
79-3	3650	Khayyam	Rep		179	0.3	68	10	10											
79-3	3651	Khayyam	G		**13.44** *	4.8	69	3	38											
80-1	3399	Stumble-On	C	1.49	21	1.2	246	<2	72	13	11	30	80	41		12	>10			

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
Khayyam Area																				
3175	<5	<5	<5	2.099															UW,	mafic sc
3176	6	<5	<5	3.924															UW,	fel sc, abundant qz stringers
3246	6	12	<5	0.054															UW,	mafic gneiss, back of adit
3247	6	<5	<5	0.500															UW,	mafic gneiss Fe seep in gneiss
3248	33	<5	23	0.541															UW,	iron seep, yellow sludge
3249	6	7	7	0.909															UW,	mafic gneiss, local sulf concentrations
3250	<5	<5	<5	1.376															UW,	mafic gneiss, in Fe seep zone
3164	11	125	68	0.073															UW,	msv py ore, 790m el, portal
3165	34	178	23	0.259															UW,	msv py ore, 790m el, portal
3237	35	205	11	0.159															TP,	open cut, msv sulf lens
3178	82	<5	22	0.232															UW,	E rib, msv sulf
3253	53	<5	25	0.719															UW,	msv sulf zone, at portal, joins sample 3178
3196	24	<5	23	0.112															TP,	S end of trench, msv sulf
3268	73	<5	21	0.749															TP,	prospect pit above trench, msv sulf pod
3593																			MD,	msv sulf; mainly py
3160	<5	12	<5	0.504															UW,	mafic sc, N rib, 740m el
3229	7	15	<5	0.169															UW,	hnbd-bt gneiss
3230	22	122	37	0.794															UW,	irregular msv sulf lens
3192	33	<5	15	0.452															UW,	msv sulf, 2nd stope, E side
3193	35	<5	11	0.768															UW,	msv sulf, 2nd stope, E side
3194	28	<5	18	0.355															TP,	msv sulf, stope at surface
3195	45	21	14	0.833															TP,	gossan, surface of 2nd stope
3260	42	<5	10	0.253															UW,	msv sulf lens, from muck pile in stope
3261	62	<5	18	0.256															UW,	muck pile in stope, msv sulf lens
3262	63	<5	29	0.525															UW,	muck pile in stope, msv sulf lens
3263	<5	8	9	0.296															UW,	mafic sc along strike to sulf lens
3264	39	<5	14	0.852															UW,	msv sulf lens, muck pile from floor of stope
3265	40	<5	20	1.010															UW,	msv sulf pod, muck pile from floor of stope
3162	<5	13	<5	1.466															UW,	mafic sc, S rib of dog hole, 740m el
3163	<5	11	<5	0.666															UW,	mafic sc, N rib, 740m el
3161	6	<5	<5	0.020															UW,	mafic sc, sample from face, 740m el
3231	92	231	8	0.624															UW,	msv sulf lens or pod, minor qz stringers
3232	7	22	<5	0.071															UW,	hnbd gneiss separates msv sulf lenses
3233	146	195	17	0.140															UW,	msv sulf lens, local qz eyes
3177	41	<5	16	0.067															UW,	just outside portal, gossan
3251	7	20	5	<0.010															UW,	py hnbd gn, back of adit
3252	<5	<5	<5	0.017															UW,	hnbd bt sc, sample across rib
3234	<5	<5	<5	0.179															UW,	hnbd gneiss, very thinly foliated
3235	<5	<5	<5	0.560															UW,	hnbd gneiss
3236	20	99	65	0.117															TP,	open cut, msv sulf lens
3266	43	<5	24	0.402															OC,	exposed gossan, msv sulf lens above No. 2 adit
3267	121	<5	15	0.382															OC,	msv sulf lens or pod
3650																			OC,	qz lens; crosscuts msv sulf
3651																			RC,	qz block w/ very minor py
3399	<5	28	<5	0.214															UW,	lower adit, bt sc, local qz-ca veinlets

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
80-1	3400	Stumble-On	C	2.13	87	2.1	1078	<2	289	17	9	45	60	60		15	>10			
80-1	3455	Stumble-On	C	1.52	90	2.0	1231	3	236	14	8	32	120	56		13	>10			
80-1	3456	Stumble-On	C	1.68	101	2.7	1933	4	555	25	9	32	120	49		<10	>10			
80-1	3457	Stumble-On	C	1.52	133	2.1	1220	6	432	29	8	54	<20	68		10	>10			
80-1	3458	Stumble-On	C	1.07	406	2.1	1739	4	91	4	13	51	<20	49		19	>10			
80-1	3459	Stumble-On	C	1.83	172	2.8	3274	2	1974	12	7	35	70	47		<10	>10			
80-1	3460	Stumble-On	C	2.44	36	1.6	360	4	243	4	11	63	50	24		12	>10			
80-1	3465	Stumble-On	C	1.22	145	<0.2	767	7	307	18	8	58	50	79		<10	1.95			
80-1	3466	Stumble-On	C	0.91	60	1.7	299	<2	79	20	5	29	50	78		18	>10			
80-2	3197	Stumble-On	SC	2.29@0.15	2067	12.8	16222	31	4494	24	16	178	<20	152		<10	3.66			
80-2	3198	Stumble-On	C	0.61	2873	<0.2	1074	4	549	19	9	46	<20	110		<10	2.00			
80-2	3199	Stumble-On	C	3.05	242	2.4	1057	<2	537	19	9	43	290	109		13	>10			
80-2	3269	Stumble-On	C	0.91	1994	15.7	**3.17** *	64	13866	20	13	183	80	108		<10	4.00			
80-2	3270	Stumble-On	C	1.52	49	1.5	707	<2	273	3	28	21	120	130		<10	7.44			
80-2	3271	Stumble-On	C	1.52	5249	46.4	**8.93** *	38	17440	38	15	82	<20	124		<10	3.90			
80-2	3272	Stumble-On	C	0.30	381	0.7	6459	10	286	28	16	102	<20	242		<10	2.87			
80-2	3273	Stumble-On	C	3.05	228	1.6	1047	<2	331	36	7	54	130	131		16	>10			
80-2	3274	Stumble-On	S		2832	23.6	**2.99** *	31	12738	34	13	215	<20	189		<10	2.97			
80-2	3275	Stumble-On	C	1.83	<5	0.8	168	<2	168	3	9	31	<20	92		<10	9.39			
80-2	3276	Stumble-On	S		3916	43.7	**5.96** *	39	**3.61** *	40	25	260	<20	125		<10	3.87			
80-2	3301	Stumble-On	S	0.61	2016	33.2	**4.89** *	32	**3.27** *	23	11	255	<20	136		<10	3.30			
80-2	3302	Stumble-On	S	0.30	658	10.3	15049	47	**3.37** *	23	11	106	80	111		<10	2.57			
80-2	3411	Stumble-On	C	1.37	110	1.8	866	<2	842	14	6	19	240	43		<10	>10			
80-2	3471	Stumble-On	SC	1.8@0.15	87	1.7	584	<2	406	12	6	38	50	72		<10	>10			
80-2	3472	Stumble-On	C	0.76	27	1.9	166	<2	110	4	9	46	70	53		20	>10			
80-2	3473	Stumble-On	C	1.52	4350	31.1	13782	18	110	120	8	71	90	83		<10	2.61			
80-2	3474	Stumble-On	C	1.52	6909	15.4	**4.57** *	31	3519	149	27	221	230	92		<10	2.51			
81-1	3604	Luscombe	SC	5.8@0.3	17	0.5	43	6	63		47	56		82			**11.56** *		614	
81-1	3777	Luscombe	SC	7.3@0.3	9	0.2	42	19	55								**17.92** *			
81-2	3605	Luscombe	G		53	0.7	174	7	51											
81-2	3606	Luscombe	Rep	3.05	10	0.4	16	5	58		90	84		118			**18.81** *		1176	
81-2	3607	Luscombe	SC	7.3@0.3	<5	0.5	14	11	60								**18.97** *			
81-2	3778	Luscombe	C	0.61	8	<0.1	9	4	33		186	149		164			**65.01** *		2810	
81-2	3779	Luscombe	SC	2.0@0.3	<5	<0.1	12	5	33								**14.41** *			
							Jumbo Mountain Area													
82-1	3572	Sultana	Rep		<5	<0.1	126	4	17											
82-1	3573	Sultana	Rep	1.31	<5	<0.1	41	5	30											
82-1	3574	Sultana	C	1.34	6	1.0	1201	5	54	<2	120	220	140	130	<200	<2	>10			<10
82-1	3575	Sultana	Rep	2.59	<5	0.3	1131	5	34											
83-1	4097	Gould Island	S	0.91 x 0.91	125	4.7	13738	64	17647	24	11	11			<5	<2				
83-1	4098	Gould Island	C	0.6	79	3.2	4486	72	11125	22	2	6	37	9	<20	415	0.98		12	101
83-1	4099	Gould Island	C	0.3	34	2.5	3250	1200	1000	56	20	26			<5	<2				
83-1	4135	Gould Island	C	0.3	796	2.8	5123	50	987	60	15	14	25	144	<20	19	1.58		6	9
83-1	4136	Gould Island	C	0.6	326	4.0	6531	22	4964	15	5	13	20	146	<20	134	2.57		19	41
83-1	4137	Gould Island	C	1.2	58	1.7	3219	57	6438	8	14	10			10	<2				

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
3400	<5	53	7	0.752															UW,	lower adit, py sc
3455	<5	68	5	0.935															UW,	lower adit, py sc, to 5% py
3456	7	48	5	0.824															UW,	lower adit, mafic sc, local abundant bt
3457	<5	42	<5	0.720															UW,	lower adit, chl sc, local msv py
3458	<5	668	7	0.885															UW,	lower adit, py sc, fault 124/68N
3459	11	134	9	0.884															UW,	lower adit, intermediate sc, local msv py
3460	<5	46	6	0.301															UW,	lower adit, chl sc
3465	21	<5	8	0.968															UW,	lower adit, py tuff, best sulfs in drift
3466	<5	45	<5	0.400															UW,	lower adit, siliceous tuff, by first xc
3197	59	<5	15	0.804															TP,	W end trench near adit 1, msv sulf lens
3198	14	<5	12	0.201															OC,	2.4m NW of sample 3197, gossan
3199	<5	18	13	0.036															MD,	SW of E adit near creek, siliceous bt sc
3269	101	<5	26	0.297															UW,	msv sulf, abundant pyrrhotite
3270	<5	<5	<5	0.033															UW,	chl sc, sample from back of adit
3271	133	<5	30	0.620															UW,	msv sulf lens, part of main zone
3272	25	<5	9	0.039															OC,	sulf-rich sc, E of adit, same min zone
3273	<5	<5	8	0.027															OC,	chl sc, strike extent of min zone
3274	57	<5	16	0.905															UW,	msv sulf lens, muck sample from 1.8m sulf zone
3275	<5	<5	8	0.174															UW,	chl sc, back of main xc
3276	103	<5	33	0.954															MD,	Hand cobbed ore stockpile, msv sulf
3301	75	<5	28	0.986															MD,	ore car in adit, msv sulf ore
3302	58	<5	13	0.922															UW,	muck pile, E end, msv sulf ore
3411	<5	50	7	0.052															OC,	chl sc and tuff, abundant dissem sulf
3471	<5	36	<5	<0.010															OC,	bt-sericite sc, local sulf concentrations
3472	<5	35	<5	0.010															OC,	well-developed siliceous msv sulf layer
3473	50	33	9	1.414															OC,	by trench, sericite sc, S of small pit
3474	79	<5	8	0.242															TP,	1.8mx 6m trench, sericite sc w/sulf
3604		<5															<5	<1	OC,	mag in amphibole-qz intrusive
3777																			OC,	mag lenses in ultramafic
3605																			FL,	dissem py in metavolc
3606		<5															<5	<1	OC,	mag in ultramafic
3607																			OC,	mag-bearing ultramafic
3778		<5															<5	<1	OC,	mag lens in ultramafic
3779																			OC,	mag-bearing ultramafic
Jumbo Mountain Area																				
3572																			OC,	msv garnet w/ ep + sulf lenses
3573																			UW,	garnet, calc, ep w/ minor sulf
3574		16	0.5		<20	<1	<5	<10		<1	<5	<0.5	<1	<0.5	<0.5	25			UW,	lens of sulf w/ calc & garnet
3575																			OC,	skarn material w/ py & po
4097																			MD,	garnet hornfels/ py, trace cp
4098	17	9	7		23		1		12										OC,	wollastonite skarn, py, cp
4099																			TP,	dark siliceous hornfels, cp, py
4135	<5	<5	<5		<10		<1		4										TP,	qz vein w/cp + py to 10%
4136	<5	7	<5		14		<1		3										TP,	wollastonite, garnet skarn
4137																			TP,	wollastonite, garnet skarn, cp, gn

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
83-1	4138	Gould Island	Rep	1.4	802	6.7	17400	753	13943	17	10	8			<5	<2				
83-1	4139	Gould Island	C	0.9	<5	1.5	510	19	233	8	7	28	30	37	<20	16	7.66		155	<1.0
84-1	9119	Deer Bay Exhalite	C	0.9	254	3.3	2850	10	677	11	4	8	34	135	<20	<20	4.63		11	<1
84-1	9120	Deer Bay Exhalite	C	1.1	248	1.5	602	11	556											
84-1	9121	Deer Bay Exhalite	C	0.6	1014	6.8	434	20	410	9	5	5	61	150	<20	<20	3.79		11	<1
84-1	9122	Deer Bay Exhalite	C	0.9	218	1.4	525	9	2545	11	5	10	31	80	<20	<20	4.03		9	9.9
84-1	9123	Deer Bay Exhalite	Rep		201	<0.1	77	5	762											
84-1	9124	Deer Bay Exhalite	Rep		700	6.2	5819	11	6648	24	4	19	21	86	<20	<20	5.25		8	31.3
84-1	9394	Deer Bay Exhalite	C	0.9	2063	6.8	6990	13	397		6	25	22	131	<20	<20	6.39		16	<1
84-1	9395	Deer Bay Exhalite	C	1.9	161	1.2	350	11	1436		4	14	31	94	<20	<20	5.30		17	3.4
84-2	3529	Deer Bay Exhalite	C	0.67	449	8.4	1466	55	3400				600							
84-2	3530	Deer Bay Exhalite	C	0.52	172	4.9	1722	18	179											
84-2	3761	Deer Bay Exhalite	C	0.46	107	5.0	4600	9	178											
84-2	3762	Deer Bay Exhalite	C	0.52	334	4.1	506	16	353											
85-1		Campbell		No Samples Taken																
86-1	1745	Houghton	Rep	1.8	664	13.1	**2.86** *	5	379	4	79	50			11	<2				
86-2	4287	Houghton	Rep	1.83 x 0.91	2630	25.1	**7.00** *	3	77	4	69	149			17	72				
86-3	4286	Houghton	Rep	0.12 x 0.91	1841	26.4	**7.50** *	3	383	2	105	307			33	17				
86-4	4281	Houghton	Rep	2.1	7	0.2	179	3	48	3	68	21			14	<2				
86-5	4316	Houghton	C	0.6	157	5.4	10982	7	330	4	35	28			19	9.3				
86-6	4317	Houghton	Rep	0.61 x 3.05	934	46.5 1	**10.44** *	9	1300	4	188	125			30	3.8				
86-7	4333	Houghton	S	0.15 x 0.76	103	4.6	10345	9	40	4	38	35			14	2.2				
86-8	4334	Houghton	C	0.8	155	2.2	4719	8	90	3	47	73			15	<2				
86-9	4335	Houghton	C	0.5	100	2.3	5042	8	58	2	158	199			14	<2				
87-1	1746	Mount Jumbo	Rep	4.6	246	4.3	12030	7	424	5	115	117			<5	<2				
88-1	1741	Magnetite Cliffs	Rep	3.0	128	3.2	10781	155	658	2	52	188			<5	35	**39.80** *	791		
88-1	1742	Magnetite Cliffs	Rep	6.1	65	0.7	2075	7	76	4	13	7			6	6				
88-1	1743	Magnetite Cliffs	Rep	6.1 x 4.57	3613	8.6	**3.15** *	6	168	3	14	4			<5	<2				
88-2	1736	Magnetite Cliffs	Rep	4.6	84	1.7	5154	3	342	2	30	73			<5	16	**41.24** *	340		
88-2	1739	Magnetite Cliffs	Rep	4.6	66	1.0	2762	69	334	2	42	41			<5	<2	**35.26** *			
88-2	1740	Magnetite Cliffs	Rep	4.6	76	1.4	5784	18	532	2	23	57			<5	<2	**34.74** *	1103		
88-2	1744	Magnetite Cliffs	Rep	3.0	<5	0.3	143	13	23											
88-3	1735	Magnetite Cliffs	SC	6.1@0.15	75	1.0	3465	8	248	2	18	63			<5	2	**26.59** *			
89-1		Upper Magnetite		No Samples Taken																
90-1		Gonnason		No Samples Taken																
91-1	4614	Jumbo	Rep	1.4	296	1.0	2612	5	40	240	13	9			<5	2.6				
91-1	4615	Jumbo	Rep	2.4	613	1.8	4057	4	64	47	14	13			<5	2.3				
91-1	4616	Jumbo	Rep	3.0	705	5.9	12242	4	115	1322	26	35			7	15				
91-1	4617	Jumbo	Rep	1.1	4526	9.5	16043	4	248	31	72	27			17	18				
91-1	4618	Jumbo	Rep	3.0	427	1.0	3200	3	49	138	38	28			<5	<2				
91-1	4619	Jumbo	Rep	3.0	1069	3.7	8728	6	80	250	29	18			12	<2				
91-1	4640	Jumbo	Rep	3.0	676	8.0	15517	4	92	560	26	17			<5	4.1				
91-2	4346	Jumbo	C	0.9	2180	37.8	**8.47** *	9	698	9	40	128			22	31				
91-3	4641	Jumbo	Rep	3.0	1224	14.6	**2.80** *	3	373	30	59	71			17	<2				
91-3	4642	Jumbo	S		2340	32.9	**6.90** *	7	266	**4.57** *	46	71			30	16				
92-1	4315	Copper Mountain	Rep	0.2	11	0.3	5463	<2	123	6	25	26			9	<2				

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
4138																			OC,	qz vein w/10% cp, sl, py
4139	7	<5	<5		11		<1		7										OC,	sil hornfels w/dissem py
9119	12	11	8		<10		1		1										OC,	chl sc w/dissem py 5% & cp .05%
9120																			OC,	chl sc w/dissem py 1%
9121	<5	13	<5		<10		1		<1										OC,	chl sc w/minor dissem py,cp
9122	9	<5	<5		<10		2		1										UW,	sericite sc w/banded & dissem py 5%
9123																			UW,	mafic dike w/seams & dissem py 2%
9124	19	<5	<5		<10		<1		1										UW,	chl sc w/bands of sulf parallel to foliation
9394	14	69	<5		<10		<1		2										UW,	qz-sericite sc w/py 15%,cp 2%
9395	10	<5	<5		<10		<1		2										UW,	qz-sericite sc w/py 10%,cp 1%
3529																			OC,	sericite sc w/ bands of sulf
3530																			OC,	sericite sc w/sulf bands
3761																			OC,	chl-mica sc
3762																			OC,	chl sc w/ minor qz, talc
No Samples Taken																				
1745																			TP,	garnet<epidote<calc skarn w/1<2% cp
4287																			UW,	py, cpy, magnetite skarn zone
4286																			UW,	py, cp zone in skarn/marble
4281																			UW,	hnbd ep hornfels w/py on fracture
4316																			UW,	cp, ml/az to 5% in skarn
4317																			UW,	skarn pod in shear, cp, ml
4333																			UW,	skarn pod w/cp & py to 50%
4334																			UW,	green hornfels w/cp, py, mag
4335																			UW,	ep/diopside hornfels w/cp & py
1746																			UW,	garnet skarn w/msv cp, po/py to 50%
1741																			UW,	mag-diopside-cp skarn
1742																			UW,	upper adit, mostly barren garnet-diopside skarn
1743																			OC,	cp-bearing skarn outside adit
1736																			UW,	mag-diopside-garnet skarn w/cp
1739																			UW,	mostly barren diopside zone in mag skarn
1740																			UW,	mag, cp to 60% combined (adj to 1739)
1744																			OC,	marble below skarn contact, dissem sulf
1735																			UW,	mag-diopside skarn up to marble contact
No Samples Taken																				
No Samples Taken																				
4614																			UW,	skarn, cp in lenses
4615																			UW,	skarn, cp, ep, calc
4616																			UW,	skarn, cp, py to 40%
4617																			UW,	skarn, cp to 5%, tr mo
4618																			UW,	skarn, py to 3%
4619																			UW,	skarn, cp to 5%
4640																			UW,	skarn, hn, cp, mo
4346																			OC,	skarn w/cp, qz present, marble
4641																			TP,	skarn, hn, cp clots
4642																			TP,	mo-cp skarn, mo to 25%
4315																			UW,	ml, py in fracture w/in marble

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
92-1	4332	Copper Mountain	C	1.1	1548	10.1	19887	5	284	4	69	115			7	<2				
92-2	4294	Copper Mountain	Rep	1.2	20	2.7	3699	3	36	48	21	111			<5	<2				
92-2	4303	Copper Mountain	Rep	0.2	26	6.0	**5.73** *	<2	180	31	40	37			8	<2				
92-2	4304	Copper Mountain	S		84	10.0	**2.60** *	<2	49	75	46	72			7	2.6				
92-3	4301	Copper Mountain	S		175	3.6	**6.86** *	<2	162	22	36	57			7	2.2				
92-3	4302	Copper Mountain	Rep	0.6	<5	0.3	527	<2	22	231	13	3			<5	<2				
92-4	5169	Copper Mountain	Rep	0.1	1424	8.3	**10.33** *	**7.00** *	151	7	114	162			7	<2				
92-5	4295	Copper Mountain	Rep	1.83 x 0.91	188	14.5	**2.51** *	13	49	11	30	5			7	17				
92-5	4305	Copper Mountain	S	0.3 x 0.2	10	0.7	1283	<2	11	6	105	67			13	<2				
92-6	4314	Copper Mountain	G	1.5	9	0.2	1290	<2	43	6	47	18			<5	3.5				
92-6	4328	Copper Mountain	Rep	1.8	<5	<0.1	3930	3	46	7	37	18			12	20				
92-7	5634	Copper Mountain	S		1392	13.4	**2.26** *	4	102	14	68	119			28	18				
92-7	5635	Copper Mountain	S		600	3.7	9345	<2	70	5	50	55			32	9.2				
92-8	5632	Copper Mountain	SC	1.52@0.15	49	3.0	5597	8	180	73	25	51			<5	<2				
92-8	5633	Copper Mountain	S	0.3	856	26.3	**2.77** *	6	157	25	65	203			9	<2				
92-9	4313	Copper Mountain	S	3.05 x 0.3	126	19.1	**4.97** *	<2	97	4	36	28			11	18				
92-9	4327	Copper Mountain	S	0.91 x 3.05	42	3.3	7719	<2	39	3	55	16			<5	6.8				
92-10	4329	Copper Mountain	C	1.2	433	18.0	**3.54** *	<2	89	6	71	24			22	42				
92-10	4330	Copper Mountain	C	0.6	77	6.7	15318	4	61	4	38	12			10	38				
92-10	4331	Copper Mountain	S		834	26.6	**7.15** *	4	152	4	135	56			22	24				
92-11	5167	Copper Mountain	G		8	1.9	**28.27** *	4	523	14	24	205			21	<2				
92-12	5628	Copper Mountain	C	0.5	36	1.7	**21.77** *	3	267	13	31	852			15	2.8				
92-13	5629	Copper Mountain	SC	2.59@0.15	35	3.4	**2.88** *	4	244	37	32	345			10	2.7				
92-14	5630	Copper Mountain	C	0.9	16	4.1	**7.80** *	5	714	13	34	246			13	2.2				
92-15	5168	Copper Mountain	CH	0.1	28	2.2	**22.32** *	3	988	9	31	221			12	<2				
92-16	5631	Copper Mountain	S		52	20.3	**3.57** *	5	192	4	34	251			9	<2				
92-17	4326	Copper Mountain	C	0.2	20	1.1	**26.39** *	<2	306	14	25	748			17	<2				
92-18	5627	Copper Mountain	S		12	10.3	**39.48** *	5	713	2	192	5104			9	<2				
92-19	4310	Copper Mountain	C	0.2	928	10.0	**12.50** *	3	326	6	95	2355			5	23				
92-20	4312	Copper Mountain	Rep	4.6	114	0.9	7254	<2	43	4	11	70			<5	<2				
92-21	4311	Copper Mountain	C	1.5	65	1.4	7548	4	63	147	28	232			17	10				
92-22	4309	Copper Mountain	S		1120	8.4	**10.40** *	3	671	6	76	1550			9	<2				
92-23	4308	Copper Mountain	S		10	28.6	**24.70** *	3	1626	13	457	10461			14	<2				
92-24	4298	Copper Mountain	S	0.91 x 1.22	626	6.9	12415	<2	127	4	54	82			<5	<2				
92-25	4299	Copper Mountain	Rep	4.6	24	0.3	469	3	64	2	61	27			<5	<2				
92-26	4300	Copper Mountain	C	0.6	200	17.1	**3.17** *	6	114	4	36	70			7	<2				
92-27	4297	Copper Mountain	Rep	4.9	114	0.9	1196	8	48	4	9	21			<5	<2				
92-28	4296	Copper Mountain	Rep	6.1	50	0.6	845	4	46	3	6	11			<5	<2				
92-29	4307	Copper Mountain	S	0.61 x 0.61	172	3.6	6430	3	185	11	63	51			12	4				
92-30	4306	Copper Mountain	S	0.61 x 0.61	126	2.9	5373	<2	131	3	101	72			6	<2				
92-31	1796	Copper Mountain	SC	3.05@.15	56	1.0	2590	4	50	2	10	11			<5	<2				
92-31	1797	Copper Mountain	C	1.8	<5	0.2	106	5	167	3	12	6			<5	<2				
92-31	1798	Copper Mountain	SC	3.05@.15	<5	0.5	194	10	55	5	14	15			<5	4				
92-31	1799	Copper Mountain	C	1.8	23	0.4	124	8	50	19	18	105			<5	3				
92-31	1800	Copper Mountain	SC	3.05@.15	<5	<0.1	48	6	32	6	10	30			<5	<2				
92-31	1801	Copper Mountain	SC	3.05@.15	9	<0.1	52	6	37	6	57	30			<5	<2				

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
4332																			OC,	cp, py, ml, shear w/in marble
4294																			TP,	garnet/ep/ca/qz skarn w/sulf
4303																			TP,	copper stained skarn
4304																			TP,	mineralized pod in skarn zone
4301																			UW,	skarn w/intense ml/az crust
4302																			UW,	diopside/qz/ep/ca/ magnetite/py
5169																			OC,	ml w/ep in tan garnet skarn
4295																			OC,	garnet/ep/qz/ca skarn w/cp, py
4305																			UW,	isolated py-rich pod in marble
4314																			UW,	alt gd & skarn w/trace py
4328																			UW,	ca/ep/qz/magnetite skarn
5634																			MD,	exoskarn w/sulf + magnetite
5635																			OC,	magnetite skarn w/cp to 2%
5632																			OC,	intrusive w/dissem cp, py
5633																			OC,	skarn w/abundant cp
4313																			TP,	ml/az, specular hematite
4327																			TP,	qz/ep skarn w/cp, py, hematite
4329																			TP,	ep/garnet skarn w/py, cp
4330																			TP,	tremolite/ep/qz/garnet skarn
4331																			TP,	tremolite/ep/ca/qz/ garnet skarn
5167																			TP,	limonite, ml/az
5628																			TP,	lens of limonite w/ml/az
5629																			TP,	limonitic zone, minor ml/az
5630																			TP,	lens of limonite w/ml/az
5168																			OC,	ml/az limonite shear vein
5631																			TP,	skarn material w/cp, ml
4326																			TP,	skarn w/fest, ml/az zone
5627																			UW,	ml/az fracture filling
4310																			UW,	ml/az in fractures
4312																			UW,	gd w/skarn and cp, ml to 5%
4311																			UW,	weathered skarn in alt gd
4309																			UW,	hi-grade form ore shoot
4308																			UW,	ml/az hi-grade-ore shoot
4298																			UW,	ep/garnet/ca/qz skarn w/cp, ml
4299																			UW,	garnet/ep/hnbd hornfels w/2% py
4300																			UW,	skarn w/cp, ml/az, fest
4297																			UW,	alt gd, dissem sulf
4296																			UW,	alt gd, propylitized
4307																			UW,	garnet skarn w/py, cp
4306																			UW,	skarn w/cp, py, ml/az
1796																			UW,	hnbd gd skarn w/ cp, epidote, main adit
1797																			UW,	marble skarn near di contact, cp to 2%
1798																			UW,	skarn adj to gd, minor cp
1799																			UW,	gd skarn near contact w/marble
1800																			UW,	garnet skarn near gd contact, trace cp
1801																			UW,	gd skarn w/garnet, trace cp, py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
92-31	1802	Copper Mountain	SC	3.05@.15	<5	<0.1	39	7	32	5	8	22			<5	<2				
92-31	1803	Copper Mountain	SC	3.05@.15	<5	0.4	168	9	28	19	13	36			<5	<2				
92-31	1804	Copper Mountain	C	0.6	7	0.5	1288	7	26	274	30	336			<5	<2				
92-32	1813	Copper Mountain	Rep	0.3 x 1.22	1701	24.1	**7.85** *	10	1490	16	749	251			<5	<2				
92-32	1814	Copper Mountain	C	0.3	5731	**60.00** *	**13.31** *	6	3333	5	270	340			<5	<2				
93-1	4369	Green Monster	CC	0.5	217	4.6	9190	6	58	5	26	86			14	2.1				
93-1	4370	Green Monster	CC	0.6	214	6.4	13945	6	141	42	106	195			7	4				
93-1	4377	Green Monster	Rep	3.0	22	0.7	1229	<2	12	3	7	5			15	<2				
93-1	4378	Green Monster	C	1.5	903	16.5	**3.57** *	3	207	5	36	170			14	<2				
93-2	4381	Green Monster	C	2.1	17	1.1	1867	3	164	2	23	82			30	<2				
93-3	4368	Green Monster	Rep	1.8	833	20.7	**3.68** *	126	502	15	31	210			8	21				
93-3	4379	Green Monster	CC	1.1	1869	40.2	**6.93** *	3	245	11	25	124			17	<2				
93-3	4380	Green Monster	Rep	3.0	11	0.2	359	<2	54	6	6	6			<5	<2				
93-4	4382	Green Monster	C	0.6	9160	16.2	1658	4	31	13	24	299			31	6.3				
93-5	1815	Green Monster	Rep	1.2	<5	0.3	419	4	26	20	8	29			<5	<2				
93-5	1816	Green Monster	S	2.1	1247	24.3	**8.07** *	5	504	16	43	73			<5	<2				
94-1	3073	Deer Bay	C	1.22	40	1.6	400	12	146	13	24	18	40	137		12	9.91			
94-1	3074	Deer Bay	C	0.61	9	1.4	105	18	155	1	207	44	<20	305		18	8.33			
94-1	3075	Deer Bay	C	0.30	125	1.0	91	6	26	6	9	14	40	166		<10	7.75			
94-1	3095	Deer Bay	C	0.21	28	0.5	310	3	391	4	5	4	<20	260		<10	2.33			
94-1	3096	Deer Bay	C	0.30	210	1.2	161	<2	37	10	6	7	<20	236		<10	9.69			
94-1	3148	Deer Bay	CC	0.37	17	0.5	53	<2	19	3	6	8	40	312		<10	2.99			
94-1	3149	Deer Bay	C	1.52	31	0.8	32	4	66	1	17	16	20	126		<10	6.19			
95-1	4095	Corbin	C	0.9	108	0.7	91	13	131	5		5	930							
95-2	3077	Corbin	C	0.6	3131	**69.60** *	3861	62	4852	9		47	<20							
95-2	3078	Corbin	C	0.6	7575	**60.00** *	8303	26	2841	26	20	32	470							
95-2	3079	Corbin	Rep	1.8	241	9.5	850	41	461	10		32	650							
95-2	3080	Corbin	C	1.2	1395	24.0	**3.25** *	26	**4.15** *	33	7	40	<5	61	<20	1216	2.53		22	129
95-2	4091	Corbin	C	1.1	109	2.8	2185	13	656	6		19	470							
95-2	4092	Corbin	C	1.5	105	1.0	309	12	244	7		11	1300							
95-2	4093	Corbin	Rep	1.5	209	2.2	218	35	175	8		9	1100							
95-2	4094	Corbin	C	0.8	550	7.6	5792	129	7762	39	5	43	<5	118	<20	284	2.63		13	27
95-2	4096	Corbin	S		1227	24.8	18600	133	**3.65** *	9	8	39	<5	93	<20	1101	3.04		5	95
95-2	4134	Corbin	C	0.8	501	12.7	11245	39	**7.32** *	15	25	17	1400							
96-1	1682	Copper Bluff	C	1.2	251	4.5	7150	6	369	3	29	49			<5	3	**26.84** *	1349		
96-1	1683	Copper Bluff	C	1.8	18	0.8	2095	<2	198	3	29	48			10	<2	**32.73** *	704		
96-1	1684	Copper Bluff	C	1.8	<5	<0.1	297	<2	175	4	24	30			<5	12	**27.06** *	760	75	
96-1	1685	Copper Bluff	Rep	0.91 x 4.57	283	2.1	7050	2	174	4	33	61			<5	<2	**31.85** *	1397	64	
97-1	4128	Gould (Hetta Inlet)/Iron Crown	C	0.5	<5	0.5	74	3	52		35	6	2400			<2				
97-1	4129	Gould (Hetta Inlet)/Iron Crown	C	0.9	<5	0.5	98	40	94		27	10	2100			4.7				
97-1	4130	Gould (Hetta Inlet)/Iron Crown	Rep	0.4	<5	0.5	315	7	37		39	13	<20			<2				
97-2	4132	Gould (Hetta Inlet)/Iron Crown	S	0.1 x 0.3	46	<0.2	1253	4	41	21	460	208	<5	57	<20	16	**24.45** *		16	<1.0
97-2	4133	Gould (Hetta Inlet)/Iron Crown	Rep	0.91 x 0.91	8	0.8	1837	4	17	5	1340	247			24	<2				
97-3	4089	Gould (Hetta Inlet)/Iron Crown	C	0.9	<5	1.1	343	5	26	1	16	14	196	66	<20	23	8.44		120	<1.0
97-3	4131	Gould (Hetta Inlet)/Iron Crown	C	0.8	8	1.1	2012	18	314	2	46	99	18	71	<20	29	>10		94	<1.0
97-3	4140	Gould (Hetta Inlet)/Iron Crown	C	0.8	<5	0.2	475	9	140	6	32	28	40	39	<20	12	5.12		91	<1.0

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
1802																			UW, gd w/minor skarn, py to 2%
1803																			UW, across gd skarn, marble skarn & marble
1804																			UW, gd skarn in fault, py to 20%
1813																			UW, min skarn in alt gd, cp to 30%
1814																			UW, gd skarn, phaneritic texture, cp to 25%
4369																			UW, ca ankerite skarn, trace cp
4370																			UW, ca diopside skarn, cp, ml/az
4377																			UW, hornfels and skarn, minor py
4378																			OC, marble skarn w/cp, py, ml/az
4381																			TP, magnetite skarn
4368																			TP, skarn in marble, cp, py to 4%
4379																			OC, gossanous skarn, cp/ml/az
4380																			OC, fest hornfels, ca, ep
4382																			TP, sulf pod in garnet skarn
1815																			OC, py to 10% in di along creek to lower adit
1816																			UW, skarn min w/cp in clots, very local
3073	<5	<5	6	0.242															UW, qz-mica sc, face of short 4.6m adit
3074	7	<5	10	0.074															UW, dacite dike, 2-5% garnet
3075	<5	<5	<5	0.183															UW, qz boudin, py 5-10%
3095	<5	<5	<5	0.050															OC, outside portal, qz vein
3096	<5	<5	<5	0.121															OC, outside portal, qz-sericite sc
3148	<5	5	<5	0.038															UW, qz vein in py sc, most min in schistose partings
3149	<5	16	<5	0.028															OC, py tuff zone parallel to and 15m N of adit
4095																			TP, qz-ser sc, 2% dissem py
3077																			UW, ore zone, msv py, cp
3078																			OC, ore zone, msv py, cp
3079																			UW, qz-mica sc, py 5-10%
3080	30	<5	20		<10		<1		4										UW, qz-mica sc, py 20-30%
4091																			UW, chl ser sc, 50% sulfides
4092																			UW, ser and chl sc, to 20% py
4093																			UW, qz-ser sc, 10-20% py
4094	43	<5	12		<10		<1		3										UW, main ore zone, msv py, cp, sl
4096	72	<5	20		<10		<1		3										MD, msv sulfide, py, cp, sl
4134																			UW, msv py in chl sc, trace cp
1682																			UW, mag skarn, cp to 3%, adit face
1683																			UW, mag skarn at portal near hnbd di contact
1684																			UW, mag skarn, on rib of drift, ml
1685																	<0.002	<0.002	TP, cut outside portal, mag, cp, most extensive min
4128																			TP, qz vein in hornfels, cp, py
4129																			TP, qz vein in hornfels, trace sulf
4130																			OC, qz vein, 20% py/po, trace cp
4132	44	<5	15		<10		<1		5										OC, msv sulf pod, py, cp, magnetite
4133																			FL, msv sulf float boulders
4089	9	9	<5		14		10		20										OC, garnet-epidote skarn, py, cp
4131	<5	6	9		16		13		20										UW, alt gd, py/po to 8%
4140	11	14	<5		<10		5		8										UW, sil gd

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
97-3	4141	Gould (Hetta Inlet)/Iron Crown	C	0.5	11	0.4	1008	5	19	6	24	38			12	15				
98-1	4342	Hetta Mountain	SC	1.22@0.15	<5	0.2	338	9	29	8	19	3			<5	2.9				
98-1	4347	Hetta Mountain	C	0.9	17	0.5	818	8	21	9	27	37			<5	<2				
98-1	4354	Hetta Mountain	C	0.4	572	43.8	**4.17** *	10	1838	821	19	103			<5	<2				
98-1	4355	Hetta Mountain	SC	3.05@0.3	<5	0.3	192	10	30	4	6	8			<5	<2				
98-1	4356	Hetta Mountain	C	1.2	14	0.9	844	8	45	12	112	19			5	8.3				
98-2	4341	Hetta Mountain	Rep	1.5	<5	0.4	390	5	25	4	89	25			9	<2				
98-2	4349	Hetta Mountain	C	0.8	42	2.0	6356	8	180	29	23	28			<5	5.8				
98-2	4350	Hetta Mountain	C	0.9	799	9.6	6036	6	273	357	12	17			<5	4.1				
98-3	4340	Hetta Mountain	SC	3.05@0.27	12	0.7	1405	8	53	84	73	19			<5	3				
98-3	4357	Hetta Mountain	C	1.2	<5	0.3	273	6	29	6	63	43			<5	<2				
98-4	4348	Hetta Mountain	SC	3.05@0.15	100	6.8	4819	8	93	10	7	16			<5	24				
98-4	4351	Hetta Mountain	SC	3.0	50	3.1	5893	9	152	47	12	43			6	<2				
98-4	4352	Hetta Mountain	C	0.4	869	26.6	**4.10** *	8	570	907	17	53			<5	3.8				
98-5	4353	Hetta Mountain	Rep	1.8	168	3.4	6019	7	107	46	22	14			6	<2				
99-1	4126	Het (Hetta Lake)	Rep		<5	0.4	55	6	36	1	2	5	100	82	<20	<10	2.73		41	<1.0
99-1	4127	Het (Hetta Lake)	Rep	0.1 x 0.61	<5	0.3	1098	6	26	51	20	22			10	<2				
99-2	4125	Het (Hetta Lake)	S	0.5	<5	0.9	614	3	29	4	6	16	33	166	<20	<10	6.38		48	<1.0
99-3	4124	Het (Hetta Lake)	Rep	1.8	<5	1.6	1035	9	112	4	8	67	22	79	<20	31	>10		184	<1.0
99-4	4123	Het (Hetta Lake)	S		<5	0.5	1251	6	93	8	22	39			13	<2				
South Arm Cholmondeley Area																				
100-1	4258	Friendship	C	1.0	**6.17** *	1.5	**2.00** *	<2	<1	2	7	4	<20	123		<10	2.98			
100-1	4259	Friendship	S	0.3	**5.25** *	2.5	**3.91** *	<2	4	4	5	4	<20	184		<10	6.21			
100-1	4276	Friendship	C	1.1	**15.63** *	1.7	13301	<2	1	6	27	2	<20	199		<10	6.30			
100-1	4277	Friendship	C	0.6	6654	0.7	4882	4	4	6	5	2	<20	240		<10	3.20			
100-1	4278	Friendship	C	0.7	505	0.5	1808	<2	6	5	20	6	<20	329		<10	1.51			
100-1	4279	Friendship	C	0.3	142	0.8	11010	3	8	3	12	7	<20	143		<10	1.97			
100-1	4280	Friendship	C	0.8	2574	2.0	7704	4	15	4	6	4	<20	147		<10	2.64			
101-1	1738	Ruby Tuesday	CC	1.7	146	27.9	13587	**8.41** *	**16.52** *				1814							
101-2	1737	Ruby Tuesday	Rep	2.1	76	3.3	2548	1711	**8.13** *				430							
102-1	4360	Moonshine	G		184	**625.4** *	46	**74.66** *	5317						60	<2				
102-1	4362	Moonshine	S		143	**560.6** *	1463	**74.74** *	**3.51** *						60	<2				
102-1	4363	Moonshine	C	1.2	<5	1.8	61	1796	230						7	<2				
102-1	4364	Moonshine	C	1.2	373	**58.97** *	943	**6.76** *	**13.60** *						28	<2				
102-1	4371	Moonshine	C	1.2	300	18.0	813	**3.58** *	**3.32** *						16	<2				
102-1	4372	Moonshine	S		471	**330.2** *	2212	**30.25** *	**19.92** *						40	<2				
102-1	4373	Moonshine	S		68	**4668** *	**2.29** *	**54.95** *	6645						30	<180.0				
102-2	4343	Moonshine	C	1.2	<5	<0.1	19	90	82						<5	<2				
102-2	4344	Moonshine	C	2.1	<5	<0.1	34	25	43						<5	<2				
102-2	4345	Moonshine	C	0.9	<5	0.2	19	165	56						<5	<2				
102-2	4358	Moonshine	C	0.9	<5	0.3	37	194	91						<5	<2				
102-2	4359	Moonshine	C	1.0	<5	<0.1	18	46	58						<5	<2				
102-2	4361	Moonshine	Rep	1.5	<5	1.4	10	1580	76						<5	<2				
103-1	4374	Hope-Cholmondeley	C	1.2	6	10.9	1592	2733	18952						<5	<2				
103-1	4375	Hope-Cholmondeley	C	1.1	6	5.8	245	5160	11600						<5	<2				
103-2	4365	Hope-Cholmondeley	S		185	28.8	675	**10.84** *	**14.38** *						36	<2				

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
4141																			UW,	sil gd, cp/py to 25%
4342																			UW,	minor skarn in marble, py
4347																			OC,	skarn gossan near marble, cp, py
4354																			OC,	marble skarn w/cp to 25%, mb
4355																			OC,	gd, potassic alteration
4356																			UW,	banded hornfels w/minor py
4341																			UW,	gray-green hornfels, dissem py
4349																			TP,	skarn in marble, cp, py, ml
4350																			OC,	exoskarn, cp, ml/az, mb clot
4340																			OC,	hornfels/skarn zone w/cp, py
4357																			TP,	hornfels, cp/py to 3%
4348																			TP,	alt gd/gossan, copper stain
4351																			TP,	skarn capping over marble, cp
4352																			TP,	gossanous skarn w/cp, mb, py
4353																			TP,	calc-silicate skarn/hornfels
4126	<5	<5	<5		<10		14		11										OC,	alt di
4127																			OC,	cp, py in hornfels
4125	<5	<5	<5		13		3		11										FL,	qz vein float w/cp to 5%
4124	9	11	<5		22		1		13										OC,	garnet ep hornfels w/3% py
4123																			FL,	sil hornfels float @ creek
South Arm Cholmondeley Area																				
4258	9	<5	<5	0.142			18	43		1.6	1.6	0.13		<0.5	<1				TP,	qz ca vein w/cp, py, in fault
4259	29	<5	<5	0.063			5.6	12		<1	0.7	0.11		<0.5	<1				TP,	qz ca vein w/cp, py, in fault
4276	15	<5	<5	0.098			10.2	21		<1	0.9	<0.1		<0.5	<1				OC,	felsic sc w/qz veins, cp, ml
4277	6	<5	<5	0.038			6.1	15		<1	0.8	<0.1		<0.5	<1				OC,	qz vein, minor felsic sc, cp
4278	<5	6	<5	<0.01			2.6	6		<1	<0.5	<0.1		<0.5	<1				OC,	qz vein w/sulf clots in sc
4279	12	8	<5	<0.01			9.8	24		1.1	1	0.1		<0.5	<1				OC,	qz fissure vein w/in marble
4280	8	7	<5	0.038			6.9	16		<1	<0.5	<0.1		<0.5	<1				OC,	qz ca vein in shear w/ml to 8%
1738																			OC,	Fish show, msv sulf in br ar w/sl, gn, cp
1737																			OC,	polymetal show, sulfide bands in coarse fel tuff
4360			586																MD,	qz ca vein w/galena to 50%
4362			568																TP,	gn ore w/cp, sl in pit
4363			4.8																TP,	fault, br marble w/qz, ca
4364			74.5																TP,	gn, sl ore in pit
4371			27.6																TP,	qz ca vein in marble, gn, py
4372			419																TP,	gossanous ca qz vein w/gn
4373			>5000																TP,	hi-grade gn float
4343			0.4																UW,	qz ca vein w/host partings
4344			0.5																UW,	qz ca shear vein w/partings
4345			<0.2																UW,	qz chl sc w/concordant qz veins
4358			<0.2																UW,	retrograde chl sc w/garnet
4359			<0.2																UW,	talcose chl sc w/qz boudins
4361			1																UW,	sheared chl sc w/qz veinlets
4374			47.6																TP,	ca ankerite vein w/gn, cp, sl
4375			10																OC,	qz ca vein w/cp, gn, sl, py
4365			16																MD,	fest qz/ca vein w/gn clots

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
103-2	4366	Hope-Cholmondeley	Rep	0.27 x 0.27	261	**144.3** *	120	**24.49** *	**28.23** *						<5	<2				
103-3	4367	Hope-Cholmondeley	Rep	0.61 x 0.91	63	31.7	533	**4.75** *	**10.41** *						26	<2				
103-3	4376	Hope-Cholmondeley	C	0.9	141	**142.6** *	1089	**8.71** *	**17.53** *						36	10				
104-1	5785	Divide Head occurrence	C	0.9	123	3.5	3345	8	376	9										
105-1	6161	E Cholmondeley	S	0.2	22	0.2	175	12	58	30	16	51	<50	210	<100	<1	>10			<5
105-1	6162	E Cholmondeley	Rep	1.4	<5	<0.1	108	5	95											
105-1	6770	E Cholmondeley	C	0.1	90	0.7	56	15	15	7	65	9	190	130	<100	<1	>10			<5
105-1	6771	E Cholmondeley	G	0.2	186	0.8	175	11	33											
105-1	6772	E Cholmondeley	Rep	0.1	<5	<0.1	16	<2	8											
106-1	5825	Divide Head, S occurrence	G		<5	0.4	1586	4	34	2										
107-1	5561	Borrow pits	C	0.7	20	0.5	25	93	227											
107-2	5075	Borrow pits	Rep	0.1	<5	<0.1	8	16	338	5										
107-2	5562	Borrow pits	Rep		<5	0.2	11	153	645											
108-1	5068	Dora Lake Narrows	C	0.9	13	<0.1	8	242	1041											
108-1	5069	Dora Lake Narrows	C	0.2	13	<0.1	7	274	1041											
108-1	5070	Dora Lake Narrows	C	0.4	<5	<0.1	5	77	484											
108-1	5558	Dora Lake Narrows	C	0.2	47	<0.1	8	102	144											
108-1	5559	Dora Lake Narrows	CC	0.1	34	<0.1	5	71	162											
108-1	5560	Dora Lake Narrows	C	0.3	9	<0.1	5	46	143											
109-1	5333	Dora Lake, W	Rep	0.0	<5	<0.1	190	7	16											
109-2	5332	Dora Lake, W	Rep	0.0	<5	<0.1	4	42	85											
110-1	5326	Kitkum Bay, W	C	0.1	<5	1.3	128	1278	1922											
Dolomi Area																				
111-1	5203	Equator	C	0.9	19	<0.1	1742	3	11											
111-1	5204	Equator	CC	0.2	122	1.6	18779	4	11							<2.0				
111-1	5205	Equator	C	0.5	51	0.4	4324	3	11											
111-1	5206	Equator	C	1.0	57	0.9	7283	4	9							<2.0				
111-1	5207	Equator	C	1.2	59	0.9	6833	3	9							<2.0				
111-1	5680	Equator	C	1.4	26	1.1	13888	5	35											
111-1	5681	Equator	C	1.5	79	1.4	16128	3	14											
111-1	5682	Equator	C	0.5	190	1.3	**2.05** *	4	9											
111-1	5683	Equator	C	1.4	20	0.6	10641	4	43											
112-1	5404	Saco	C	0.1	<5	0.6	1441	6	30	<1	18	31	60	18		<20	6.81			
112-1	6159	Saco workings	S		24	0.7	18590	8	27											
112-1	6160	Saco adit above portal	C	1.1	<5	<0.1	440	4	119											
112-1	6767	Saco adit	C	0.3	24	1.6	**4.24** *	10	38											
112-1	6768	Saco adit	CC	0.1	16	4.1	**5.68** *	23	104	<2	110	41	<50	150	<100	<1	>10			<11
112-1	6769	Saco adit	C	0.2	<5	<0.1	366	9	15											
113-1	5416	Gladstone , N vein	C	0.8	20	0.7	5806	4	6	3										
113-1	5417	Gladstone , N vein	G		166	1.5	9506	3	6	2	12	3	110	323		<20	3.15			
113-1	5855	Gladstone , adit	C	0.7	281	1.3	15343	3	5											
113-2	5413	Gladstone , S vein	C	1.7	224	0.7	5090	3	7											
113-2	5414	Gladstone , S vein	Rep	1.8	110	0.7	6194	4	6	3										
113-2	5415	Gladstone , S vein	S	0.1	175	5	**4.00** *	3	7	10	24	9	<20	306		<20	6.41			
113-2	5852	Gladstone , S vein	C	0.3	1029	0.6	5262	<2	9											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
4366			137																TP,	gn, sl in carbonate vein
4367			28																TP,	qz w/gn, sl along trench wall
4376			335																UW,	gn in marble
5785																			OC,	sulf zone
6161		117	3.2		<10	<0.5	9	13		0.9	<2	0.5	<0.5	2.2	<0.2	17			OC	msv py and qz in ser sc
6162																			OC	chl, calc sc w/ dissem py
6770		287	15.9		<10	<0.5	<2	<5		<0.5	2	0.5	0.8	1.2	<0.2	17			OC	qz ser sc w/ py
6771																			OC	gossan
6772																			OC	qz lens w/ po
5825																			OC,	brown, msv intrusive w/cp & py
5561							494	1000		22	62	8.46		70	27				OC,	pegmatite dike/vein
5075							318	549		8	31.2	4.28		82.4	24.9				OC,	qz-albite-riebeckite (vein- dike)
5562							193	284		6.3	38.8	5.18		78	34				OC,	pegmatite vein-dike
5068							640	1200		17	100	15		83	55				OC,	pegmatite dike w/ REE
5069							1200	2500		71	250	38		300	19				OC,	REE pegmatite dike w/ qz,& long crystal
5070							300	540		15	110	17		72	22				OC,	REE dike w/ qz, felds, bladed minerals
5558							940	2100		65	260	32		190	23				OC,	REE dike, gs
5559							150	320		18	140	23		50	14				OC,	REE dike
5560							62	140		10	150	25		25	13				OC,	REE dike
5333							37.7	86			22.4	3.28		3.1	1.3				OC,	K-spar eudialyte vein
5332							400	808			286	37		10.7	6.8				OC,	eudialyte, K-spar riebeckite veinlets
5326																			OC,	qz vein
Dolomi Area																				
5203																			UW,	marble br w/some qz
5204																			UW,	br qz-calcite vein
5205																			UW,	br marble vein
5206																			OC,	qz marble br
5207																			OC,	banded and br qz/marble
5680																			UW,	marble with qz stringers
5681																			UW,	marble with qz vein and stringers
5682																			UW,	qz vein in marble
5683																			OC,	br, sil w/qz clasts
5404	<5	<5	<5	0.266															OC,	qz zone w/py along fractures
6159																			MD	calc metased w/ cp
6160																			UW	talc sc w/ qz calc and sulf
6767																			UW	qz calc vein w/ cp
6768		466	3.5		<21	<0.5	16	<13		<0.5	<2	0.3	<0.5	<0.5	2.4	<16			UW	qz calc vein w/ cp
6769																			UW	qz calc vein w/ cp
5416																			RC,	qz-calc vein w/cp
5417	19	<5	<5	0.031															MD,	qz-calc br w/cp
5855																			UW,	qz-marble br vein w/cp
5413																			TP,	qz vein w/dissem cp
5414																			TP,	qz vein w/cp
5415	57	<5	<5	0.062															RC,	qz vein w/10% dissem cp
5852																			OC,	qz vein w/banded cp

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
113-2	5853	Gladstone , S vein	Rep	1.1	12	0.6	11760	<2	6											
113-2	5854	Gladstone , S vein	Rep		18	<0.1	238	<2	4											
114-1	5192	Kael Pit	C	2.4	334	0.2	92	4	43							<2.0				
114-1	5193	Kael Pit	C	2.9	163	<0.1	63	5	41							<2.0				
114-1	5194	Kael Pit	C	2.5	1550	0.7	2018	4	73							<2.0				
114-1	5195	Kael Pit	C	1.6	188	<0.1	155	4	66											
114-1	5196	Kael Pit	S		**12.34** *	3.3	4809	7	43											
114-1	5201	Kael Pit	C	2.1	13	<0.1	23	4	78											
114-1	5658	Kael Pit	C	1.6	1938	0.4	864	7	61							<2.0				
114-1	5659	Kael Pit	C	1.8@0.1	60	<0.1	82	4	45							<2.0				
114-1	5660	Kael Pit	C	0.4	110	0.3	2860	5	58							<2.0				
114-1	5661	Kael Pit	C	2.3	1468	0.2	111	4	43											
115-1	5001	7-Mile Gold	S		**26.88** *	14.5	10048	10	20	4		139				<2		<0.1	1.1	
115-1	5002	7-Mile Gold	C	2.4	141	<0.1	75	8	22											
115-1	5003	7-Mile Gold	C	2.0	248	<0.1	170	6	24											
115-1	5004	7-Mile Gold	C	1.8	193	<0.1	15	6	34											
115-1	5005	7-Mile Gold	C		566	0.5	182	6	27											
115-1	5006	7-Mile Gold	C	2.1	105	<0.1	76	6	29											
115-1	5007	7-Mile Gold	Rep	0.6	480	0.3	47	5	100											
115-1	5008	7-Mile Gold	C	1.5	336	<0.1	11	7	28											
115-1	5009	7-Mile Gold	S	0.1	260	0.3	6291	4	23											
115-1	5047	7-Mile Gold	Rep	0.6	<5	<0.1	12	7	26											
115-1	5048	7-Mile Gold	CC	0.0	<5	<0.1	12	3	68											
115-1	5501	7-Mile Gold	S		**13.30** *	5.5	**2.18** *	8	21							<2.0				
115-1	5502	7-Mile Gold	C	1.8	44	<0.1	134	6	26											
115-1	5503	7-Mile Gold	C	2.1	165	<0.1	154	7	25											
115-1	5504	7-Mile Gold	SC	2.7@0.3	18	<0.1	20	8	61											
115-1	5505	7-Mile Gold	SC	3.0@0.1	113	<0.1	17	5	27											
116-1	5329	Kael-7 Mile Trend and vicinity	Rep	0.4	<5	<0.1	28	11	21											
116-1	5778	Kael-7 Mile Trend	Rep	0.3	<5	<0.1	25	6	15	8										
116-2	5777	Kael-7 Mile Trend	Rep	0.1	<5	<0.1	17	<2	4	7										
116-3	5779	Kael-7 Mile Trend	Rep	0.9	<5	<0.1	9	7	34	6										
116-4	5330	Kael-7 Mile Trend and vicinity	Rep	0.1	877	<0.1	401	7	5											
116-5	5392	Kael-7 Mile Trend and vicinity	Rep	0.2	6	0.2	56	9	28											
116-5	5833	Kael-7 Mile Trend	Rep	1.8	<5	<0.1	51	4	97											
116-6	5268	Kael-7 Mile Trend and vicinity	S	0.1	2616	0.4	72	<2	13											
116-6	5269	Kael-7 Mile Trend and vicinity	Rep	0.9	2375	0.8	113	4	45											
116-6	5724	Kael-7 Mile Trend	S	0.3	6	<0.1	4	<2	19											
116-7	5725	Kael-7 Mile Trend	C	1.8	2146	<0.1	5	3	31											
116-8	5410	Kael-7 Mile Trend and vicinity	C	0.6	23	0.2	14	4	68											
116-9	5411	Kael-7 Mile Trend and vicinity	C	1.4	22	0.2	21	6	57											
116-10	5719	Kael-7 Mile Trend and vicinity	S	0.3	<5	<0.1	5	7	127											
116-11	5262	Kael-7 Mile Trend and vicinity	C	0.2	204	7.6	2370	5	13											
116-11	5718	Kael-7 Mile Trend and vicinity	S		<5	<0.1	3	4	42											
116-12	5263	Kael-7 Mile Trend and vicinity	Rep	0.9	<5	<0.1	12	5	36											
116-13	5267	Kael-7 Mile Trend and vicinity	Rep		42	<0.1	29	<2	48											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
5853																			RC,	qz vein w/cp
5854																			RC,	qz vein w/cp
5192																			TP,	qz marble br w/ sulf
5193																			TP,	qz marble br w/ sparse py
5194																			TP,	qz marble br w/ clots of py&cp
5195																			TP,	qz marble br w/ clots of py
5196																			TP,	select of msv py
5201																			TP,	qz marble br
5658																			TP,	br qz marble w/ sulf
5659																			TP,	interlayered marble and gs sc
5660																			TP,	br qz marble w/ sulf
5661																			TP,	br qz-marble w/ sulf
5001		23	<0.2	0.418			1.1	<5		<1	<0.5			<0.5	2.1		7	<1	OC,	py- & cp-rich qz-calc br
5002																			OC,	banded marble, calc along fractures
5003																			OC,	banded gray marble w/calc in fractures
5004																			OC,	marble+ qz/calc in fractures
5005																			OC,	marble
5006																			OC,	marble
5007																			OC,	gs sc w/py
5008																			OC,	marble w/ qz & ca along fractures
5009																			OC,	qz lens in tan marble
5047																			OC,	mrbl and brn dol w/sml lenses of qz
5048																			OC,	qz-gs vein
5501																			OC,	py- & cp-rich qz & ca br
5502																			OC,	limestone/dolomite
5503																			OC,	limestone/dolomite
5504																			OC,	chlorite sc
5505																			OC,	marble (limestone/dolomite)
5329																			OC,	qz-marble br
5778																			OC,	marble
5777																			OC,	qz vein
5779																			OC,	tan marble w/qz stringers
5330																			RC,	qz lens in marble & dolomite
5392																			TP,	qz vein
5833																			TP,	qz stringer zone in gs
5268																			OC,	irregular qz stringers w/blebs of py
5269																			OC,	dolomite w/qz stringers & py
5724																			OC,	qz vein in a tan dolomite
5725																			OC,	sulf & qz-bearing dolomite
5410																			OC,	qz stringer hosted in gs
5411																			OC,	qz vein w/sc inclusions
5719																			OC,	dolomite, bearing sulf
5262																			RC,	qz-py band
5718																			OC,	dolomite, bearing sulf
5263																			OC,	sil dolomite w/py
5267																			OC,	sil dolomite with py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
116-13	5723	Kael-7 Mile Trend	Rep	4.6	98	<0.1	42	5	93											
116-14	5720	Kael-7 Mile Trend and vicinity	SC	2.0@0.1	203	<0.1	20	4	68											
116-14	5721	Kael-7 Mile Trend and vicinity	S		5354	2.8	2591	5	58											
116-15	5264	Kael-7 Mile Trend and vicinity	Rep	0.6	356	0.4	37	5	55											
116-16	5265	Kael-7 Mile Trend and vicinity	Rep	0.2	43	<0.1	18	6	62											
116-17	5266	Kael-7 Mile Trend and vicinity	G	0.1	209	0.3	1139	5	34											
116-18	5722	Kael-7 Mile Trend and vicinity	G	0.6	29	<0.1	82	3	31											
116-19	5849	Kael-7 Mile Trend	Rep		<5	<0.1	3	3	16											
117-1	5542	Roy Creek	C	0.2	**154.5** *	11.5	**2.24** *	10	10											
117-1	5543	Roy Creek	Rep	0.1	**47.28** *	17.6	**4.86** *	12	7											
117-2	5544	Roy Creek	C	1.1	694	0.2	242	3	44											
117-2	5545	Roy Creek	S		148	<0.1	255	6	51											
118-1	5270	Windy Cove	C	0.9	176	0.7	2609	<2	31											
118-2	5230	Windy Cove adit	CC	0.4	510	1.8	1540	3	32											
118-2	5231	Windy Cove adit	S	0.0	2479	5.2	**3.12** *	<2	28											
118-2	5697	Windy Cove adit	C	0.5	2834	0.7	2467	<2	31											
118-2	5271	Windy Cove	C	1.8	5199	5.5	12626	3	<1	<1	23	19	460	49			4.83			
118-2	5726	Windy Cove	C	1.2	226	0.2	2729	<2	24											
119-1	5037	Jesse Lake Vicinity	Rep	0.2	257	0.5	75	6	18			7				<2				
119-1	5038	Jesse Lake Vicinity	S		6243	2.9	102	38	22											
119-2	5278	Jesse Lake Vicinity	C	0.8	32	<0.2	47	13	4	17	45	21	<20	38			>10			
119-2	5279	Jesse Lake	C	0.5	135	1	144	30	66											
120-1	5394	Washington	SC	2.1@0.15	7	0.2	2	5	4											
120-1	5395	Washington	SC	3.7@0.15	10	0.2	2	10	6	<1	6	2	80	338		<20	0.63			
120-1	5396	Washington	SC	2.1@0.15	6	0.2	2	5	4											
120-1	5397	Washington	C	0.8	27	0.2	14	7	24											
120-1	5398	Washington	C	0.9	13	<0.1	2	3	4											
121-1	5170	Croesus	CC	0.5	4510	2.1	23	16	44							<2.0				
121-1	5171	Croesus	CC	0.2	1211	0.7	22	16	66							<2.0				
121-1	5172	Croesus	CC	0.3	6500	1.7	12	18	14							<2.0				
121-1	5173	Croesus	C	0.9	121	0.2	52	9	53							<2.0				
121-1	5174	Croesus	CC	0.2	6038	2.1	31	30	33							<2.0				
121-1	5636	Croesus	C	0.4	34	0.9	373	22	167							<2.0				
121-1	5637	Croesus	S		9	0.2	188	<2	10							<2.0				
121-1	5638	Croesus	S		**21.39** *	12.9	104	33	65							<2.0				
121-2	5175	Croesus	C	0.8	7992	5	41	37	75							<2.0				
121-2	5176	Croesus	C	0.4	**18.79** *	7.3	40	42	128							<2.0				
121-2	5177	Croesus	Rep	0.4	7793	7.7	55	52	77							<2.0				
121-2	5178	Croesus	CH	0.1	6596	8.3	32	20	51							3.3				
121-2	5179	Croesus	CC	0.1	1021	1.5	22	8	16							<2.0				
121-2	5180	Croesus	CC	0.1	4040	3	9	13	18							<2.0				
121-2	5639	Croesus	C	0.8	4350	3.9	39	26	54							<2.0				
121-2	5640	Croesus	C	1.6	**21.81** *	9.6	187	35	70							<2.0				
121-2	5641	Croesus	C	0.4	**14.74** *	7.8	43	61	185							<2.0				
121-3	5642	Croesus	C	0.3	**10.35** *	8.4	45	54	105							3.1				
121-3	5643	Croesus	Rep		1970	6.4	73	54	181							<2.0				

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
5723																			OC, dolomite with clots of sulf
5720																			OC, tan dolomite with qz and sulf
5721																			OC, tan dolomite with qz and sulf
5264																			RC, sil dolomite w/py
5265																			OC, sil dolomite w/py clots
5266																			OC, qz-dolomite band with py blebs
5722																			OC, tan dolomite with qz & sulf
5849																			OC, qz stringer zone in fest marble
5542																			OC, qz-chl sc
5543																			OC, min qz vein
5544																			OC, qz + sc
5545																			OC, qz/calc vein in sc
5270																			OC, sil dolomite w/py & cp
5230																			UW, qz vein with sulf stringers
5231																			UW, select of sulf knot from qz vein
5697																			UW, qz vein
5271	44	<5	<5	0.48															OC, sil dolomite w/py & cp
5726																			OC, sulf & qz-bearing dolomite
5037																			RC, qz vein w/ py
5038																			RC, gs w/ bands of py(some cp)
5278	<5	150	<5	0.181															OC, sil gs, py bands
5279																			OC, gossan
5394																			OC, qz vein
5395	<5	<5	<5	<0.01															OC, qz vein
5396																			OC, qz vein
5397																			OC, qz vein & gray limey sc host
5398																			OC, qz vein
5170																			UW, qz vein w/ ser
5171																			UW, qz vein
5172																			UW, qz vein
5173																			UW, qz-calc vein w/ limonite along shr
5174																			UW, qz vein w/ limonite
5636																			UW, qz vein + sc
5637																			OC, qz vein
5638																			MD, qz vein,
5175																			UW, qz vein w/vugs&xtls,marble on fw
5176																			UW, qz vein
5177																			UW, qz vein
5178																			UW, br qz vein w/ fault gouge
5179																			UW, qz vein
5180																			UW, qz vein
5639																			UW, qz vein + marble, sc
5640																			UW, qz vein + impurities
5641																			UW, qz vein + sc
5642																			UW, qz vein + sulf, ar
5643																			MD, calcareous-sc-qz br

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
121-3	5644	Croesus	G		1210	5.2	35	18	82							<2.0				
121-4	5645	Croesus trench	G		6190	2.2	59	9	15							<2.0				
121-4	5646	Croesus trench	Rep	0.2	**17.25** *	7.6	76	30	40							<2.0				
122-1	5187	San Juan	Rep	0.5	<5	0.2	6	6	4							<2.0				
122-1	5653	San Juan	G		6680	7.8	10	29	32							<2.0				
122-1	5654	San Juan	C	0.6	31	0.7	8	13	14							<2.0				
122-2	5182	San Juan	C	1.0	397	3.6	8	11	24							3.6				
122-3	5183	San Juan	CC	0.7	467	2.3	8	12	18							<2.0				
122-3	5184	San Juan	CC	1.0	16	0.3	15	3	34							<2.0				
122-3	5185	San Juan	CC	0.4	17	0.8	5	8	12							<2.0				
122-3	5186	San Juan	CC	0.2	92	1.4	9	11	13							<2.0				
122-3	5647	San Juan	CH	.2x.09	146	2.1	115	8	93							5.5				
122-3	5648	San Juan	C	0.7	860	15.7	15	33	12							<2.0				
122-3	5649	San Juan	C	0.7	228	2.9	7	13	46							<2.0				
122-3	5650	San Juan	C	0.2	246	4.6	9	13	15							<2.0				
122-3	5651	San Juan	C	0.7	57	0.7	4	5	18							<2.0				
122-3	5652	San Juan	G		17	0.8	11	6	44							<2.0				
123-1	5368	Paul Lake, W	CC	0.0	<5	<0.1	21	4	43											
123-1	5809	Paul Lake, W	Rep	0.3	<5	<0.1	23	5	73											
123-2	5369	Paul Lake, W	C	0.1	24	3.1	42	5209	9673											
123-3	5370	Paul Lake, W	Rep	0.1	<5	<0.1	41	15	71											
123-3	5810	Paul Lake, W	Rep		<5	<0.1	5	5	12											
124-1	5514	Golden Fleece	C	0.6	231	15.3	66	62	13											
124-2	5513	Golden Fleece	C	0.8	228	24.3	116	7	43											
124-3	5511	Golden Fleece	C	0.8	3509	17	58	17	99											
124-4	5510	Golden Fleece	C	0.5	269	26.7	181	7	47											
124-4	5512	Golden Fleece			19	0.5	244	4	78											
124-5	5508	Golden Fleece	C	0.4	312	37.3	262	50	26											
124-5	5509	Golden Fleece	C	0.8	499	30.9	159	20	44											
124-6	5014	Golden Fleece	C	0.9	**54.34** *	**81.94** *	189	71	120							22				
124-7	5015	Golden Fleece	C	0.5	**18.86** *	**131.0** *	359	148	128											
124-8	5012	Golden Fleece	SC	1.2	250	1.1	14	7	13	3								<0.1	4.4	
124-8	5013	Golden Fleece	C	0.2	**25.10** *	**63.09** *	489	74	63							<2				
124-9	5016	Golden Fleece	C	1.0	954	5.2	19	6	16											
124-10	5018	Golden Fleece	Rep	0.9	1253	2.9	38	10	21											
124-11	5017	Golden Fleece	CH	0.1	460	5.7	40	48	11											
124-12	5228	Golden Fleece	C	0.5	279	38.9	230	42	62											
124-12	5515	Golden Fleece	C	1.0	328	**65.83** *	377	159	86											
124-13	5019	Golden Fleece	Rep	0.2	2493	**99.09** *	507	34	118											
124-14	5229	Golden Fleece	CC	0.1	785	19.2	114	17	39											
124-15	5696	Golden Fleece	Rep	0.0	222	34.1	222	59	64											
125-1	5042	Alpha	C	1.2	<5	<0.1	28	8	33							<2.0				
125-1	5043	Alpha	CC	0.2	6	0.6	365	6	36							<2.0				
125-1	5044	Alpha	C	0.4	<5	<0.1	18	5	38							<2.0				
125-1	5045	Alpha	S	0.2	24	5.2	18000	8	43							<2.0				
125-2	5537	Alpha	Rep	0.2	<5	2.1	5100	3	39											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
5644																			TP, qz vein br
5645																			MD, qz calc
5646																			TP, qz vein + limonite + sulf
5187																			MD, qz vein
5653																			MD, qz vein, limonite, marble
5654																			TP, qz vein + sulf
5182																			UW, qz,sc,carbonate,shear zone brec
5183																			UW, qz
5184																			UW, brown calcareous sc w/mrbl bands
5185																			UW, br qz calcite vein
5186																			UW, qz-calc vein w/ fault gouge
5647																			UW, fault gouge
5648																			UW, qz vein + sulf
5649																			UW, marble w/ sulf
5650																			UW, qz vein + sulf,marble
5651																			UW, marble w/ minor sulf and sc
5652																			UW, fault gouge, limonite, sc,marble
5368																			OC, qz stringer
5809																			OC, qz band in marble
5369																			RC, qz vein w/gs ribbon, py & gn
5370																			FL, qz vein w/gs sc host
5810																			FL, banded marble
5514																			UW, qz vein + marble
5513																			UW, qz-marble br
5511																			UW, qz-marble br
5510																			UW, marble, qz
5512																			UW, chlorite sc
5508																			UW, qz marble br
5509																			UW, marble w/ qz, fest veins
5014																			UW, qz/calc vein w/ py & ml stain
5015																			UW, marble qz br w/ ml stain
5012		4	7	0.068			4.4	8		<1	0.5			1.5	<1.0		6	<1	UW, marble in hanging wall
5013																			UW, qz(.04ft)+blu mrble above & below
5016																			UW, marble-qz br
5018																			UW, wht marble + qz-cemented mrbl brec.
5017																			UW, qz vein
5228																			UW, qz, qz-marble br vein w/marble
5515																			UW, qz-marble br
5019																			UW, qz w/ ml stain & qz-marble br
5229																			UW, qz, qz-marble br vein
5696																			UW, qz vein
5042																			UW, qz, marble
5043																			UW, qz vein w/ ml blebs
5044																			UW, qz, marble
5045																			MD, qz vein w/ cp&py blebs&ml stain
5537																			OC, qz vein

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
125-2	5538	Alpha			62	0.2	531	<2	3											
125-2	5539	Alpha	S		<5	0.8	2585	3	2											
126-1	5236	James Lake, W	C	1.6	<5	<0.1	5	<2	4											
126-1	5237	James Lake, W	C	0.4	8060	7.7	480	56	58	3	57	98	80	185			>10			
126-1	5238	James Lake, W	Rep		54	0.5	51	3	66											
126-1	5239	James Lake, W	S		412	8.6	350	19	48											
126-1	5700	James Lake, W	C	4.0	7	0.2	8	4	14											
126-1	5702	James Lake, W	Rep		<5	<0.1	3	<2	<1											
126-2	5234	James Lake, W	C	2.6	<5	0.2	10	<2	7											
126-2	5235	James Lake, W	G		<5	<0.1	41	<2	6											
126-2	5240	James Lake, W	C	0.8	<5	<0.1	5	<2	4											
126-2	5699	James Lake, W	C	1.2	14	<0.1	27	<2	3											
127-1	5216	Valparaiso	C	0.9	469	5	32	11	88											
127-2	5218	Valparaiso	C	1.5	462	1	12	12	47											
127-3	5244	Valparaiso	CC	1.7	548	6.7	51	47	97											
127-4	5217	Valparaiso	C	1.1	819	13.7	60	40	117											
127-5	5705	Valparaiso	CC	1.8	586	8.9	57	30	66											
127-6	5215	Valparaiso	CC	0.9	**29.04** *	7.7	50	25	375											
127-7	5245	Valparaiso	CC	0.9	1623	2.1	14	22	91											
127-8	5212	Valparaiso	C	1.7	1952	0.4	10	21	489											
127-9	5706	Valparaiso	CC	1.7	137	4.9	22	12	72											
127-10	5690	Valparaiso	C	1.1	794	12.9	105	123	182											
127-11	5707	Valparaiso	CC	1.2	267	0.2	5	4	38											
127-13	5691	Valparaiso	C	1.8	680	<0.1	7	7	30											
127-13	5692	Valparaiso	C	1.2	324	<0.1	10	12	34											
127-14	5689	Valparaiso	CH	1.1	2129	1.7	16	8	37											
127-15	5693	Valparaiso	C	.37x0.15	**159.8** *	**211.9** *	1139	702	376											
127-15	5694	Valparaiso	C	0.7	1914	1.2	17	14	45											
127-16	5688	Valparaiso	C	1.5	9600	13.1	70	186	58											
127-17	5219	Valparaiso	C	1.1	669	0.2	10	6	34											
127-18	5208	Valparaiso	C	2.1	1089	2.6	51	77	214											
127-19	5220	Valparaiso	C	1.2	1914	0.7	17	18	52											
127-20	5241	Valparaiso	CC	1.4	931	45.9	245	59	159											
127-21	5213	Valparaiso	C	0.8	538	0.5	15	50	1041											
127-21	5214	Valparaiso	C	1.1	1361	1.8	13	70	110											
127-21	5243	Valparaiso	CC	0.7	272	1.1	9	45	49											
127-22	5209	Valparaiso	CC	2.1	2198	0.9	37	10	53											
127-23	5704	Valparaiso	CC	1.2	305	0.2	2	11	40											
127-24	5210	Valparaiso	C	1.2	166	1.9	18	91	238											
127-24	5211	Valparaiso	C	1.0	133	<0.1	15	18	130											
127-25	5687	Valparaiso	C	2.0	8895	29.7	96	450	408											
127-26	5242	Valparaiso	CC	1.2	4703	1.9	10	44	80											
127-27	5686	Valparaiso	CC	1.2	**25.51** *	4.7	23	99	97											
127-28	5685	Valparaiso	CC	1.4	2150	1.2	59	24	105											
127-29	5703	Valparaiso	CC	1.2	233	0.5	10	15	33											
127-30	5684	Valparaiso	CC	1.5	4968	1.2	62	34	44											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
5538																			RC,	qz +- marble
5539																			MD,	qz +- marble
5236																			UW,	qz vein
5237	<5	289	<5	0.2															UW,	qz w/limonite & py lenses
5238																			RC,	qz vein w/sparse po & py
5239																			RC,	qz vein w/20% po & py
5700																			UW,	qz vein
5702																			OC,	qz vein
5234																			OC,	qz vein
5235																			RC,	qz vein
5240																			RC,	qz vein
5699																			OC,	qz vein
5216																			UW,	qz marble w/graphitic sc zone
5218																			UW,	qz-marble br
5244																			UW,	qz/qz-marble br vein
5217																			UW,	qz vein w/local marble br
5705																			UW,	qz vein
5215																			UW,	qz-carbonate vein
5245																			UW,	qz
5212																			UW,	carbonate w/tan qz carbonate clast
5706																			UW,	qz vein
5690																			UW,	qz vein
5707																			UW,	qz-marble br vein
5691																			UW,	marble w/local graphitic zones
5692																			UW,	marble w/1.0' carbonate vein, hw
5689																			UW,	qz vein, slightly br
5693																			UW,	qz-carbonate, slightly br
5694																			UW,	carbonate vein
5688																			UW,	br qz vein
5219																			UW,	qz-carbonate vein
5208																			UW,	qz - calcite vein
5220																			UW,	qz-marble vein w/local br
5241																			UW,	qz vein w/ml & qz-marble br
5213																			UW,	gray marble w/qz calcite stringers
5214																			UW,	qz-marble vein
5243																			UW,	qz/qz-marble br vein
5209																			UW,	qz calcite stringers and marble
5704																			UW,	qz vein
5210																			UW,	qz and black marble
5211																			UW,	black marble
5687																			UW,	qz vein and qz br
5242																			UW,	qz vein & adjacent qz-marble br
5686																			UW,	br qz vein w/marble clasts
5685																			UW,	qz vein and quartzite
5703																			UW,	qz vein
5684																			UW,	qz vein w/increasing CaCo3 in fw

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
127-31	5709	Valparaiso	CC	1.0	missing results															
127-32	5846	Valparaiso	CC	0.8	3061	33.5	236	108	89											
127-33	5246	Valparaiso	CC	0.9	383	0.9	21	16	124											
127-33	5247	Valparaiso	CC	0.9	834	4.1	40	97	202											
127-34	5248	Valparaiso	S	0.2	**73.13** *	5.9	1352	534	207	<1	5	1	<20	227			0.44			
127-35	5407	Valparaiso	CC	0.7	8658	14.5	62	159	45	<1	7	1	<20	324		<20	0.56			
127-35	5408	Valparaiso	C	1.4	1199	1.2	19	20	50											
127-35	5409	Valparaiso	C	0.5	3315	9.3	139	30	143											
127-36	5708	Valparaiso	CC	0.8	2816	1.4	6	64	107											
127-37	5520	Valparaiso	C	0.7	224	2.1	4	252	46											
127-38	5024	Valparaiso	CC	1.4	3516	5.9	38	82	80											
127-38	5221	Valparaiso	C	1.1	656	1	22	32	123							<2.0				
127-38	5222	Valparaiso	CC	0.9	**121.7** *	**65.143** *	221	322	162							<2.0				
127-39	5518	Valparaiso	C	0.6	552	1.6	11	94	151											
127-40	5023	Valparaiso	CC	1.2	1730	3.3	46	2581	604											
127-41	5519	Valparaiso	C	0.8	6231	2.1	10	297	73											
127-42	5025	Valparaiso	CC	1.4	268	1.3	15	80	48											
127-42	5026	Valparaiso	CC	0.4	**72.51** *	**49.37** *	129	192	85	<1						<2		<0.1	0.5	
127-42	6773	Valparaiso	G		**44.74** *	48.6	192	105	184	4	<10	<5	<50	460	<300	<1	0.4			<10
127-43	5521	Valparaiso	C	0.7	**54.14** *	22.8	56	138	99											
127-44	5257	Valparaiso	C	0.2	2495	1.2	5	3	6											
127-45	5249	Valparaiso	G	2 pints	3576	6.9	33	39	172	<1	8	5	<20	6			0.52			
128-1	5250	James adit	G	0.2	**88.46** *	44.5	310	84	119											
129-1	5021	Paul Lake	C	0.9	**12.79** *	3.8	16	147	61											
129-2	5022	Paul Lake	C	0.9	4410	4.7	54	96	133							<2				
129-3	5516	Paul Lake	C	0.8	**20.50** *	**28.80** *	83	66	49											
129-4	5517	Paul Lake	C	0.5	5283	14	35	168	311											
129-5	5027	Paul Lake	CC	0.5	**37.89** *	**63.09** *	297	342	181											
129-6	5524	Paul Lake	C	0.9	9852	8.9	130	81	136											
129-6	5525	Paul Lake	C	0.2	3470	1.1	56	145	136											
129-7	5523	Paul Lake	C	1.2	1207	1	157	274	935											
129-8	5522	Paul Lake	C	0.5	5689	18.1	310	87	290											
129-9	5028	Paul Lake	CC	0.5	1305	1.1	15	20	69	<1						<2		<0.1	1.3	
130-1	5034	Moonshine	C	1.3	60	2.4	13	41	24											
130-1	5035	Moonshine			64	3.2	20	15	16	<1						<2		<0.1	5.6	
130-1	5036	Moonshine	CC	0.2	**2167** *	**432.3** *	74	8	34											
130-1	5188	Moonshine	CH	0.2	6504	8.1	68	10	38							<2.0				
130-1	5189	Moonshine	C	0.3	**138.8** *	36.7	35	7	15							2.1				
130-1	5190	Moonshine	CC	1.0	68	4	11	<2	<1							<2.0				
130-1	5191	Moonshine	CC	1.2	199	3.6	26	10	23							<2.0				
130-1	5531	Moonshine	C	0.5	637	6.4	70	40	211											
130-1	5532	Moonshine	C	0.2	4400	1.1	10	17	11											
130-1	5533	Moonshine	C	0.3	307	1.7	11	16	22											
130-1	5534	Moonshine	C	0.5	166	22.1	195	21	410											
130-1	5535	Moonshine	C	0.3	170	5.2	33	9	13											
130-1	5655	Moonshine	C	0.2	**24.79** *	41.3	148	9	54							<2.0				

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
5709	missing results																			
5846																			UW,	qz and qz-marble br
5246																			UW,	qz/qz-marble br vein
5247																			UW,	qz/qz-marble br
5248	<5	38	230	10.825															UW,	qz vein with ml & sulf
5407	<5	6	27	2.572															UW,	qz vein
5408																			UW,	marble br w/10% qz br
5409																			UW,	gray-rusty, fest fault gouge
5708																			UW,	qz/qz-marble br vein
5520																			UW,	qz, marble br
5024																			UW,	qz marble br
5221																			UW,	carbonate and gray marble
5222																			UW,	qz vein
5518																			UW,	qz vein w/ marble br
5023																			UW,	qz marble br
5519																			UW,	qz, marble
5025																			UW,	qz-marble br
5026		23	121	3.886			<0.5	<5		<1	<0.5			<0.5	<1.0		5	<1	UW,	qz vein + minor br
6773		12	57.6		<33	<0.5	<2	<19		<0.5	<2	<0.4	<0.5	<0.8	<0.9	<11			UW	qz vein w/ ml,cp
5521																			UW,	qz vein + marble br
5257																			OC,	qz vein w/py
5249	<5	10	16	1.628															MT,	qz sand, tailings from Valparaiso
5250																			MD,	qz vein
5021																			UW,	banded br qz-marble vein
5022																			UW,	banded, br qz-marble vein
5516																			OC,	qz vein + sc
5517																			UW,	marble & qz vein
5027																			UW,	qz-marble br w/ ml
5524																			UW,	qz vein + marble br
5525																			UW,	qz vein
5523																			UW,	qz-marble br + marble
5522																			UW,	qz vein + marble
5028		600	106	0.168			1.3	<5		<1	<0.5			<0.5	<1.0		<5	<1	UW,	qz-marble br
5034																			UW,	qz vein and stringer zone
5035		9	7.5	0.488			5.6	9		<1	<0.5	<0.1		<0.5	<1		<5	<1	UW,	qz vein and stringer zone
5036																			UW,	qz vein
5188																			UW,	qz vein w/ py cubes along fracture
5189																			UW,	qz vein w/ py cubes along fractures
5190																			OC,	qz vein,vuggy in places w/ crystals
5191																			OC,	qz vein w/ crystals, vugs,sc fragments
5531																			UW,	fault gouge
5532																			UW,	qz vein, sc
5533																			UW,	sc w/ qz lenses
5534																			UW,	qz, sc
5535																			UW,	qz
5655																			UW,	qz vein + sc

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
130-1	5656	Moonshine	C	1.2	396	2.3	19	<2	9							<2.0				
130-1	5657	Moonshine	C	1.0	108	3.7	20	<2	7							<2.0				
131-1	5029	Jumbo	CC	1.1	2673	2.3	44	112	41											
131-1	5030	Jumbo	SC	15.5	1515	5.1	83	19	28							<2				
131-1	5526	Jumbo	C	0.3	301	3.4	108	6	20											
131-1	5527	Jumbo	C	0.1	352	10.7	201	9	63											
131-1	5528	Jumbo	C	0.2	80	0.4	8	4	17											
131-1	5529	Jumbo	C	1.3	907	2	42	29	57											
131-2	5272	Jumbo	Rep	5.2	194	1.1	106	14	25	1	12	5	60	317			1.02			
131-2	5273	Jumbo	C	1.8	175	0.4	67	<2	9											
131-2	5727	Jumbo	SC	2.9@0.15	1493	1.2	22	7	26											
131-2	5728	Jumbo	SC	3.0@0.15	279	0.3	37	11	24											
131-3	5274	Jumbo, (borrow pit)	C	2.7	21	<0.1	5	5	8											
131-3	5275	Jumbo (borrow pit)	C	1.8	<5	3.5	19	7	23											
131-3	5276	Jumbo , (borrow pit)	Rep	2.1	<5	<0.1	4	<2	14											
131-3	5277	Jumbo , (borrow pit)	C	1.5	<5	<0.1	4	3	7											
131-3	5729	Jumbo , (borrow pit)	RC		13	0.6	4	17	10											
132-1	5031	Amazon	G		**9.33** *	3.2	49	18	44											
132-1	5032	Amazon	C	0.8	4455	1.3	21	3	13											
132-1	5530	Amazon	C	0.6	4902	2.9	36	10	43											
133-1	5033	Boston	O	0.9	420	**135.1** *	636	61	179											
133-1	5251	Boston	Rep	0.1	174	5.7	22	112	23											
133-1	5252	Boston	Rep	0.1	807	**98.40** *	169	62	70											
133-1	5253	Boston	C	0.5	184	**78.51** *	303	176	145											
133-1	5254	Boston	SC	3.0@.08	8745	**232.8** *	1077	378	217	<1	7	1	<20	319			0.39			
133-1	5255	Boston	C	1.8	88	27.7	140	131	118											
133-1	5256	Boston	SC	1.1@.08	74	3.6	30	64	60											
133-1	5540	Boston	C	0.7	4789	1.7	14	196	41											
133-1	5711	Boston	Rep	0.5	**9.57** *	**64.80** *	12	7	18											
133-1	5712	Boston	CC	1.1	160	33.6	48	362	90											
133-1	5713	Boston	Rep	1.0	4576	**110.1** *	484	108	129											
134-1	5236	Cape Horn	C	1.6	<5	<0.1	5	<2	4											
134-2	5233	Cape Horn	G		12	0.2	421	4	60											
134-3	5698	Cape Horn	G	0.2	12	2.1	26	4	13											
135-1	5258	Paul Lake, S	CC	0.2	<5	0.2	3	<2	11											
135-1	5259	Paul Lake, S	Rep	0.2	<5	<0.1	4	<2	31											
135-1	5260	Paul Lake, S	S		<5	0.5	6464	4	75											
135-1	5714	Paul Lake, S	CC	0.3	<5	1.2	15	13	25											
136-1	5548	Stockton Quartz	Rep		26	0.2	72	6	22											
136-1	5549	Stockton Quartz	S		9	<0.1	84	6	145											
137-1	5076	Moss Point	SC	2.4@0.15	<5	<0.1	19	3	23				210							
137-1	5077	Moss Point	SC	2.4@0.15	<5	<0.1	20	5	9				200							
137-1	5078	Moss Point	C	0.1	44	<0.1	38	4	5				110							
137-1	5563	Moss Point	SC	6.0@0.3	<5	<0.1	33	5	30				280							
137-1	5564	Moss Point	S		71	0.3	88	6	10				160							

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
5656																			OC, qz vein + sc
5657																			OC, qz vein + graphitic sc
5029																			UW, br qz vein w/some marble br
5030																			UW, qz & gray marble br
5526																			UW, qz + sc clasts
5527																			UW, qz, sc
5528																			UW, qz, marble, sc
5529																			UW, qz, marble
5272	<5	15	7	0.114															OC, qz vein
5273																			OC, qz vein
5727																			OC, qz-marble br vein
5728																			OC, qz-marble br vein
5274																			OC, qz/qz-marble br vein
5275																			OC, qz vein
5276																			OC, qz marble br
5277																			OC, qz/qz-marble br vein
5729																			TP, qz/qz-marble br vein
5031																			MD, qz vein
5032																			RC, qz vein, msv
5530																			OC, qz vein
5033																			OC, qz vein
5251																			RC, qz-carbonate vein
5252																			RC, qz vein
5253																			UW, qz vein
5254	<5	67	456	9.48															OC, qz vein hosted in marble
5255																			OC, qz vein hosted in marble
5256																			OC, qz, qz-marble br vein
5540																			OC, qz, marble
5711																			UW, qz vein
5712																			UW, qz vein
5713																			UW, qz vein
5236																			UW, qz vein
5233																			OC, qz-ser sc
5698																			OC, qz vein in gs
5258																			OC, qz vein
5259																			OC, qz vein
5260																			OC, gs w/py, cp, ml
5714																			OC, qz lens hosted in sc
5548																			MD, qz and some gs
5549																			MD, gs & qz
5076																			OC, qz-ser sc w/fest
5077																			OC, fest qz ser sc w/sulf
5078																			OC, py lens
5563																			OC, chl-ser sc
5564																			OC, msv py lens in gs sc

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
137-1	5565	Moss Point	O		165	0.5	529	8	98				150							
137-2	5080	Moss Point	O		50	<0.1	94	8	75				150							
137-3	5079	Moss Point	SC	5.8	6	<0.1	78	<2	33				150							
137-3	5566	Moss Point	CC	2.2@0.15	144	<0.1	110	5	24				240							
Niblack Area																				
138-1	5145	Dora Lake	S	0.0	6797	23.5	185	3210	**8.87** *											
138-1	5146	Dora Lake	Rep		1065	4	127	268	4311											
138-1	5343	Dora Lake	C	2.4	<5	<0.1	102	10	74											
138-1	5344	Dora Lake	C	2.7	7	0.3	93	24	94											
138-1	5345	Dora Lake	C	3.0	10	0.2	58	18	104											
138-1	5346	Dora Lake	SC	2.4@.08	10	<0.1	56	29	187											
138-1	5347	Dora Lake	C	1.5	105	0.3	76	67	176											
138-1	5348	Dora Lake	SC	1.1 @.08	24	0.4	62	28	371											
138-1	5349	Dora Lake	C	0.9	512	1.3	23	119	364											
138-1	5350	Dora Lake	S	0.2	1109	3.2	62	547	10369											
138-1	5351	Dora Lake	C	2.1	227	1.6	119	77	855	6										
138-1	5607	Dora Lake	C	2.2	1500	3.3	143	1508	5777											
138-1	5608	Dora Lake	C	1.0	2928	5.2	114	515	12000											
138-1	5787	Dora Lake	SC	2.4@0.1	296	0.3	164	57	253											
138-1	5788	Dora Lake	C	0.6	689	1.1	155	435	2855											
138-1	5789	Dora Lake	C	0.6	304	1.8	238	138	248											
138-1	5790	Dora Lake	C	0.5	353	2.2	125	2082	11003											
138-1	5791	Dora Lake	SC	7.0@0.15	13	<0.1	159	18	132											
138-1	5792	Dora Lake	SC	3.0@0.1	11	<0.1	53	30	160											
138-1	5793	Dora Lake	SC	4.6@0.1	<5	<0.1	64	13	91											
139-1	5352	Near Dora Lake	G		63	0.2	35	50	786											
140-1	5142	Borrow pit	S		32	0.3	304	17	59											
140-1	5143	Borrow pit	S	0.0	11	0.2	77	14	75											
140-1	5144	Borrow pit	S	0.0	498	4	422	23	21											
140-1	5606	Borrow pit	S		6	<0.1	39	13	98											
141-1	5556	Lucky Boy	C	0.9	2798	38.8	11762	7482	**8.92** *											
141-2	5555	Lucky Boy	Rep		56	0.7	175	515	2720											
141-3	5058	Lucky Boy	S		5147	**46.97** *	5304	10957	**27.65** *							<2.0				
141-4	5553	Lucky Boy	C	0.2	5963	22.5	3715	4694	**20.35** *											
141-4	5554	Lucky Boy	C	0.3	1588	23.1	3157	7015	**13.96** *											
141-5	5059	Lucky Boy	C	0.7	2012	40.8	5516	7742	**10.28** *							<2.0				
141-6	5060	Lucky Boy	C	0.8	6017	23.7	3141	5194	**14.19** *											
141-7	5063	Lucky Boy	C	1.1	102	0.6	112	87	2218											
141-7	5064	Lucky Boy	C	0.7	84	0.9	125	406	1840											
141-8	5061	Lucky Boy	C	0.8	125	2.7	553	755	5087											
141-8	5062	Lucky Boy	C	0.5	283	4.6	470	3347	8550											
142-1	5065	Lady of the Lake	S		551	12.8	434	9060	**2.44** *											
142-1	5066	Lady of the Lake	Rep	4.6	2065	3.7	190	4316	13510											
142-1	5067	Lady of the Lake	S	0.1	5484	27.6	1190	**4.89** *	**21.74** *											
142-1	5380	Lady of the Lake	C	2.1	3716	4.1	131	3366	10256											
142-1	5381	Lady of the Lake	C	1.2	3535	4.3	292	8021	17374	2										

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
5565																				stream sediment
5080																				stream sediment
5079																			UW,	qz-ser sc w/ fest
5566																			OC,	alt fel volc
Niblack Area																				
5145																			RC,	qz,calc,sl,py,gn zone
5146																			OC,	br qz-calc w/ metased frags
5343																			OC,	gs w/20% qz-calc stringers
5344																			OC,	gs w/20% qz-calc stringers
5345																			TP,	gs w/20% qz-calc stringers
5346																			TP,	gs w/15% qz-calc stringers
5347																			TP,	gs w/10% qz-calc stringers
5348																			TP,	gs w/5% qz-calc stringers
5349																			TP,	gs w/50% gz-calc stringers
5350																			RC,	qz-calc fragment w/py, sl & gn
5351																			TP,	sc w/10% qz-calc stringers
5607																			OC,	qz-calc segregation in gs sc
5608																			RC,	qz-calc "vein" in gs
5787																			TP,	gs w/qz-calc stringers, py
5788																			TP,	metavolc w/qz-calc blebs & py
5789																			TP,	gs w/qz stringers & py
5790																			TP,	msv qz zone w/py, sl & gn
5791																			TP,	gs w/qz-calc stringers, py
5792																			TP,	gs w/qz-calc stringers
5793																			TP,	gs w/qz-calc stringers, py
5352																			OC,	qz-marble zone w/dissem py
5142																			RC,	qz-ser sc w/ py
5143																			RC,	qz vein in qz-ser sc
5144																			RC,	py,limonite,ser-chl sc
5606																			OC,	gs sc, qz, calc
5556																			OC,	qz-marble vein w/ sulf
5555																			OC,	qz veins
5058							1.2	5		<1	2.2	0.35		0.7	<1.0				MD,	qz carbonate vein w/ sl, gn, cp
5553																			OC,	qz vein, sulf
5554																			OC,	qz & marble vein w/ sulf
5059							4.5	12		<1	1.3	0.24		<0.5	<1.0				UW,	qz-calc gs br w/sl,gn,cp
5060																			UW,	qz-calc gs br w/sl,gn,cp
5063																			UW,	mostly gs w/ qz & br
5064																			UW,	qz, sulf,qz-gs sc
5061																			UW,	qz-calc gs br w/ sl,gn,cp
5062																			UW,	qz-calc gs br w/ sl,gn,cp
5065																			TP,	qz carbonate vein w/ sl,gn,py
5066																			RC,	qz-calc lens w/ sulf
5067																			RC,	qz calc vein material w/ sulf
5380																			OC,	qz w/py, sl and gn
5381																			OC,	qz w/py, sl, cp & gn

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
142-1	5382	Lady of the Lake	C	2.1	6488	8.5	537	**1.14** *	**9.20** *	2	16	250	80	250		507	7.43			
142-1	5383	Lady of the Lake	Rep	0.3	1356	4.6	342	6580	**6.68** *	3										
142-1	5384	Lady of the Lake	Rep	1.1	146	0.6	56	622	1317											
142-1	5385	Lady of the Lake	SC	2.7@.08	166	0.7	52	859	896											
142-1	5386	Lady of the Lake	SC	1.4 @.08	75	0.3	40	397	265											
142-1	5557	Lady of the Lake	Rep		**11.35** *	7.4	134	9690	942											
142-1	5818	Lady of the Lake	C	2.2	18	<0.1	248	8	19	2										
142-1	5819	Lady of the Lake	C	1.7	40	2	1133	21	**3.67** *											
142-1	5820	Lady of the Lake	SC	1.4 @0.1	56	1.4	98	**1.33** *	**5.17** *											
142-1	5821	Lady of the Lake	C	1.5	302	9.7	2687	**1.37** *	**9.01** *											
142-1	5822	Lady of the Lake	C	1.5	258	1.6	22	2700	276											
142-1	5823	Lady of the Lake	Rep	2.1	7682	5.7	144	7721	4800											
142-1	5824	Lady of the Lake	S		0.34	0.4	18	**2.06** *	**14.38** *											
143-1	5615	Cymru	C	1.0	11	5	3870	15	23											
143-2	5616	Cymru	C	0.3	40	16.6	9826	31	20											
143-2	6776	Cymru	S		178	**317.1** *	**20.83** *	11	500	<1	94	51	130	230	<100	<1	>10			<5
143-3	5617	Cymru	SC	40.3@0.3	17	2.7	1700	13	13											
143-4	5618	Cymru	C	1.2	7	2.7	1256	24	68											
143-5	5619	Cymru	C		<5	0.8	59	16	23											
143-6	5152	Cymru	C	0.6	54	45.9	**3.00** *	15	84											
143-6	5153	Cymru	CH	0.2	144	**310.6** *	**20.78** *	16	425											
143-6	5154	Cymru	CC	0.4	<5	4.6	3397	13	25							<2.0				
143-6	5155	Cymru	CC	0.2	55	**122.7** *	**8.22** *	15	150	6						4.3				
143-6	5157	Cymru	C	1.4	<5	2.5	2114	14	19											
143-7	5156	Cymru	CC	0.3	210	**258.9** *	**19.08** *	17	436	3						<2.0				
143-8	5161	Cymru	Rep	1.2	12	41.1	**2.77** *	17	98											
143-9	5160	Cymru	Rep	0.9	15	32.2	**2.76** *	15	66											
143-10	5623	Cymru	S		138	**259.2** *	**18.23** *	16	339											
143-11	5159	Cymru	C	0.5	99	10.5	12105	25	20											
143-12	5162	Cymru	Rep		84	2.7	1584	16	29											
143-12	5622	Cymru	Rep		18	23.8	**1.95** *	12	39											
143-13	5621	Cymru	Rep	1.1	10	8	8332	11	19											
143-14	6775	Cymru #2 adit at shaft	S		17	17.1	9900	46	18	2	<10	11	250	710	<100	<1	2.6			<5
143-15	5158	Cymru	S	0.2	12	25.1	13933	45	18											
143-16	5620	Cymru	Rep	1.2	6	0.3	209	10	11											
143-17	5163	Cymru	S	0.0	95	**66.86** *	**7.06** *	31	37	4 5.						5.1				
143-18	5164	Cymru	C	0.5	14	16.8	18866	11	19											
143-19	5613	Cymru	C	1.0	109	24.7	18755	7	17											
143-19	5614	Cymru	S		191	**127.5** *	**7.45** *	19	69											
143-20	5165	Cymru	Rep		43	21.8	**2.31** *	23	43											
143-21	5624	Cymru	Rep		35	19.0	**2.09** *	11	36											
144-1	5147	Blue Bird	G	0.3	**30.89** *	8.5	16	71	500											
144-1	5148	Blue Bird	CC	0.5	288	1	12	198	301											
144-1	5149	Blue Bird	CC	0.2	240	<0.1	8	30	49											
144-1	5150	Blue Bird	S		465	0.4	18	110	86											
144-1	5609	Blue Bird	C	0.9	49	<0.1	27	17	291											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
5382	27	1227	13	0.597															OC, qz w/py, sl, cp & gn
5383																			OC, qz w/py, cp, sl & gn
5384																			OC, qz w/py, gn & sl
5385																			OC, qz sc w/py, cp, sl & gn
5386																			OC, qz sc w/py, sl, gn
5557																			OC, qz vein, sulf
5818																			OC, qz lens interbedded w/sc
5819																			OC, qz interbedded w/sc & sulf
5820																			OC, qz interbedded w/sc & sulf
5821																			OC, qz interbedded w/sc & sulf
5822																			OC, qz lens w/mineralization
5823																			OC, qz w/py & gn
5824																			RC, qz w/sulf
5615																			UW, banded marble + sulf
5616																			UW, qz + sulf + calc
6776		17	1.6		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.5	16			OC qz cp vein
5617																			UW, marble w/ sparse stratiform sulfide
5618																			UW, marble+calc-rich green sc
5619																			UW, marble
5152																			UW, hw marble br w/ qz
5153																			UW, vein of msv cp
5154							9.5	18		<1	0.6	<0.1		0.7	2.3				UW, qz vein
5155							3	<5		<1	<0.5	<0.1		<0.5	1.5				UW, cp lens
5157																			UW, br marble & grnstn in shear
5156							2.9	<5		<1	<0.5	<0.1		<0.5	3.4				UW, msv cp
5161																			RC, gray marble w/ qz and cp
5160																			UW, gray marble w/ qz & brec
5623																			RC, msv sulf + limonite
5159																			TP, qz marble band w/ blebs of cp
5162																			RC, qz-calc vein w/ blebs of cp
5622																			RC, qz + sulf
5621																			TP, qz w/ sulf, marble
6775		10	0.4		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.4	2.3	13			UW
5158																			MD, qz-calc vein w/ blebs of cp
5620																			UW, qz w/ minor sulf
5163																			RC, msv cp w/ sl
5164																			TP, qz marble band w/ sulf
5613																			TP, qz + sulf
5614																			MD, msv sulf + qz
5165																			MD, qz marble w/ blebs of cp
5624																			MD, qz & marble w/ sulf
5147																			RC, smokey qz w/ sparse py-hem
5148																			RC, smokey qz w/ sparse py-hem
5149																			RC, smokey qz w/ sparse py-hem
5150																			MD, smokey qz vein @ sc contact
5609																			RC, qz vein

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
144-1	5610	Blue Bird	C	0.8	6	<0.1	23	10	23											
144-1	5611	Blue Bird	Rep		**18.51** *	3.2	15	13	7											
144-1	5612	Blue Bird	C	0.5	69	<0.1	20	15	185											
145-1	5151	Blue Bird, E	S	0.1	<5	0.2	210	10	14											
146-1	5371	Hope	CC	0.5	2933	10.7	2506	554	1106											
146-1	5372	Hope	CC	0.4	3105	10.1	109	24	12											
146-1	5373	Hope	CC	0.5	1897	8	36	26	35											
146-1	5374	Hope	S	0.1	**50.98** *	**163.2** *	226	138	11	14	15	337	<20	337		<20	7.46			
146-1	5811	Hope	CC	0.2	2728	12	69	14	20											
146-1	5812	Hope	CC	0.3	739	1.3	43	7	27											
146-1	5813	Hope	C	0.4	1642	5.8	23	12	21		15	209	<20	209		<20	2.98			
147-1	5669	Moira Copper	C	0.4	221	1.1	2909	5	129											
147-1	5670	Moira Copper	C	0.7	270	2.4	7566	5	127											
147-2	5199	Moira Copper	C	1.2	464	1.4	851	8	87	27						2.5				
147-2	5200	Moira Copper	S		1732	47.2	**6.57** *	5	51	21						<2.0				
147-2	5671	Moira Copper	C	1.0	656	6.8	5133	3	161											
149-1	5280	Niblack Mine	S	0.3	929	29.5	**8.76** *	38	1473											
149-1	5739	Niblack Mine	S		7561	4.9	4558	201	1343											
149-1	5740	Niblack Mine	S		134	0.2	160	11	196											
149-1	5741	Niblack Mine	S		256	7.2	9185	11	681											
150-1	5773	Mammoth adits	C	0.9	197	2.3	55	149	9	5										
150-1	5774	Mammoth adits	C	1.5	232	12.5	14346	21	389	6										
150-2	5319	Mammoth adits	SC	4.6@0.3	40	2	1133	21	371											
150-2	5320	Mammoth adits	SC	3.0@0.3	56	1.4	98	15	357											
150-2	5321	Mammoth adits	G	0.0	302	9.7	2687	18	286											
151-1	5322	Edith M adit	SC	6.1@0.3	83	0.2	104	6	232											
151-1	5323	Edith M adit	SC	6.1@0.3	28	0.2	35	5	188											
151-1	5775	Edith M adit	SC	6.7@0.3	18	<0.1	34	3	129	7										
151-1	5776	Edith M adit	SC	6.1@0.3	18	0.2	60	4	211	5										
152-1	5324	Beach adit	SC	3.7@0.3	64	0.4	18	13	136											
152-1	5325	Beach adit	SC	40.3@0.3	43	0.8	40	23	225											
153-1	6783	Lindsey showing	G		915	1.54	**2.19** *	252	**4.60** *	12	<41	<5	220	540	<200	<2	>10			250
154-1	5800	Lookout open cut	SC	3.7@0.3	778	26	11045	70	10464											
154-1	6781	Lookout gossan pit	G		**64.18** *	**227.0** *	289	20	83	65	<28	<5	280	250	<340	<14	8.6			<36
154-1	6782	Lookout showing	G		2002	17	12250	15	16900	21	<10	<5	340	470	<100	<1	3.3			86
154-2	5359	Lookout upper adit	SC	3.0@0.3	268	7.1	887	61	315											
154-2	5360	Lookout upper adit	SC	3.0@0.3	120	0.8	288	28	1027											
154-2	5798	Lookout upper adit	SC	3.0@0.3	62	0.3	87	15	122											
154-2	5799	Lookout upper adit	SC	3.0@0.3	14	<0.1	499	7	1108											
154-3	5361	Lookout lower adit	SC	3.4@0.3	25	0.6	897	16	lower											
155-1	5375	Broadgague workings	C	2.1	209	0.6	13	6	26											
155-1	5376	Broadgague workings	C	1.2	158	0.5	19	5	32	3	2	107	190	107		<20	4.75			
155-1	5817	Broadgague workings	SC	3.1@0.15	19	<0.1	87	5	760											
155-2	5814	Broadgague workings	C	0.9	22	0.3	230	4	206											
155-3	5377	Broadgague adits	C	1.5	32	0.2	62	6	17	5										
155-3	5378	Broadgague adits	C	2.0	29	0.3	139	6	44											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
5610																			RC, qz vein
5611																			RC, smokey to white qz vein
5612																			RC, smokey to white qz
5151																			RC, qz, granite porphry wall rk w/ py
5371																			UW, qz vein w/py, cp & ml
5372																			UW, qz vein w/py
5373																			UW, qz vein w/py
5374	11	<5	<5	<5															MD, qz vein w/py
5811																			UW, qz vein w/sulf
5812																			UW, qz vein w/sulf
5813	<5	<5	<5	<5															UW, qz vein w/sulf
5669																			UW, fault gouge,lenses of qz w/limonite
5670																			UW, gs + sulf, mainly py
5199																			TP, sil gs w/ bands
5200																			MD, msv py&cp in sil rock
5671																			TP, gs sc + sulf
5280																			OC, msv py & cp in gs
5739																			MT, jasper with sulf
5740																			MT, jasper with mag
5741																			MT, py-rich gs
5773																			UW, msv sulf zone
5774																			UW, msv sulf zone
5319																			UW, sil gs sc
5320																			UW, sil gs sc
5321																			UW, py band
5322																			UW, rhyolitic tuff w/ dissem py
5323																			UW, rhyolitic tuff w/ dissem py
5775																			UW, rhyolitic tuff w/ dissem py
5776																			UW, rhyolitic tuff w/ dissem py
5324																			UW, qz-ser sc
5325																			UW, rhyolitic crystal tuff w/ 15% py
6783		202	2		<28	<0.5	<2	<20		<0.5	<2	0.4	<0.5	<0.6	<0.5	<19			OC clasts of rhyolite and msv sulf
5800																			TP, interbedded sc & gs w/sl
6781		210	613		<49	<0.5	<2	<16		<0.5	<3	<0.4	<0.5	<0.9	<1.5	<20			OC gossan and rhyolite w/ sulf
6782		19	1.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	1.8	16			OC rhyolite w/ py,cp,sl
5359																			UW, sil sc w/15% py
5360																			UW, sil ser sc w/py
5798																			UW, ser sc w/dissem py
5799																			UW, sil sc w/py
5361																			UW, sil gs w/py
5375																			UW, ser sc w/py
5376	<5	<5	<5	<5															UW, ser sc w/py
5817																			OC, gs sc w/qz blebs & py
5814																			UW, fest sc w/dissem py
5377																			UW, ser sc w/py
5378																			UW, ser sc w/py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
155-3	5379	Broadgague adits	C	2.0	20	0.3	519	8	54											
155-3	5815	Broadgague adits	C	1.1	25	<0.1	24	6	117											
155-3	5816	Broadgague adits	SC	5.5@0.1	<5	<0.1	90	6	274											
156-1	5355	Trio workings	SC	3.0@0.3	26	0.6	1362	16	418											
156-1	5356	Trio workings	SC	3.0@0.3	25	0.2	316	5	346											
156-1	5357	Trio workings	G		76	2	7874	23	371											
156-1	5358	Trio workings	S	0.1	215	1.2	53	15	30											
156-1	5796	Trio workings	SC	3.0@0.3	27	<0.1	44	24	351											
156-1	5797	Trio workings	SC	4.9@0.3	31	0.2	235	14	221											
157-1	5136	Copper Cliff	C	1.8	206	9.6	18403	38	2203											
157-1	5137	Copper Cliff	C	3.0	81	1.3	645	102	535											
157-1	5138	Copper Cliff	S		453	5.6	639	17	53											
157-1	5600	Copper Cliff	C	2.0	397	7.1	6948	53	341											
157-1	5601	Copper Cliff	C	3.0	377	4.9	3697	26	538											
157-1	5602	Copper Cliff	C	2.7	269	2.7	990	64	503											
157-2	5603	Copper Cliff	S		292	13.9	3656	94	1838											
157-3	5139	Copper Cliff	C	2.4	843	20.7	4645	211	1016											
157-3	5140	Copper Cliff	CC	0.0	17	<0.1	34	6	69											
157-3	5141	Copper Cliff	S		383	6.6	2372	18	106											
157-3	5604	Copper Cliff	C	1.4	128	<0.1	75	10	123											
157-3	5605	Copper Cliff	C	1.5	227	1.6	57	66	309											
158-1	4149	Manhattan Moonshine	Rep	0.9	<5	<0.2	21	<2	404	4	9	2	<20	240		<10	0.46			
158-2	4154	Manhattan Moonshine	C	1.0	<5	<0.1	30	<2	9	2	19	4	70	186		<10	1.04			
158-2	4155	Manhattan Moonshine	S	0.15 x 0.15	<5	1.7	158	10	90	3	73	32	1600	56		<10	7.70			
158-2	4171	Manhattan Moonshine	S	3.0	<5	0.3	58	3	584	4	12	3	<20	250		<10	0.96			
158-2	4172	Manhattan Moonshine	Rep	0.6	<5	0.5	112	<2	18	4	31	13	30	232		<10	3.96			
158-2	4173	Manhattan Moonshine	C	0.5	<5	<0.1	60	<2	67	15	44	7	110	179		<10	1.46			
158-3	4148	Manhattan Moonshine	SS		<5	0.6	24	11	127	8	24	12	1900	20		<10	7.73			
158-4	4147	Manhattan Moonshine	Rep	1.5	<5	0.2	55	14	55	2	34	10	1800	165		<10	3.11			
159-1	4182	Yellowstone	S		<5	0.2	314	4	90	1	34	35	910	50		<10	>10			
159-2	4183	Yellowstone	S		13	7.2	12487	102	**7.89** *	81	42	197	250	54		<10	>10			
159-2	4184	Yellowstone	Rep	3.0	7	11.9	18362	3	1104	7	96	171	100	62		338	>10			
159-2	4185	Yellowstone	C	1.8	8	5.8	11703	7	2128	13	17	61	90	51		1431	>10			
159-2	4186	Yellowstone	C	1.2	14	0.8	1595	7	88	12	24	23	1300	42		30	9.88			
160-1	4190	Shellhouse	Rep		<5	1.1	2965	5	33	48	37	378	13	67	<20	<10	2.51		49	<1.0
160-1	4191	Shellhouse	C	1.1	<5	1.5	2859	6	40	59	37	397	10	66	<20	<10	2.58		45	<1.0
160-1	4192	Shellhouse	S	0.6	142	1.7	3256	8	34	<1	49	592	<5	84	<20	<10	2.90		35	<1.0
160-1	4462	Shellhouse	S	0.6	<5	<0.1	83	3	10	15	24	11			<5					
160-1	4471	Shellhouse	S		44	2.1	9653	5	65	10	47	504			26					
160-1	4472	Shellhouse	Rep	3.7	<5	<0.1	140	<2	33	13	42	29			13					
160-1	4473	Shellhouse	SS		<5	<0.2	45	5	28	5	6	18	860	14		<20	3.17			
160-1	4474	Shellhouse	Rep	1.8	<5	<0.1	92	<2	11	9	19	7			5					
160-1	4475	Shellhouse	Rep	1.2	<5	<0.1	243	3	16	100	17	49			6					
161-1	4161	Coco Harbor	S	0.15 x 0.15	<5	<0.1	44	5	55	174	32	14								
161-1	4188	Coco Harbor	Rep		<5	0.7	188	4	51	13	81	20	43	111	<20	<10	6.18		134	<1.0

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
5379																			UW,	ser sc w/py
5815																			UW,	py band in sc
5816																			UW,	msv gs w/dissem py
5355																			UW,	ser sc w/10% py & ml-stain
5356																			UW,	ser sc w/7% py
5357																			UW,	ser sc w/15% py, ml
5358																			TP,	msv py lens, 60% py
5796																			UW,	ser sc w/dissem py
5797																			UW,	ser sc w/dissem py
5136																			UW,	gs sc w/ sulf
5137																			UW,	gs sc w/ bands of py & cp
5138																			UW,	sil rock w/ >70% sulf
5600																			UW,	msv sulf in gs sc
5601																			UW,	gs + gs sc w/ sulf
5602																			UW,	gs sc w/ bands of py
5603																			MD,	msv py in silicic gs
5139																			OC,	sil gs sc w/ sulfide
5140																			OC,	qz vein
5141																			MD,	msv py with cp
5604																			OC ,	gs w/ sulf
5605																			TP,	gs w/ lenses of py
4149	<5	13	<5	<0.01	<0.2														OC,	qz vein in ar, aspy, py
4154	<5	19	<5	<0.01	<0.2														OC,	qz vein in ar, py, aspy, gn 1-3%
4155	<5	<5	<5	<0.01	<0.2														FL,	dacite float w/dissem py to 5%
4171	<5	<5	<5	<0.01	<0.2														FL,	qz float w/gn, py, aspy to 4%
4172	<5	7	<5	<0.01	<0.2														FL,	qz float upstream from 4171
4173	<5	<5	<5	<0.01	<0.2														OC,	qz vein in ar, sulf to 8%
4148	<5	20	<5	0.219																stream sediment, intense fest
4147	<5	6	<5	<0.01	<0.2														OC,	sil ar w/qz veins, py
4182	<5	<5	5	0.04															MD,	alt di dike, po to 2%
4183	100	48	76	0.034															TP,	mafic dike w/cp, py, po
4184	44	13	17	<0.01															TP,	mafic dike w/cp, py, po
4185	7	<5	<5	<0.01															TP,	alt mafic dike, dissem sulf
4186	<5	17	<5	0.022															TP,	alt mafic dike in shear
4190	26	<5	8		<10		<1		6										FL,	alt gd float w/py to 3%
4191	27	<5	10		<10		<1		6										FL,	msv sulf boulder in calc-silicate
4192	28	16	9		<10		<1		5										MD,	py to 90%, cpy to 5% in skarn
4462																			OC,	skarn, py to 5%
4471																			MD,	skarn, min w/cp, tr mo
4472																			OC,	br calc-silicate hn
4473	<5	<5	<5	0.089																silt, clay, gravel, no org
4474																			OC,	calc-silicate skarn
4475																			OC,	calc-silicate, py/po
4161																			FL,	gabbro float qz vein: mb, py, aspy
4188	<5	16	<5		16		6		11										FL,	siliceous gw float w/py, po to 6%

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
161-1	4189	Coco Harbor	Rep		<5	0.9	215	<2	16	1	8	23	60	53	<20	<10	9.02		61	<1.0
161-2	4470	Coco Harbor	Rep	7.6	<5	<0.1	133	<2	12	29	13	18			7					
161-3	4157	Coco Harbor	C	0.3	<5	<0.1	107	4	58	1	35	31	64	60	<20	<10	7.13		85	<1.0
161-3	4158	Coco Harbor	C	0.6	<5	0.6	69	4	36	2	11	10	77	83	<20	<10	7.83		92	<1.0
161-3	4165	Coco Harbor	C	0.6	<5	<0.1	168	<2	29	3	10	16	40	87	<20	<10	8.23		248	<1.0
161-3	4166	Coco Harbor	Rep	1.8	<5	0.4	122	5	50	2	14	25	25	116	<20	<10	>10		82	<1.0
161-3	4167	Coco Harbor	C	1.5	<5	<0.1	134	<2	21	4	34	35	50	62	<20	<10	7.81		59	<1.0
161-3	4174	Coco Harbor	SC	6.1@0.15	<5	0.8	176	<2	34	10	37	27	29	123	<20	<10	9.32		131	<1.0
161-3	4175	Coco Harbor	C	0.9	<5	<0.1	96	3	43	3	11	12	139	114	<20	<10	8.43		73	<1.0
161-3	4176	Coco Harbor	SC	4.57@ 0.1	<5	0.4	30	<2	56	2	12	8	188	86	<20	<10	7.36		62	<1.0
161-3	4177	Coco Harbor	C	1.3	<5	0.7	338	5	26	6	8	17	18	130	<20	13	>10		96	<1.0
161-4	4156	Coco Harbor	Rep	0.3 x 0.61	<5	0.9	115	4	18	4	1	12	51	62	<20	<10	7.35		43	<1.0
161-4	4187	Coco Harbor	Rep	3.0	<5	0.7	11	3	127	<1	11	12	57	62	<20	<10	8.73		86	<1.0
161-5	4169	Coco Harbor	C	0.5	34	0.3	44	20	90	18	40	13	79	74	<20	<10	7.55		34	<1.0
161-6	4160	Coco Harbor	C	0.3	<5	0.4	97	3	14	<1	11	21	29	30	<20	<10	5.58		142	<1.0
161-6	4162	Coco Harbor	C	0.3	<5	0.8	573	<2	6	2382	60	24	<5	89	<20	12	>10		16	<1.0
161-6	4163	Coco Harbor	S		<5	<0.1	185	<2	5	25	54	26	<5	184	<20	<10	4.92		11	<1.0
161-6	4164	Coco Harbor	Rep		<5	0.4	229	3	7	47	9	19	9	63	<20	<10	6.15		76	<1.0
161-6	4178	Coco Harbor	C	0.5	<5	1.1	487	<2	15	2	62	77	13	73	<20	11	>10		65	<1.0
161-6	4179	Coco Harbor	C	1.1	6	<0.1	69	<2	32	<1	4	12	126	78	<20	<10	6.73		23	<1.0
161-6	4180	Coco Harbor	C	0.8	21	1.2	601	<2	11	8	38	109	13	62	<20	22	>10		69	<1.0
161-7	4234	Coco Harbor	RC	0.6	13	0.4	10	20	8	16	26	25	54	20	<20	18	7.67		43	<1.0
161-8	4168	Coco Harbor	Rep		8	0.4	7	5	23	<1	4	4	100	7	<20	<10	2.51		18	<1.0
162-1		Silver Star		No Samples Taken																
163-1	4060	Gould-Sukkwan	C	0.9	<5	1.2	182	11	1187	2	42	18	167	134	<20	<10	7.76		189	<1.0
163-2	4061	Gould-Sukkwan	G		<5	1.2	485	4	55	<1	12	27	22	21	<20	12			78	
163-3	4073	Gould-Sukkwan	G		<5	<0.1	134	4	98											
164-1	4059	Lakeside	S	3.66 x 1.83	108	3.0	15658	6	24		2804	892		208			8.30		152	2
164-1	4070	Lakeside	S	0.91 x 0.61	34	0.8	4065	4	69		516	114		300			3.08		222	
164-1	4071	Lakeside	G		16	0.7	3260	4	432		361	127		400			2.57		183	
164-1	4072	Lakeside	S	0.61 x 0.61	19	0.6	3437	4	26		820	167		163			4.57		196	
Hetta Inlet Area																				
165-1	1669	Marion	SS		13	<0.2	110	17	89	3	8	16	439	8		<20	3.64			
165-2	1672	Marion	C	0.9	65	0.4	26	9	210											
165-3	1662	Marion	C	0.1	3828	12.6	514	274	5590	4	8	10	20	80	<20	42	2.92		2	116
165-3	1663	Marion	C	1.8	272	0.2	32	15	84											
165-3	1670	Marion	Rep	0.06 x 3.66	2669	12.4	362	15	5518											
165-3	1671	Marion	C	1.2	18	0.1	40	6	102											
165-4	1661	Marion	Rep	0.61 x 0.61	<5	<0.1	36	10	36											
165-5	1667	Marion	SS		<5	<0.2	52	14	114	4	9	14	358	11		<20	3.30			
165-5	1668	Marion	SS		<5	<0.2	58	14	83	2	11	13	332	14		<20	3.10			
165-6	1673	Marion	Rep	0.1 x 0.3	26	<0.1	8	8	28											
166-1	4085	Copper City	C	0.9	5658	**65.83** *	**3.30** *	560	**2.81** *			<1	6700							
166-1	4119	Copper City	C	1.1	819	**168.7** *	4622	189	832	2		16	120							
166-1	4121	Copper City	S		6511	**101.5** *	**4.96** *	2113	**9.44** *	30	5	9	48	69	<20	>2000	2.58		16	280
166-2	4120	Copper City	S	0.15 x 0.61	360	5.7	2509	200	**2.47** *	8		4	1300							

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
4189	<5	6	<5		21		3		8										FL,	alt gd float w/py to 2%
4470																			OC,	alt granodiorite
4157	<5	<5	<5		18		<1		5										OC,	skarn w/py to 20%
4158	<5	<5	<5		25		6		15										OC,	qz veins in hornfels w/py, aspy
4165	<5	11	<5		20		3		11										OC,	hornfels w/cp, py/po
4166	<5	8	7		19		6		19										OC,	hornfels/skarn w/cp, py to 10%
4167	<5	7	<5		15		1		6										OC,	green hornfels w/py, po clots
4174	<5	9	6		18		2		9										OC,	qz, garnet-epidote hornfels
4175	<5	6	<5		20		7		13										OC,	skarn along beach w/15% sulf
4176	<5	7	<5		14		10		11										OC,	hornfels w/py, po to 4%
4177	<5	<5	<5		28		5		14										OC,	skarn/hornfels zone w/50% sulf
4156	<5	13	<5		13		7		14										FL,	dolomitic marble float w/20% sulf
4187	<5	<5	<5		24		4		15										OC,	metagraywacke w/py to 5%
4169	<5	51	6		15		1		7										OC,	qz-calc ser sc, py to 3%
4160	<5	10	<5		14		2		10										OC,	hornfels/skarn zone w/py
4162	<5	<5	5		23		<1		7										OC,	qz vein w/ mb, py, cp, tr sl
4163	<5	<5	<5		15		<1		2										FL,	qz float w/ abundant sulf
4164	<5	<5	<5		14		3		13										RC,	calcareous-sc, py/po to 10%
4178	<5	<5	<5		25		1		10										OC,	calc-silicate skarn up creek
4179	<5	11	<5		11		9		14										OC,	alt di, qz, hornfels combo
4180	<5	<5	6		39		<1		8										OC,	calc-silicate hornfels, 30% sulf
4234	43	172	<5		41		2		10										RC,	dolomite w/dissem py to 5%
4168	8	17	<5		<10		3		12										FL,	metarhyolite float w/dissem py
	No Samples Taken																			
4060	<5	15	<5		22		8		17										OC,	hornfels metasediments
4061	<5	<5	<5				4.6	16	9	<1	1.4	0.19		<0.5	<1				FL,	metagraywacke float w/py to 5%
4073								64		<1	3	0.46		10	2.6				OC,	gd, syenite
4059		26			23												<5	4	MD,	pyroxenite/gabbro, cp to 10%
4070		<5															<5	3	MD,	pyroxenite/gabbro, py, cp
4071		49															<5	3	MD,	pyroxenite/gabbro
4072		45															<5	4	MD,	pyroxenite/gabbro, cp to 15%
Hetta Inlet Area																				
1669	<5	<5	<5	0.071																silt/clay, mafic mv bedrock
1672																			OC,	qz-carbonate vein w/chl sc partings, py, trace sl
1662	<5	46	9		13		<1		7										OC,	ribbon qz w/ cp, gn, sl, py to 10% combined
1663																			OC,	alt mafic dike, sil, fest, above shears
1670																			OC,	qz vein, sl to 15%, cp, py
1671																			OC,	alt mafic dike, end of first zone
1661																			OC,	sil sc w/py, cp, trace sl
1667	<5	16	<5	0.047																silt/clay, black pl bedrock
1668	<5	<5	<5	0.085																silt/clay, mafic mv bedrock
1673																			OC,	qz-carbonate vein, py , trace cp
4085																			UW,	chl/ser pl w/cp, gn, sp
4119																			OC,	sheared gs w/sulf stringers
4121	133	<5	25		12		<1		3										MD,	cp, py, ml, magnetite
4120																			OC,	msv sulf pod in metaspilite

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
167-1	4110	Nutkwa Inlet	C	0.5	204	1.4	137	16	176	9		<1	370							
167-2	4107	Nutkwa Inlet	C	0.9	31	1.1	1022	5	218			21	30							
167-3	4108	Nutkwa Inlet	S	0.3	45	<0.1	117	16	86	3	44	29	262	100	<20	23	>10		974	<1.0
167-4	4109	Nutkwa Inlet	C	0.9	163	0.6	187	16	295			4	330							
167-5	4079	Nutkwa Inlet	C	0.3	<5	<0.1	33	4	22			14	<20							
167-5	4080	Nutkwa Inlet	C	0.5	<5	<0.1	6	6	14			2	<20							
168-1	4069	Keete Inlet	S	0.6	291	7.1	17492	41	12462			15	760							
168-1	4075	Keete Inlet	C	0.6	59	0.4	200	6	95			3	850							
168-1	4076	Keete Inlet	C	1.2	14	<0.1	183	8	210			6	580							
168-1	4100	Keete Inlet	C	0.3	1230	10.7	2891	69	766			15	<20							
168-1	4101	Keete Inlet	C	0.9	614	5.0	1522	54	924			9	140							
169-1	4113	Lime Point	C	1.1	<5	<0.1	5	3	9				**12.88** *							
169-2	4081	Lime Point	C	1.2	<5	<0.1	5	5	8				**14.15** *							
169-2	4082	Lime Point	C	1.5	<5	<0.1	4	<2	4				**48.26** *							
169-2	4083	Lime Point	SC	12.2@0.3	<5	<0.1	4	<2	3				**55.12** *							
169-2	4111	Lime Point	SC	5.49@0.15	<5	<0.1	11	4	6				**56.78** *							
170-1	4066	Hozer	S	0.8	44	0.3	222	7	190			13	21							
170-2	4065	Hozer	C	0.6	23	0.3	256	7	355			4	220							
170-3	4062	Hozer	S	0.6	302	1.6	987	14	7662			6	250							
170-3	4063	Hozer	SC	9.14@ 0.3	116	0.6	428	6	418			8	90							
170-4	4064	Hozer	C	1.2	115	1.9	1546	19	5453			4	230							
172-1	4055	Gold Harbor	Rep	4.0	<5	<0.1	200	3	86	7	12	13			8	<2				
172-2	1614	Gold Harbor	SS		<5	<0.2	34	18	110	5	26	13	382	61		<20	3.63			
172-2	1615	Gold Harbor	S		7	0.2	143	6	151	4230					<5	4				
172-2	4047	Gold Harbor	C	1.5	<5	<0.2	36	3	53	3	2	7	39	68	<20	<10	1.78		25	<1.0
172-2	4048	Gold Harbor	C	0.3	<5	<0.1	11	6	39	14	2	4	8	8	<20	69	>10		75	<1.0
172-2	4054	Gold Harbor	Rep	6.1	<5	0.3	40	3	61	<1	3	5	22	82	<20	<10	2.97		32	<1.0
172-2	4204	Gold Harbor	S	2.4	14	0.2	93	<2	27	8	3	4	51	142	<20	<10	1.29		12	<1.0
172-3	1610	Gold Harbor	C	0.3	<5	0.3	112	10	188	223					29	25				
172-3	4056	Gold Harbor	S	0.9	<5	1.5	64	6	91	220	7	5	12	27	<20	23	>10		134	<1.0
172-3	4057	Gold Harbor	CC	0.37 x 0.06	9	2.0	4097	7	178	113	18	47			28	4.1				
172-3	4058	Gold Harbor	C	1.5	<5	1.5	58	5	264	431	3	6	41	35	<20	22	>10		203	<1.0
172-3	4205	Gold Harbor	SC	6.1@0.3	8	<0.2	7	<2	81	<1	18	10	<5	13	39	13	0.67		22	<1.0
172-3	4221	Gold Harbor	Rep	3.0	<5	<0.2	37	<2	63	166	11	11	6	116	27	31	>10		205	<1.0
172-3	4232	Gold Harbor	SC	6.1@0.23	<5	<0.1	10	<2	77	<1	18	14	<5	22	<20	<10	0.77		30	<1.0
172-3	4233	Gold Harbor	SC	6.1@0.23	<5	<0.1	6	<2	73	<1	10	14	<5	10	<20	<10	0.41		20	<1.0
172-4	1604	Gold Harbor	S	.07 x 7.62	<5	2.0	72	73	20000	42					<5	<2				
172-4	1609	Gold Harbor	Rep	0.3 x 1.22	7	<0.1	19	8	131	15	4	1	10	8	<5	<2	0.35		18	<1.0
172-5	1603	Gold Harbor	S		<5	<0.1	162	3	39	1025					<5	<2				
172-5	1606	Gold Harbor	S	0.0	33	24.3	24	915	371	730					<5	140				
172-5	1607	Gold Harbor	SS		<5	<0.2	38	14	184	6	17	23	252	108		<20	5.11			
172-5	1608	Gold Harbor	SS		<5	<0.2	34	8	117	5	19	26	185	66		<20	5.49			
172-5	4042	Gold Harbor	S	0.1	<5	<0.2	27	6	65	1	2	2	26	33	<20	<10	1.01		24	<1.0
172-5	4043	Gold Harbor	S										0.04	0.02						
172-5	4044	Gold Harbor	S	0.03 x 0.15	141	**150.5** *	160	5067	228	149	8	2			<5	<2				

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
4110																			FL,	qz chl sc float w/2% py
4107																			OC,	metagraywacke w/ml staining
4108	19	<5	15		90		<1		13										OC,	chl sc w/magnetite, py
4109																			FL,	qz chl sc float w/5% py
4079																			OC,	qz vein in chl sc, trace py
4080																			OC,	qz vein w/1-3% py
4069																			MD,	msv sulf w/py, cp to 60%
4075																			OC,	qz-ser sc w/py to 45%
4076																			OC,	qz-ser sc w/py to 30%
4100																			OC,	msv sulf, py to 80%, cp
4101																			OC,	msv sulf ore zone, qz rich
4113																			UW,	interbedded barite/ls
4081																			UW,	intercalated barite/limestone
4082																			UW,	hi-grade barite
4083																			OC,	msv barite
4111																			OC,	msv barite
4066																			OC,	tan ser sc, py to 4%
4065																			OC,	qz chl sc w/py to 3%
4062																			OC,	gs br w/sulfide stringers
4063																			OC,	gs br, tuffs, py to 3%
4064																			OC,	chl sc, metatuff, py to 3%
4055																			OC,	skarn w/py to 3%, cp clots
1614	11	11	<5	0.023																dry creek behind mo occurrence
1615																			FL,	mo in hn w/abundant hem
4047	8	<5	<5		<10		10		12										OC,	skarn + hornfels py, trace mb
4048	11	6	12		30		2		4										OC,	garnet skarn
4054	5	7	<5		<10		9		9										OC,	gd porphyry w/4% py
4204	<5	<5	<5		<10		14		13										OC,	alt di w/cp, py
1610																			OC,	mo in shear assoc w/skarn contact
4056	11	<5	6		22		<1		6										RC,	hornfels w/cp, mb, py
4057																			OC,	msv py, quartz, trace mb
4058	16	<5	8		29		3		9										OC,	skarn/hornfels in gd w/py, mb
4205	60	15	17		16		4		11										OC,	br ls cong, chert, dolomite
4221	46	55	<5		54		3		18										OC,	hornfels, qz veins in gd mb, py
4232	70	45	5		12		4		12										OC,	br marble cg, near skarn zone
4233	44	50	<5		36		2		11										OC,	br marble cg
1604																			OC,	en echelon qz veins w/sl, gn, cp
1609	6	21	<5		<10		3		<1										OC,	contact zone, marble<ls cng
1603																			FL,	qz vein w/hn, py, mo to 1%
1606																			OC,	qz vein w/tennantite, cp,mo, py
1607	7	<5	<5	0.03																silt/clay, no oxides, south zone
1608	6	<5	<5	<0.01																silt/clay, oxides, south zone
4042	<5	<5	<5		<10		7		9										OC,	skarn near gd contact
4043																			OC,	gd
4044																			OC,	qz vein w/tennantite, py, cp

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
172-5	4045	Gold Harbor	C	1.5	<5	1.7	5	83	162	9	16	2			7	3.1				
172-5	4046	Gold Harbor	G		45	<0.1	31	5	129	<1	4	17	58	29	<20	14	7.78		53	<1.0
173-1	4252	Mount Vesta	S	0.91 x 7.62	763	**393.6** *	12000	8243	1940	2	12	10	10	30	<20	<10	0.32		8	30
173-1	4253	Mount Vesta	S	0.1	1139	**889.7** *	2917	**3.34** *	395	<1	3	3	12	49	<20	<10	0.45		9	10
173-1	4263	Mount Vesta	S	0.61 x 0.3	391	**198.5** *	7847	114	1238	3	19	6	<20							
174-1	1656	Grace Harbor	S	0.1	45	1.9	5626	5	30	2	6	12	21	169	<20	<20	3.06	0.1	36	<1.0
174-1	1657	Grace Harbor	Rep	0.1	<5	<0.1	93	6	26	<1	3	6	13	77	<20	<20	3.38	0.22	59	<1.0
175-1	4222	Lucky Strike	S	3.0	<5	<0.1	22	<2	8	<1	5	4	<20	246		<10	0.77			
176-1	1625	Cone Mountain	S	0.2	36	**93.60** *	10	1756	71	29	58	12	19	205	<20	<20	1.93		46	<1.0
177-1	4244	Coning Point	S	0.1		1.6	38	39	24	2	83	10	37	22	<20	<10	1.93		21	<1.0
177-1	4245	Coning Point	Rep	0.9	<5	0.7	79	20	93			13	1200							
177-1	4275	Coning Point	S	0.2 x 0.61	<5	20.4	9169	5991	**5.03** *	4			<20		<5	<2				
178-1	4236	Lake Seclusion	S		4217	**1427** *	13771	4662	7036	2	45	9	80	145		<10	1.18			
178-1	4237	Lake Seclusion	Rep	1.5	<5	12.5	157	34	105	1	430	44	500	308		<10	4.27			
179-1		Foster		No Samples Taken																
180-1	4417	LI Group	C	1.8	13	0.5	385	66	380	4	26	21	240							
180-1	4418	LI Group	C	1.8	23	0.4	292	26	189	14	28	24	380							
180-1	4419	LI Group	C	1.8	104	31.4	3089	**0.82** *	**2.32** *		25	13	110							
180-1	4420	LI Group	C	1.8	48	5.1	2266	2579	7164	11	21	21	490							
180-1	4436	LI Group	C	1.8	<5	<0.1	86	8	125	3	30	23	1200							
180-1	4437	LI Group	C	1.8	20	0.2	111	24	87	4	51	25	1000							
180-1	4438	LI Group	C	1.8	19	0.5	140	30	93	5	32	13	380							
180-1	4439	LI Group	C	1.8	31	0.6	133	34	83	13	21	15	290							
180-1	4440	LI Group	C	1.8	34	0.4	120	15	170	4	41	31	360							
180-1	4441	LI Group	C	1.8	22	0.2	211	25	264	4	39	32	550							
180-1	4442	LI Group	C	1.8	<5	0.3	107	30	156	4	58	30	910							
180-1	4443	LI Group	C	1.8	311	4.5	698	147	169	19	27	20	720							
180-1	4444	LI Group	C	1.2	614	**95.66** *	9600	**3.62** *	**8.41** *	33	25	10	<20							
180-1	4445	LI Group	S	0.7	967	28.0	3296	1899	3197	143	22	12	110							
180-1	4446	LI Group	C	1.8	60	2.6	415	342	535	7	45	25	340							
180-1	4447	LI Group	S	0.3	754	3.9	403	144	115	28	42	16	20							
180-1	4451	LI Group	C	1.8	17	0.6	208	27	200	6	24	29	670							
180-2	4448	LI Group	Rep	1.2	27	1.3	116	465	1103	9	25	12	140							
180-2	4452	LI Group	C	0.5	<5	0.3	110	15	157	22	70	56	1300							
180-2	4453	LI Group	C	0.6	19	6.2	115	3141	8171	7	39	10	510							
180-2	4454	LI Group	S		<5	0.5	134	43	467	12	59	8	1000							
181-1		Alaska Load		No Samples Taken																
Bokan Mountain Area																				
182-2	5082	Geiger	C	1.2	<5	1.4	11	628	2012											
182-2	5083	Geiger	S	0.0	<5	0.2	24	15	32											
183-1		NW Bokan Mountain		No Samples Taken																
184-1	5084	South Arm, Moira Sound	S		42	15.7	**4.29** *	12	30				140							
184-1	5085	South Arm, Moira Sound	C	0.2	34	9.5	**2.48** *	4	68				170							
185-1		Sunday Lake		No Samples Taken																
186-1		I&L No 1 & Wennie		No Samples Taken																
187-1		Little Jim		No Samples Taken																

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
4045																			OC,	skarn near marble contact
4046	<5	<5	<5		16		4		11										FL,	hornfels float w/60% py
4252	392	1799	>2000		2.4		<1		3										UW,	tetrahedrite, ml
4253	>2000	350	1108		24		<1		4										UW,	tetrahedrite, ml in marble
4263																			FL,	marble float w/ ml, tet
1656	8	<5	<0.2		<10		1		2										FL,	tetrahedrite in qz vein, ml, cp to10%
1657	6	<5	0.4		<10		2		2										OC,	qz vein w/ank, tetrahedrite on margins
4222	<5	<5	<5	<0.01	<0.2														OC,	qz veins in chl sc, trace sulf
1625	266	<5	<5		28		<1		2										OC,	qz-calc vein w/ mo, gn
4244	10	18	14		<10		3		8										TP,	ca-ankerite shear vein, 2% py
4245																			OC,	qz/bt sc w/dissem py to 4%, cp
4275				0.767															FL,	qz ca vein w/ cp,gn,sl
4236	42	1435	>2000	50	0.2														TP,	ca vein in marble/chl sc
4237	7	21	78	0.298															TP,	chromium mica layers in marble
No Samples Taken																				
4417																			OC,	chl pl w/qz clot, cp
4418																			OC,	qz-chl sc, tr py, cp
4419																			OC,	stratiform qz w/in chl pl
4420																			OC,	chl pl, minor concordant qz
4436																			OC,	chl sc w/qz veinlets
4437																			OC,	chl-qz-ser sc
4438																			OC,	qz-ser-chl sc
4439																			OC,	chl-qz-ser sc
4440																			OC,	chl-qz sc
4441																			OC,	qz-chl sc
4442																			OC,	chl-qz pl
4443																			OC,	qz-chl pl, vein w/cp
4444																			OC,	high-grade material
4445																			OC,	qz vein, boudinaged
4446																			OC,	qz-chl sc w/minor sulf
4447																			OC,	qz vein w/msv py
4451																			OC,	chl-qz sc, py
4448																			OC,	gray qz w/py ar, marble
4452																			OC,	chl-qz sc w/qz pods
4453																			OC,	qz zone w/in felsic pl
4454																			OC,	sil ar, qz-rich
No Samples Taken																				
Bokan Mountain Area																				
5082							4650	7730		19.7	102	14		86	146				OC,	radioactive gs dike w/fine dissem py
5083							27.6	49		<1	2.9	0.45		4.6	1.9				OC,	py-calc fracture filling in chert
No Samples Taken																				
5084																			MD,	sil gs w/ cp
5085																			UW,	sil gs w/ cp
No Samples Taken																				
No Samples Taken																				
No Samples Taken																				

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
188-1		Little Joe		No Samples Taken																
189-1	5307	Bokan Mountain, summit	C	0.2	<5	0.4	68	92	320											
189-1	5761	Bokan Mountain, summit	C	0.5	28	0.3	48	74	287											
190-1		Irene D		No Samples Taken																
191-1	5762	Purple Pieper	G		12	<0.1	123	9	33											
192-1		ILM		No Samples Taken																
193-1		I&L		No Samples Taken																
194-1		Dotson Shear		No Samples Taken																
195-1		Ross Adams		No Samples Taken																
196-1		Dotson		No Samples Taken																
197-1		Kendrick Bay Placer		No Samples Taken																
198-1		Cheri		No Samples Taken																
199-1		Upper Cheri		No Samples Taken																
200-1		Shore		No Samples Taken																
201-1		Goeduck		No Samples Taken																
McLean Arm Area																				
202-1	5308	Nelson and Tift	Rep		<5	<0.1	102	6	47											
202-2	5086	Nelson and Tift	S	0.1	**104.4** *	**63.09** *	**7.77** *	23	608				<20							
202-2	5087	Nelson and Tift	Rep	3.0	288	0.2	361	3	9				<20							
202-2	5088	Nelson and Tift		0.2	799	2	2276	4	18				<20							
202-2	5567	Nelson and Tift	S		**44.26** *	**61.71** *	**10.48** *	21	585											
203-1	5310	Apex, lower road	SC	3.0@0.3	41	<0.1	1576	6	14	2										
203-1	5311	Apex, lower road	SC	16.5@0.3	33	0.2	1254	6	8	4										
203-1	5312	Apex, lower road	SC	4.0@0.3	204	0.4	3609	6	12	7										
203-1	5313	Apex, lower road	CC	0.2	504	0.6	7674	8	13	8										
203-1	5765	Apex, lower road	SC	12.2@0.3	561	0.2	1142	4	14	4										
203-1	5766	Apex, lower road	SC	3.7@0.3	51	0.2	1590	6	15	4										
203-1	5767	Apex, lower road	C	0.2	2207	1.5	10246	3	12	6										
203-1	5768	Apex, lower road	SC	4.9@0.3	63	<0.1	477	4	15	4										
203-2	5121	Apex Adit No. 1	C	3.0	33	<0.1	428	5	8	<1		18	7800							
203-2	5122	Apex Adit No. 1	C	3.0	130	<0.1	2018	5	7	<1			2800							
203-2	5123	Apex Adit No. 1	C	1.5	210	<0.1	2445	4	5	<1		9	>20000							
203-2	5124	Apex Adit No. 1	C	3.4	41	<0.1	1773	5	7	<1			10100							
203-2	5125	Apex Adit No. 1	C	2.4	121	<0.1	1279	5	5	<1			10000							
203-2	5126	Apex Adit No. 1	C	1.1	105	<0.1	810	5	7	2		17	1500							
203-2	5127	Apex Adit No. 1	C	2.1	87	<0.1	3618	<2	4	2			>20000							
203-2	5128	Apex Adit No. 1	C	1.2	185	0.9	11691	3	5	2			19800							
203-2	5129	Apex Adit No. 1	C	1.8	43	<0.1	1463	<2	6	<1			4800							
203-2	5130	Apex Adit No. 1	CC	0.1	212	1.7	**2.16** *	4	7	<1		6	3400							
203-2	5593	Apex Adit No. 1	C	1.6	52	<0.1	780	6	6											
203-2	5594	Apex Adit No. 1	C	3.0	497	0.4	6038	4	2				>20000							
203-2	5595	Apex Adit No. 1	C	2.0	284	0.6	8409	5	2				>20000							
203-2	5596	Apex Adit No. 1	C	1.8	136	0.4	4981	4	3				9500							
203-2	5597	Apex Adit No. 1	C	0.9	82	0.5	5531	5	<1				>20000							
203-2	5598	Apex Adit No. 1	C	3.6	56	0.2	4486	6	3				5900							
203-2	5599	Apex Adit No. 1	C	2.0	59	0.4	4524	4	6				1520							

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
	No Samples Taken																			
5307							323	950			290	43.7		51	55.6				OC,	pegmatite vein (qz, K-spar)
5761							618	1670			300	49		95	59				OC,	pegmatite vein in riebeckite granite
	No Samples Taken																			
5762							13.8	33			95	12.3		220	4.5				RC,	fluorite
	No Samples Taken																			
	No Samples Taken																			
	No Samples Taken																			
	No Samples Taken																			
	No Samples Taken																			
	No Samples Taken																			
	No Samples Taken																			
	No Samples Taken																			
	No Samples Taken																			
	No Samples Taken																			
	McLean Arm Area																			
5308							17	39			2.5	0.37		2	1.3				OC,	di
5086							1.7	<5		<1	<0.5	<0.1		<0.5	<1.0				TP,	qz w/ py and cp
5087							1.3	2		<1	<0.5	<0.1		<0.5	<1.0				TP,	cg & fg marble
5088																			TP,	gray limestone w/ py
5567																			TP,	sulf, marble
5310																			OC,	monz w/cp
5311																			OC,	monz w/cp
5312																			OC,	monz w/cp
5313																			OC,	qz-barite vein w/cp blebs @ margin
5765																			OC,	monz w/cp & ml
5766																			OC,	monz w/cp & ml
5767																			OC,	msv sulf zone w/cp
5768																			OC,	monz w/cp
5121																			UW,	monz w/ cp
5122																			UW,	monz w/ cp+ml
5123																			UW,	monz w/ cp+ml, qz stringers
5124																			UW,	fest sheared monz w/ ml+cp
5125																			UW,	monz w/ some fest
5126							26.9	49		<1	1.5	0.19		17	3.7				UW,	fest sheared monz w/ cp+ml
5127																			UW,	fest monz w/ cp+ml
5128							7.4	15		<1	1.1	0.12		6.4	2				UW,	monz w/ qz-barite stringers
5129																			UW,	sheared,argillitized monz
5130							1.7	3		<1	<0.5	<0.1		1.9	<1.0				UW,	qz-barite vein w/ cp+ml
5593																			UW,	syenite-monz
5594																			UW,	syenite-monz, qz-calc-barite
5595																			UW,	syenite-monz,mineraliz ed veins
5596																			UW,	br syn-monz,qz-calc-barite
5597																			UW,	shear gouge
5598																			UW,	min syenite-monz
5599																			UW,	syenite-monz, fault gouge

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
203-3	5119	Apex Adit No. 2	CC	0.9	330	0.5	6268	6	12	5		4	>20000							
203-3	5120	Apex Adit No. 2	S		**51.53** *	5.3	**7.68** *	6	15	12		10	960							
203-3	5314	Apex, number 2 adit vicinity	SC	10.1@0.3	28	<0.1	233	4	7	6										
203-3	5315	Apex, number 2 adit vicinity	SC	4.9@0.3	9	<0.1	208	5	10	3										
203-3	5316	Apex, number 2 adit vicinity	SC	25@0.3	<5	<0.1	303	5	7	2										
203-3	5317	Apex, number 2 adit vicinity	C	1.4	639	0.5	2418	10	6	5										
203-3	5591	Apex Adit No. 2	C	2.1	2312	0.5	5964	12	14				6100							
203-4	5592	Apex Adit No. 3	C	0.6	17	0.2	2831	4	5											
203-5	5763	Apex	SC	20@0.5	26	<0.1	1549	5	8											
203-5	5764	Apex	C	0.9	52	0.2	3494	4	5	5										
203-5	5769	Apex, number 2 adit vicinity	SC	7.3@0.3	66	0.2	2310	4	8	4										
203-5	5770	Apex, number 2 adit vicinity	SC	7.3@0.3	23	<0.1	90	8	12	3										
203-5	5771	Apex, number 2 adit vicinity	SC	26@0.3	44	<0.1	684	4	4	2										
203-6	5309	Apex upper trench	Rep	15.2	38	0.2	1689	6	6	5										
203-6	5318	Apex upper trench	Rep	7.3	18	<0.1	248	8	19	2										
203-6	5772	Apex upper trench	SC	9.8@0.3	78	0.2	1534	<2	4	3										
204-1	5662	Hillside and Wano			161	0.8	1969	8	18											
204-1	5663	Hillside and Wano	C	1.1	293	2.8	5678	5	12	5										
204-1	5664	Hillside and Wano	C	1.3	82	1.1	666	14	8											
204-1	5665	Hillside and Wano	S		7150	11.2	**2.79** *	10	14	4										
204-1	5666	Hillside and Wano	C	1.0	172	1.8	12580	<2	9											
204-1	5667	Hillside and Wano	Rep	0.3	115	0.7	2777	12	85											
204-1	5668	Hillside and Wano	Rep	1.7	435	0.7	9565	4	12											
205-1	5089	Veta	S		3024	5.6	12816	5	30											
205-1	5568	Veta	S		3395	25.7	**6.41** *	9	27											
205-2	5090	Veta	Rep	0.1	94	0.5	1833	<2	5											
205-2	5306	Veta	CC	0.1	3344	17.6	**3.56** *	12	45											
205-2	5569	Veta	S		7258	15.6	**3.63** *	7	10											
205-2	5760	Veta	C	0.4	3157	7.5	10600	19	161	11										
206-1	5132	Johnson and Gouley	C	0.3	14	0.3	635	44	72	9										
206-1	5133	Johnson and Gouley	CH	0.1	52	46.4	**7.54** *	49	156	11										
206-1	5134	Johnson and Gouley	C	0.3	8	0.5	931	87	122	14										
206-1	5135	Johnson and Gouley	CC	0.1	49	17.5	12533	63	67	15										
206-2	5131	Johnson and Gouley	S		208	4.4	86	72	26	364										
207-1	5300	Stone Rock Bay, N	S	0.2	214	4.7	4181	90	37	2										
207-2	5197	Stone Rock Bay, N	S		229	4.4	6206	8	62	8						3.3				
207-2	5198	Stone Rock Bay, N	S		402	8.6	3162	4	30	2						<2.0				
207-2	5756	Stone Rock Bay, N	S		31	1	2003	11	29	259										
208-1	5304	Stone Rock Bay, E	C	0.1	1445	6.4	7800	41	55	3										
208-2	5303	Stone Rock Bay, E	C	0.2	208	4.1	3400	24	134	7										
208-2	5757	Stone Rock Bay, E	Rep	0.3	159	1.5	1721	77	153	6										
208-3	5589	Stone Rock Bay, E	S		132	1.4	2681	177	311											
208-3	5590	Stone Rock Bay, E	C	1.2	49	0.3	649	25	165											
209-1	5295	Stone Rock Bay	SC	20@.6	40	2.9	2891	113	135											
209-1	5296	Stone Rock Bay	C	0.5	50	14.6	2743	**2.86** *	129											
209-1	5297	Stone Rock Bay	C	1.4	91	3	2760	104	160											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
5119							13	21		<1	1.7	0.18		5.2	2.1				UW, 3'wide shear zone w/qz stringers
5120																			MD, qz-barite-cp+py
5314																			OC, monz w/py & cp
5315																			OC, monz w/py & cp
5316																			OC, monz w/cp
5317																			OC, fest sheared monz
5591							110	251		<1	2	0.27		2.4	14.9				UW, qz-calc vein in qz monz
5592																			UW, qz-monz + sulf
5763																			OC, monz w/barite & sulf
5764																			OC, barite vein w/cp
5769																			OC, monz w/cp
5770																			OC, monz
5771																			OC, monz w/cp
5309																			OC, monz, sil in places w/cp
5318																			OC, monz
5772																			OC, monz w/barite, ml, py & cp
5662																			TP, intrusive w/ dissem. sulf
5663																			UW, min intrusive
5664																			UW, igneous intrusive w/ dissem sulfide
5665																			MD, silica-rich intrusive w/ dissem sul
5666																			TP, dissem sulf in intrusive
5667																			UW, fault gouge, igneous intrusive
5668																			UW, igneous intrusive w/ sulf
5089							4.6	7		<1	0.6	<0.1		0.6	<1.0				MD, qz-carbonate,alt gs, sulfide
5568																			RC, br of gs in qz vein w/sulf
5090																			TP, qz-calc vein w/ cp
5306																	<5	3	OC, sil band w/cp & ml
5569																			MD, qz, sulf
5760																	<5	7	TP, sulf zone in gs w/cp
5132																			OC, alt (clay) sil monz
5133																			OC, qz vein w/ 0.07 ft thick msv cp
5134																			OC, clay alt sil monz
5135																			OC, brec qz vein w/ ml and cp
5131																			RC, sil monz w/qz,calc, py
5300																			OC, syenite w/ml, az, cp
5197																			RC, sil syenite w/ cp
5198																			RC, sil band in syenite w/ cp & mo
5756																			RC, purple syenite w/calc veins & cp
5304																	5	19	OC, syenite w/ml, cp
5303																	<5	2	OC, sil zone w/po, py, ml & cp
5757							9000	12700			12	1.67		1430	707				OC, black carbonatite w/cp
5589							7230	14400		33.6	54	4.33		749	1080				OC, REE dike
5590							858	1830		2.7	4.7	0.49		209	96.8				CO, REE dike
5295																	17	30	UW, pyroxenite w/dissem cp & ml stain
5296																	9	85	UW, qz, qz-calc vein w/cp & ml
5297																	7	40	UW, pyroxenite w/irregular carbonate lens w/cp

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
209-1	5298	Stone Rock Bay	C	0.5	48	5	6949	326	109											
209-1	5299	Stone Rock Bay	C	0.4	48	6	6927	43	146											
209-1	5301	Stone Rock Bay	C	0.0	43	0.3	292	22	49											
209-1	5752	Stone Rock Bay	SC	20@0.3	39	0.7	517	8	105	5										
209-1	5753	Stone Rock Bay	S		268	8.3	5466	86	107	928										
209-1	5754	Stone Rock Bay	Rep		14	0.5	298	18	152	18										
209-1	5755	Stone Rock Bay	C	0.5	50	4.4	6063	9	99	8										
209-1	5758	Stone Rock Bay	C	0.3	22	0.3	426	<2	14	3										
210-1	5305	Stone Rock Bay, W adit	C	0.1	113	1.4	238	50	71											
210-1	5759	Stone Rock Bay, W adit	C	0.6	6	<0.1	221	7	88	17										
211-1	5367	AC prospect	Rep	0.6	<5	<0.1	11	15	40	3	2	63	1500	63		<20	1.91			
211-2	5808	AC prospect	Rep	0.3	<5	<0.1	38	8	106											
212-1	5363	Bug	G	0.1	6	0.4	216	49	195	31										
212-2	5804	Bug	Rep	0.9	<5	<0.1	154	7	71	11										
212-3	5801	Bug	Rep	1.2	<5	0.3	256	36	221	10										
212-4	5302	Bug	S	0.1	<5	0.2	274	41	56	4										
212-4	5362	Bug	Rep	1.5	21	0.9	124	24	126	26	3	47	1100	47		<20	2.99			
212-4	5803	Bug	Rep	1.8	<5	0.2	77	22	124	18										
212-5	5802	Bug	Rep	0.9	15	0.3	369	23	234	12	24	42	890	42		<20	6.54			
213-1	5281	Huaja Cliff	C	0.2	13	0.3	268	17	32											
213-1	5282	Huaja Cliff	C	0.2	11	0.6	1283	7	90											
213-1	5283	Huaja Cliff	C	0.6	3	<0.1	682	6	49											
213-1	5284	Huaja Cliff	Rep	0.0	4	1	1202	10	84											
213-1	5742	Huaja Cliff	Rep	2.4	5	<0.1	55	5	50											
Nichols Bay Area																				
214-1	5578	Lucile	C	3.0	<5	0.8	415	631	2154											
214-1	5579	Lucile	C	0.7	<5	1.7	272	3655	191											
214-2	5580	Lucile	C	1.3	9	1.4	209	1880	4865											
214-3	5587	Lucile	S		<5	0.4	316	246	1200											
214-4	5588	Lucile	S		<5	1.9	143	3870	645											
215-1	5094	Nichols Bay shaft	SC	4.6@0.3	<5	0.3	35	41	109											
215-1	5095	Nichols Bay shaft	SC	3.0@0.3	35	7.9	53	491	4907				1200							
215-1	5096	Nichols Bay shaft	C	1.2	<5	4	72	449	7688		50	11	1100							
215-1	5097	Nichols Bay shaft	C	0.9	<5	6.7	42	513	12400		40	8	<20							
215-1	5098	Nichols Bay shaft	SC	5.8@0.3	6	0.3	50	77	229											
215-1	5099	Nichols Bay shaft	SC	4.6@0.3	66	0.3	199	9	140											
215-1	5100	Nichols Bay shaft	S	0.2	<5	1	27	82	17158		24	2								
215-1	5101	Nichols Bay shaft	S	0.1	<5	5.8	53	273	18018		27	4								
215-1	5287	Nichols Bay shaft	SC	5.2@0.3	<5	0.4	45	80	352											
215-1	5288	Nichols Bay shaft	C	0.7	48	6.6	90	125	526											
215-1	5289	Nichols Bay shaft	C	0.5	23	6.2	73	153	657											
215-1	5290	Nichols Bay shaft	SC	5.2@0.3	<5	0.4	26	175	241											
215-1	5745	Nichols Bay shaft	SC	4.0@0.3	28	4.1	60	127	3732											
215-1	5746	Nichols Bay shaft	SC	3.7@0.3	15	5.5	23	258	6078											
215-1	5747	Nichols Bay shaft	SC	3.0@0.3	9	2.9	33	132	7316											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
5298																	20	74	UW,	qz-calc vein w/cp & ml
5299																	21	315	UW,	qz-carbonate w/ml & cp
5301																	<5	8	OC,	discontinuous py vein-lens
5752																	6	13	UW,	pyroxenite
5753																	<5	18	UW,	fault gouge w/cp, mo, sulf & carbonate
5754																	<5	13	UW,	pyroxenite w/qz veins & calc
5755																	14	61	OC,	qz vein w/cp in pyroxenite
5758																	11	14	UW,	qz-calc vein
5305																	<5	8	UW,	po-py band
5759																	8	7	OC,	sulf zone in pyroxenite
5367	<5	<5	<5	<5															RC,	granodiorite
5808							30	74			3.5	0.53		2.1	1.5				RC,	mafic volcanic w/dissem py
5363							560	588			4.6	0.63		6.8	13				OC,	monz w/py
5804																			OC,	monz w/fluorite & py
5801																			OC,	monz w/dissem py & fluorite
5302																			RC,	syenite w/dissem py & cp
5362	<5	7	<5	<5			150	257			2.8	0.36		17.6	24				OC,	monz w/py
5803																			OC,	pyroxenite w/qz stringers, py, fluorite
5802	<5	27	<5	<5															OC,	pyroxenite w/dissem py
5281							34	42.1			1	0.16		47	18		7	4	OC,	feldspar pegmatite
5282																	<5	2	OC,	fg mafic dike w/dissem po & cp
5283																	6	8	OC,	feldspar-hnbd-pegmatite zone w/cp
5284																	25	21	OC,	po, cp lens in pegmatitic zone
5742																	10	7	OC,	mafic intrusion w/abundant mag
Nichols Bay Area																				
5578																			UW,	qz vein + gs sc
5579																			UW,	qz vein
5580																			UW,	qz vein + gs sc
5587																			MD,	qz, chl sc
5588																			FL,	qz clasts w/ sulf
5094																			OC,	gray-green silicic volc w/ sulf
5095																			OC,	silicic volc,gw, sulf
5096																			OC,	silicic volc w/ sulf
5097																			OC,	silicic volc w/ 70% po+py
5098																			OC,	banded gw,volcanic layers
5099																			OC,	gray-green silicic volc w/ sulf
5100																			OC,	msv py, po w/ sl
5101																			OC,	msv py+po(yellow ore)
5287																			OC,	sil volc w/po
5288																			OC,	sil volc w/po & sl
5289																			OC,	sil volc w/po & sl
5290																			OC,	sil volc w/sulf
5745																			OC,	sil volc w/po & sl
5746																			OC,	20% po & sl
5747																			OC,	sil volc w/po & sl

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
216-1	5113	Nichols Bay, E shore	SC	9.1@0.3	26	1.9	132	541	141											
216-1	5114	Nichols Bay, E shore	S	0.2	61	5.6	827	1473	270											
216-1	5115	Nichols Bay, E shore	Rep	0.2	122	6.6	913	530	550											
216-1	5116	Nichols Bay, E shore	S		172	8.4	1400	9813	3213											
216-2	5571	Nichols Bay, E shore	S		39	0.2	534	17	72											
217-1	5093	Nichols Bay, SE	S	0.0	<5	<0.1	1282	5	122											
217-1	5570	Nichols Bay, SE	Rep		17	0.3	649	13	28											
218-1	5743	Nichols Bay, W side	C	0.2	84	1.2	261	21	405											
218-2	5285	Nichols Bay, W side	C	0.2	24	0.4	57	12	105											
219-1	5104	Barrier Islands, N	SC	6.1@0.3	<5	0.2	58	10	186				6600							
219-1	5105	Barrier Islands, N	C	0.0	<5	0.2	33	16	111		216	110								
219-1	5106	Barrier Islands, N	C	0.1	<5	0.6	108	30	67		109	23								
219-1	5107	Barrier Islands, N	C	0.2	<5	1.2	113	63	306		435	98								
219-1	5581	Barrier Islands, N	S		<5	0.6	138	42	201											
219-1	5582	Barrier Islands, N	S		<5	0.3	63	16	85											
220-1	5110	Barrier Islands, S	Rep	0.2	62	10.8	570	1475	13388		53	25								
220-1	5111	Barrier Islands, S	Rep	0.1	<5	1.6	53	355	1945											
220-1	5584	Barrier Islands, S	S		144	10.6	116	1606	865											
220-1	5585	Barrier Islands, S	C	1.4	82	3.4	47	591	950											
McLeod Bay Area																				
221-1	1641	Security Cove	SS		<5	<0.2	27	32	73	<1	24	15	142	210		<20	3.52			
221-2	1635	Security Cove	SS		<5	<0.2	18	18	81	<1	28	12	223	101		<20	2.70			
221-2	1636	Security Cove	C	0.6	<5	0.2	18	19	99		20	11	103	106	<20	<20	3.88		76	<1.0
221-2	1640	Security Cove	Rep	0.5	<5	<0.1	19	12	74	2	15	14	67	104	<20	<20	3.00		44	<1.0
221-3	1627	Security Cove	C	0.2	15	3.5	263	885	1400	53	96	69	17961	51	<20	<20	8.71		30	<1.0
221-3	1628	Security Cove	C	0.9	<5	<0.1	60	8	47		11	9	243	3	<20	<20	3.80		14	<1.0
221-3	1629	Security Cove	C	0.4	11	0.3	12	12	44				473							
221-4	1626	Security Cove	S		8	0.8	22	17	3030	58	113	89	>20000	34	<20	<20	>10		12	2.5
221-4	1633	Security Cove	C	1.5	<5	0.1	28	71	1240	24	58	41	8241	56	<20	<20	6.73		33	<1.0
221-4	1634	Security Cove	C	1.5	9	1.7	432	28	128	16	38	21	5457	40	<20	<20	2.72		36	<1.0
221-4	4022	Security Cove	CC	0.2	357	6.3	42	116	2885	106	200	52	**2.30** *	107	<20	<10	>10		19	12
221-4	4023	Security Cove	CH	0.1	210	1.9	42	320	3647			69	18300							
221-4	4024	Security Cove	C	1.5	41	0.6	28	52	1652			72	16900							
221-4	4025	Security Cove	C	0.1	41	4.0	21	40	3609	100	189	163	**1.45** *	92	30	<10	>10		12	17
221-4	4027	Security Cove	S	0.2	17	1.5	34	16	67	25	35	15	930	87	<20	25	>10		31	<1.0
221-4	4028	Security Cove	Rep	3.0	<5	0.2	16	66	695			29	7500							
222-1	4426	Datzkoo Harbor	C	0.6	12	0.3	4	12	15		18	2	1900							
222-2	4412	Datzkoo Harbor	Rep	4.6	77	0.7	40	42	54		3	<1	550							
222-3	4427	Datzkoo Harbor	SS		<5	<0.2	65	20	494	5	72	27	1200	159		<20	5.77			
222-4	4413	Datzkoo Harbor	S	0.6 x 0.6	241	1.6	84	78	116		6	<1	1200							
222-4	4428	Datzkoo Harbor	SS		<5	<0.2	56	26	426	3	57	21	1300	28		<20	5.49			
222-5	4414	Datzkoo Harbor	S	0.5	9	<0.1	10	14	56		12	<1	810							
222-6	4416	Datzkoo Harbor	S	0.5	14	0.7	60	36	27		13	6	13100							
222-6	4429	Datzkoo Harbor	S		14	0.5	75	19	53		19	9	500							
222-7	4415	Datzkoo Harbor	S	0.6	<5	0.4	135	9	143		85	21	710							

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
5113																			TP,	sil intrusive w/ sulf
5114																			TP,	qz w/ 15% sulf
5115																			TP,	qz vein w/ sulf
5116																			MD,	qz vein w/ sulf
5571																			OC,	qz-carbonate vein
5093																			OC,	cp & ml along dike margin in shear
5570																			OC,	qz-calc vein
5743																			OC,	msv sulfide lens
5285																			OC,	sil gs w/bands of py
5104																			OC,	orange fest qz ser sc w/ py
5105																			OC,	sil sc w/ py
5106																			OC,	qz-rich band w/ py
5107																			OC,	qz-ser sc w/ msv py/po
5581																			OC,	msv sulf in mudstone
5582																			OC,	msv sulf + mudstone?
5110																			OC,	qz ser sc w/ sulf
5111																			OC,	sil band in volcanic rocks
5584																			OC,	msv sulf + qz
5585																			OC,	qz-rich zone w/ sulf
McLeod Bay Area																				
1641	7	<5	10	0.065																gray mixed clay, sand
1635	6	<5	<5	<0.01																fest zone of alt sc, dry creek
1636	6	<5	<5		<10		9		27										OC,	alt sc at marble-metavolc contact
1640	6	<5	<5		<10		10		29										OC,	qz-ser sc, fest
1627	13	797	5		<10		<1		2										OC,	msv sulf ore, 121m from main exposure, gn, sl
1628	7	<5	<5		<10		<1		15										OC,	metabasalt w/marble interbeds, py to 5%
1629																			OC,	ankerite-calc vein in basalt
1626	10	571	<5		<10		<1		<1										OC,	silica-rich msv sulf ore, py, sl to 50%
1633	<5	254	<5		<10		<1		2										OC,	chl, qz sc w/sl, py to 70%, near 4022
1634	6	461	9		<10		<1		<1										OC,	cont of sample 1633, msv sulf zone
4022	8	1013	34		90		<1		9										OC,	msv py in marble
4023																			OC,	msv py
4024																			OC,	msv py, calc sc, marble, chl sc
4025	18	1411	55		80		<1		5										OC,	msv py
4027	8	448	7		27		<1		7										OC,	msv py w/qz pods
4028																			OC,	marble w/msv py
4426																			OC,	metarhyolite w/sulf
4412																			OC,	qz-ser sc/chl sc
4427	<5	31	<5	0.058																sand, silt, clay
4413																			FL,	sil rhyolitic tuff
4428	<5	42	<5	0.111																silt, clay
4414																			FL,	qz-mica sc w/ar, pl
4416																			FL,	qz-mica sc w/sulf
4429																			OC,	metased, chl sc w/qz stringers
4415																			FL,	sil gp pl, sulf

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
223-1	4193	McLeod Bay/Virginia claims	C	1.2	109	0.4	50	<2	23	4	7	1	<20	254		<10	0.39			
223-1	4194	McLeod Bay/Virginia claims	C	0.8	62	0.3	73	<2	21	3	9	7	<20	87		<10	1.41			
223-2	4195	McLeod Bay/Virginia claims	SC	1.83@0.15	<5	<0.1	128	7	56	1	34	28	70	100		<10	7.86			
223-3	4207	McLeod Bay/Virginia claims	SC	2.44@0.1	<5	<0.1	108	9	52	8	101	30	110	305		<10	6.05			
223-4	4196	McLeod Bay/Virginia claims	C	2.0	<5	<0.1	14	3	30	<1	11	16	30	26		21	1.74			
223-4	4197	McLeod Bay/Virginia claims	C	1.1	<5	<0.1	10	7	33	<1	10	9	<20	24		<10	2.00			
223-4	4198	McLeod Bay/Virginia claims	C	1.4	1937	10.4	22	16	14	<1	13	7	<20	190		<10	1.39			
223-4	4199	McLeod Bay/Virginia claims	C	1.2	72	0.5	59	<2	15	3	8	6	<20	159		83	0.98			
223-4	4200	McLeod Bay/Virginia claims	C	0.6	2151	13.4	430	60	36	<1	16	7	30	146		<10	1.59			
223-4	4201	McLeod Bay/Virginia claims	SC	3.35@ 0.1	1455	8.3	18	5	12	4	10	4	<20	261		<10	0.63			
223-4	4202	McLeod Bay/Virginia claims	Rep	4.6	4827	33.9	9	166	84	<1	6	4	<20	184		<10	0.93			
223-5	4203	McLeod Bay/Virginia claims	C	0.3	1778	27.4	670	2170	957	8	59	8	<20	221		<10	2.22			
223-5	4208	McLeod Bay/Virginia claims	Rep	0.9	66	1.0	112	135	191	9	163	23	210	111		<10	5.70			
223-6	4209	McLeod Bay/Virginia claims	Rep	0.9	7	0.2	267	<2	77	14	9	27	180	122		17	>10			
224-1	1651	Koo/Precious	SC	3.05 x 0.15	<5	<0.1	4	6	11	<1	5	2	4570	56	<20	<20	1.90		3	<1.0
224-1	1652	Koo/Precious	SC	3.05 x 0.15	<5	<0.1	3	11	32	<1	6	4	714	83	<20	<20	3.03		5	<1.0
224-1	1653	Koo/Precious	SC	3.05 x 0.15	<5	<0.1	17	89	235	2	3	<1	339	61	<20	<20	1.82		6	<1.0
224-2	1644	Koo/Precious	Rep		9	<0.1	6	18	30	4	4	<1	1507	67	<20	<20	2.13		3	<1.0
224-2	1654	Koo/Precious	SC	3.05 x 0.15	48	<0.1	12	14	44	3	4	2	742	50	<20	<20	1.82		4	<1.0
224-3	1643	Koo/Precious	Rep		<5	0.2	42	17	96	1	16	5	521	80	<20	<20	2.52		63	<1.0
224-4	1642	Koo/Precious	Rep		<5	0.2	483	7	6503	6	68	36	1299	122	<20	<20	6.10		186	27.6
224-5	4001	Koo/Precious	C	0.6	<5	<0.1	20	5	28							<2				
224-5	4002	Koo/Precious	C	0.2	<5	0.2	25	119	415				<20			<2				
224-5	4003	Koo/Precious	C	1.5	<5	<0.1	385	13	5945				630							
224-6	4006	Koo/Precious	C	0.8	<5	<0.1	44	4	83							<2				
224-7	4007	Koo/Precious	C	0.2	<5	<0.1	24	5	115											
224-7	4008	Koo/Precious	C	0.5	<5	<0.1	33	6	108		63	26	770							
225-1	4422	McLeod Bay/Elk claims	Rep	15-20	13	0.1	47	34	378											
225-2	4010	McLeod Bay/Elk claims	C	0.6	100	0.8	11	9	13							12				
225-3	4011	McLeod Bay/Elk claims	C	1.5	117	0.4	30	10	115							14				
225-3	4012	McLeod Bay/Elk claims	C	1.8	14	<0.2	20	5	60	1	3	7	66	58	<20	<10	3.96		32	<1.0
225-3	4013	McLeod Bay/Elk claims	C	0.8	106	0.2	122	10	124							7.5				
225-3	4014	McLeod Bay/Elk claims	C	1.5	7	<0.1	19	<2	45							2.1				
225-4	1650	McLeod Bay/Elk Claims	Rep	3.0	<5	2.1	6	7	16	3	15	6	8	132	<20	102	1.35		8	<1.0
225-5	1649	McLeod Bay/Elk Claims	C	1.8	<5	1.3	261	1450	865	2	29	23	19	50	<20	<20	4.77		116	17.4
225-5	4423	McLeod Bay/Elk claims	S	0.6	438	2.6	61	12	30											
225-6	4009	McLeod Bay/Elk claims	Rep	0.5	**43.85** *	**167.0** *	388	1396	784							3.9				
225-6	4021	McLeod Bay/Elk claims	S	0.5	**117.1** *	**510.2** *	11264	**2.17** *	713	3	8	2	15	169	<20	8.2	3.36		9	13
225-6	4406	McLeod Bay/Elk claims	C	0.8	361	1.4	4	6	39											
225-6	4407	McLeod Bay/Elk claims	S	0.6	1154	4.1	4	8	34											
225-6	4408	McLeod Bay/Elk claims	S	0.6	**76.11** *	**321.9** *	13847	8953	1058											
225-7	4004	McLeod Bay/Elk claims	C	0.9	287	1.4	33	4	33							451				
226-1	7136	Lucky Chance	C	1.5	<5	0.4	30	8	41											
226-1	7143	Lucky Chance	C	1.5	<5	1.3	29	102	41	4										
226-1	7144	Lucky Chance	C	1.5	9	1.3	23	19	73	13										

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
4193	<5	<5	<5	<0.01	1														OC, qz vein, trace gn, py
4194	<5	<5	<5	<0.01	<0.2														OC, qz chl sc, trace sulf
4195	<5	13	5	<0.01	0.3														OC, sil green pl, py to 2%
4207	<5	<5	<5	<0.01	<0.2														OC, metagraywacke w/py, po to 5%
4196	18	63	<5	<0.01	0.6														OC, calc-chl sc w/4% dissem py
4197	<5	<5	<5	<0.01	1.4														OC, pyritic white marble
4198	<5	<5	<5	0.041	8														OC, br qz vein, trace cp, gn, 8% py
4199	8	<5	<5	<0.01	4.2														OC, qz vein w/cp, py to 5%
4200	<5	8	<5	0.043	9.3														OC, qz vein w/py stringers
4201	<5	<5	<5	0.039	5.2														TP, qz vein w/fest, ser
4202	8	<5	<5	0.228	30														TP, qz vein/calc-sc w/py to 1%
4203	24	43	6	0.094	12														OC, qz vein w/cp, gn, py to 3%
4208	<5	206	<5	<0.01	0.8														OC, qz vein in qz chl sc w/cp, gn
4209	<5	13	<5	<0.01	<0.2														OC, qt, qz vein w/cp, py
1651	<5	<5	<5		<10		10		3										OC, ser-qz sc w/5% py
1652	<5	10	<5		<10		9		4										OC, ser-qz sc w/10% py
1653	<5	6	<5		<10		10		4										OC, qz-ser sc w/py to 2%
1644	<5	26	7		<10		8		3										OC, ser-qz sc, py to 8%
1654	<5	<5	6		<10		8		5										OC, qz-ser sc w/py to 5% locally, boudins
1643	7	14	<5		<10		3		3										OC, mafic unit in ser-qz sc, cp, py to 15%
1642	14	<5	<5		<10		<1		2										OC, ser-qz sc, py to 5%
4001		2.3			<0.2														OC, qz vein
4002					<0.2														OC, qz-ser sc
4003																			OC, metarhyolite, py to 5%
4006																			OC, qz vein, trace py
4007																			OC, felsic sc, qz vein
4008																			OC, basalt w/py to 2%
4422																			OC, sil gw sc, py/po
4010		1.7			5.1														OC, qz vein, fest
4011		2			<0.2														UW, sil chl sc
4012	<5	<5	<5		<0.2		18		12										UW, sil chl sc, py to 1%
4013		1.2			<0.2														UW, qz veinlets in chl sc
4014		<1.0																	UW, decomposed sc w/qz veinlets
1650	<5	<5	<5		<10		2		3										OC, sil mafic volc, py to 2%, surrounds hi-grade pod
1649	5	<5	<5		<10		6		15										OC, qz-carb vein in sil mv, py, sl, gn
4423																			OC, qz vein, py, tr cp
4009		3.7			100														OC, qz vein w/py to 5%
4021	<5	204	<5		338		<1		3										OC, qz vein, ml to 5%, trace gn
4406																			OC, qz vein w/chl partings
4407																			FL, qz vein w/up to 15% sulf
4408																			OC, qz-vein br, cp, gn
4004																			OC, br qz vein
7136																			UW, bt gneiss (80%), qz (20%), py to 5%
7143																			UW, bt gneiss (75%), qz (25%), trace mo
7144																			UW, bt gneiss (75%), qz (25%), trace mo

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
226-1	7145	Lucky Chance	C	1.8	18	0.9	15	15	29	5										
226-1	7146	Lucky Chance	C	0.3	<5	0.6	47	9	68	6										
227-1	7160	Burroughs Bay	Rep		6	0.2	40	12	48	71										
227-1	7161	Burroughs Bay	Rep		<5	0.2	12	75	70	249										
227-1	7162	Burroughs Bay	Rep		54	<0.1	2	18	17	336										
227-1	7164	Burroughs Bay	Rep		<5	<0.1	8	11	16	372										
227-2	7154	Burroughs Bay	Rep	3.66 x 3.05	<5	<0.1	2	19	21	114										
227-2	7163	Burroughs Bay	Rep		<5	<0.1	5	15	17	172										
227-2	7165	Burroughs Bay	Rep		<5	<0.1	8	13	27	90										
227-3	7149	Burroughs Bay	Rep	3.05 x 3.05	<5	<0.1	31	10	22	47										
227-3	7150	Burroughs Bay	Rep	3.66 x 1.52	<5	<0.1	12	9	10	99										
227-3	7151	Burroughs Bay	Rep		9	0.2	96	9	15	23										
227-3	7152	Burroughs Bay	Rep	4.57 x 3.05	<5	<0.1	4	10	18	231										
227-3	7153	Burroughs Bay	Rep	4.57 x 4.57	<5	<0.1	<1	9	26	75										
Mount Burnett Area																				
228-1	7140	Alaskite Nose	S		6	1.4	<1	719	255	3					9	6				
228-2	7141	Alaskite Nose	S	0.4	237	**88.46** *	40	**2.35** *	2921	4					8	<2				
228-3	7142	Alaskite Nose	Rep	1.5	7	3.3	<1	1034	156	4					18	<2				
229-1	7138	Vixen Inlet	Rep	9.15 x 4.57	<5	<0.1	23	10	21											
229-2	7127	Vixen Inlet	Rep	1.8	<5	0.3	81	17	121											
229-3	7128	Vixen Inlet	C	0.6	<5	0.3	90	14	122											
229-3	7129	Vixen Inlet	S	0.2	<5	<0.1	11	7	5											
229-3	7137	Vixen Inlet	S	0.1	<5	1.2	109	89	11											
230-1	7134	Mount Burnett drainages	PL	0.1	2016	0.3	20	7	49											
230-2	7132	Mount Burnett drainages	PL	0.1	4	0.1	10	7	37											
230-3	7133	Mount Burnett drainages	PL	0.1	25	<0.1	11	7	42											
230-4	7131	Mount Burnett drainages	PL	0.1	534	<0.1	22	6	50											
230-5	1702	Mount Burnett drainages	PL	8 pans	222	<0.1	10	<2	33					332						
230-6	7135	Mount Burnett drainages	PL	0.1	887	0.1	29	20	80											
230-7	1701	Mount Burnett drainages	PL	16 pans	174	<0.1	8	3	32					408						
230-8	1809	Mount Burnett drainages	PC	4 pans	1	<0.1	15	<2	18					654						
230-9	1806	Mount Burnett drainages	PC	2 pans	63	<0.1	22	8	76					2816						
230-10	1805	Mount Burnett drainages	PL	16 pans	3135	2.6	14	6	54					1248						
230-11	1810	Mount Burnett drainages	PL	16 pans	5	<0.1	18	4	79					2056						
230-12	1811	Mount Burnett drainages	PC	4 pans	84	<0.1	8	3	33					705						
230-13	1812	Mount Burnett drainages	PC	4 pans	21	<0.1	15	4	49					777						
230-14	1807	Mount Burnett drainages	PC	4 pans	4887	<0.1	25	5	33					588						
230-15	1699	Mount Burnett drainages	PL	8 pans	57	<0.1	11	<2	29					410						
230-16	1700	Mount Burnett drainages	PC	4 pans	4020	<0.1	10	3	19					140						
230-17	1808	Mount Burnett drainages	PC	4 pans	7	<0.1	7	<2	35					634						
230-18	1698	Mount Burnett drainages	PC	8 pans	4	<0.1	8	<2	34					2874						
230-19	7148	Mount Burnett drainages	PL	0.1	82	<0.1	16	7	77											
231-1		Mount Burnett Chromite		No Samples Taken																
232-1	7130	Union Bay Iron	S		<1	<0.1	24	7	51								**45.64** *			
233-1	7403	Wixon	Rep	3.1	267	0.9	243	32	8											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
7145																			UW, qz-rich bt gneiss, py to 3%
7146																			UW, qz vein w/minor gneiss, py to 5%
7160																			OC, bt gd gneiss (55%), aplite (45%), mo
7161																			OC, aplite (75%), qz monz porph
7162																			OC, qz monz porph (60%), aplite (40%)
7164																			OC, aplite (40%), qz monz porph (60%),mo to 0.1%
7154																			OC, fg to mg qz monz porph
7163																			OC, qz monz porph, rare mo
7165																			OC, qz monz porph, trace mo
7149																			OC, gneiss-aplite contact zone
7150																			OC, mg qz monz porph, mo in fractures
7151																			OC, alt qz-rich gd porph, py to 3%
7152																			OC, mg qz monz porph
7153																			OC, cg qz monz porph
Mount Burnett Area																			
7140																			OC, muscovite alaskite, gn, sl, py
7141																			OC, qz-calc veins in alaskite, gn to 10%
7142																			UW, alaskite w/qz-calc veins
7138							2	5	<1	<1	<1	<0.2		<0.5	<1				OC, qz veins/veinlets, py on margins
7127																			OC, alt qz-bt sc w/black pl host
7128																			TP, alt pl, dissem py to 2%
7129																			TP, qz float (dump), lower pit
7137																			OC, qz vein, cp, ml, py
7134																	3166	35	one color, mag
7132																	54	11	mag, garnet
7133																	55	15	two very fine colors, mag, garnet
7131																	18	123	mag, garnet in concentrate
1702																	71	6	mag, chromite cons
7135																	53	7	two very fine colors, py, minor mag
1701																	4809	99	abundant black sands
1809																	21	33	few black sands, abundant di float
1806																	3376	455	east trib to Vixen Creek, below K1805
1805																	**19.44 ***	99	upstream from high Pt value, vis Au here
1810																	2777	42	vis Au, ? silver mineral, black sands
1811																	306	17	4 silvery minerals, 1 Au fleck
1812																	448	31	abundant black sand, 2 silver/1 Au fleck
1807																	4293	81	west trib to Vixen Creek, di/metavolc float
1699																	22	7	black sand cons
1700																	570	19	w. side of valley, poor cons
1808																	23	7	trib upstream from K1700
1698																	9	2	upper valley, delta in pond, mag, chromite in conc
7148																	1214	53	few colors, minor garnet, trace mag
No Samples Taken																			
7130																	22	9	OC, mag pyroxenite
7403																			TP, composite from 13 small qz veins

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
233-1	7409	Wixon	S		4698	2.4	64	719	12	2	7	11	7	302	<20	<20	2.72		7	<1.0
								Helm Bay Area												
234-1	7043	Sleeping Beauty	C	1.5	7737	0.3	70	8	64						12	18				
234-1	7044	Sleeping Beauty	C	0.6	**13.61** *	0.6	38	7	44											
234-1	7046	Sleeping Beauty	C	0.8	2255	<0.1	152	6	71						15	6				
234-1	7047	Sleeping Beauty	C	0.7	3267	<0.1	20	6	37											
234-1	7048	Sleeping Beauty	S		61	<0.1	45	3	44											
235-1	7010	Portland	C	0.6	9596	1.2	77	23	46						8	5				
235-1	7011	Portland	C	1.6	5702	0.7	8	15	28											
235-1	7012	Portland	C	0.9	1388	0.2	2	8	8											
235-1	7013	Portland	C	0.6	**14.88** *	1.3	47	15	66											
235-1	7014	Portland	C	0.5	2532	0.6	19	20	36						8	3				
235-1	7015	Portland	C	1.2	5383	0.9	510	12	40											
235-1	7016	Portland	SC	3.05@0.15	5610	0.8	501	12	36											
235-1	7017	Portland	C	0.8	774	0.3	133	11	44											
235-1	7018	Portland	C	0.9	1388	0.3	37	12	46											
235-1	7019	Portland	C	0.7	6699	0.8	89	7	22											
235-1	7020	Portland	C	0.8	38	<0.1	40	13	72											
235-1	7021	Portland	C	1.5	177	<0.1	106	8	79											
235-1	7022	Portland	C	3.1	738	<0.1	76	8	63											
235-1	7023	Portland	Rep	0.5	**54.03** *	5.8	21	28	19						12	7				
235-2	7045	Portland	C	1.5	145	<0.1	32	4	54											
235-2	7049	Portland	C	0.6	3941	0.3	45	7	38											
235-2	7050	Portland	C	0.6	155	<0.1	45	4	56											
235-2	7051	Portland	C	0.5	6567	1.0	17	10	43						11	9				
235-2	7052	Portland	S	0.5	**18.86** *	2.0	52	18	88											
235-2	7053	Portland	C	0.4	8353	0.7	195	6	35											
235-2	7054	Portland	Rep	3.7	221	<0.1	21	<2	15											
236-1	7024	Freegold	C	0.7	6275	2.5	51	10	39						7	<2				
236-1	7025	Freegold	S	0.8	**17.31** *	7.7	49	24	41						11	10				
236-1	7026	Freegold	C	1.0	736	0.3	114	6	33											
236-1	7027	Freegold	C	0.4	2708	1.9	14	54	40						8	8				
236-1	7028	Freegold	C	1.1	496	0.6	90	12	52											
236-1	7029	Freegold	Rep	1.5	126	<0.1	136	7	77											
236-1	7030	Freegold	C	1.5	476	0.2	71	7	41											
236-1	7031	Freegold	Rep	1.7	902	0.3	92	10	38											
236-1	7032	Freegold	C	1.4	33	<0.1	19	3	27											
236-1	7033	Freegold	C	1.7	79	<0.1	69	3	32											
236-1	7034	Freegold	C	0.9	390	0.2	45	13	23											
236-1	7035	Freegold	C	0.5	2027	0.6	88	6	39											
236-1	7036	Freegold	C	0.5	45	<0.1	26	7	32											
236-1	7037	Freegold	C	0.6	130	<0.1	91	9	46											
236-1	7038	Freegold	C	1.7	25	<0.1	104	8	78											
236-1	7039	Freegold	C	1.8	566	<0.1	86	5	46						9	<2				
236-1	7040	Freegold	C	0.9	1621	0.3	41	11	53											
236-1	7041	Freegold	C	0.6	747	<0.1	39	4	26											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
7409	<5	412	<5		<10		5		<1										OC, qz vein w/ gn, sl, cp, py to 5%
Helm Bay Area																			
7043					0.5														TP, chl sc (70%),qz (30%),py to 3% on fw
7044																			TP, chl sc w/0.5m qz vein, fest
7046					<0.2														UW, qz-calc veins in chl sc, visible Au
7047																			UW, concordant qz veins, chl sc, py 5%
7048																			OC, stockwork veins w/minor gs sc
7010					<0.2														UW, sheared chl sc, py 3-15%
7011																			UW, qz vein, py <2%, adj to fault
7012																			UW, qz vein w/ minor chl sc, py to 8%
7013																			UW, chl sc 75%, qz vein 25%, py in sc
7014					<0.2														UW, qz vein, chl sc w/py to 20%
7015																			UW, qz, chl sc, w/py <2%
7016																			UW, pyritic chl sc w/py <2%
7017																			UW, qz vein w/chl sc partings, py to 5%
7018																			UW, chl sc, qz, py to 2%
7019																			UW, qz vein w/chl sc partings, py to 3%
7020																			UW, qz vein 30%, chl sc 70%, py in sc
7021																			UW, chl sc, fw of main fault
7022																			UW, chl sc, adj to 7021, hw
7023					0.9														UW, qz w/pyritic chl sc, py to 10%
7045																			OC, gs sc (65%), qz (35%), minor py
7049																			OC, chl sc (30%), qz (70%), py <1%
7050																			OC, chl sc (50%), qz (50%), py <1%
7051					<0.2														TP, qz veins w/py chl sc, py to 20%
7052																			TP, pyritic chl sc, py to 30%, see 7051
7053																			TP, qz vein w/chl sc, py to 10% in sc
7054																			OC, qz vein in creek south of trench
7024					1.9														UW, qz vein w/chl sc, py to 10%, fest
7025					6.4														UW, pyrite-rich ore, see 7024 for rep
7026																			UW, qz-calc vein in pyritic chl sc
7027					0.6														UW, qz, chl sc, fault gouge
7028																			UW, qz, chl sc in fault zone
7029																			UW, chl sc w/10% qz-calc component
7030																			UW, qz vein swarm in sheared chl sc
7031																			UW, qz-calc vein swarm/bleached chl sc
7032																			UW, qz-calc vein w/<20% chl sc, py <5%
7033																			UW, qz-calc vein w/20% chl sc, py <2%
7034																			UW, qz-calc vein w/chl sc partings
7035																			UW, qz-calc vein w/chl sc, py in fw
7036																			UW, qz in chl sc, shear zone
7037																			UW, sheared chl sc w/qz-calc vein
7038																			UW, qz veins in chl sc, 50:50 ratio
7039					<0.2														UW, qz veins w/in py chl sc, py to 10%
7040																			UW, qz veins/chl sc partings
7041																			UW, qz vein w/chl sc, minor py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
236-1	7042	Freegold	C	0.6	1014	<0.1	83	6	43											
236-1	7347	Freegold	C	1.2	621	0.3	26	12	33											
236-2	7370	Freegold	C	0.9	4300	1.1	9	7	11											
236-2	7371	Freegold	C	0.9	157	0.2	102	7	57											
236-3	7355	Freegold	C	2.3	1182	0.1	34	3	13											
236-3	7362	Freegold	C	1.8	3361	1.4	9	7	22											
236-3	7369	Freegold	C	1.8	1209	0.3	73	6	52											
236-4	7348	Freegold	C	0.3	9	0.1	4	4	2											
236-4	7349	Freegold	C	0.6	30	<0.1	3	3	5											
236-4	7350	Freegold	Rep	1.5	471	1.0	70	21	34											
236-4	7351	Freegold	C	0.3	1128	0.6	44	10	114											
236-4	7352	Freegold	Rep	0.5	1584	1.4	6	20	18											
236-4	7353	Freegold	C	1.2	285	0.2	116	6	34											
236-4	7354	Freegold	C	1.5	352	0.2	11	5	20											
236-4	7356	Freegold	C	1.5	5529	1.1	92	16	36											
236-4	7357	Freegold	C	1.5	611	0.3	59	7	38											
236-4	7358	Freegold	C	1.5	660	0.2	150	7	87											
236-4	7359	Freegold	C	1.5	3092	0.5	81	10	70											
236-4	7360	Freegold	C	2.1	554	0.6	55	9	29											
236-4	7361	Freegold	C	0.6	10	<0.1	22	4	38											
236-4	7363	Freegold	C	0.6	149	0.2	36	11	21											
236-4	7364	Freegold	C	1.5	91	<0.1	44	5	53											
236-4	7365	Freegold	C	1.4	813	0.3	22	7	15											
236-4	7366	Freegold	C	1.4	828	0.3	18	5	22											
236-4	7367	Freegold	C	0.8	22	<0.1	4	3	3											
236-4	7368	Freegold	C	1.2	2655	4.2	17	44	18											
237-1	7115	Upper Gold Standard	Rep	1.4	5382	1.2	79	12	43						7	<2				
237-1	7116	Upper Gold Standard	C	0.6	1500	0.3	41	8	14						12	<2				
237-1	7117	Upper Gold Standard	C	0.6	125	<0.1	41	3	19											
237-1	7119	Upper Gold Standard	C	0.4	6847	0.8	<1	4	3											
237-2	7123	Upper Gold Standard	S		**78.62** *	14.3	93	18	5						12	<2				
237-2	7124	Upper Gold Standard	C	0.4	5550	2.0	<1	<2	7											
237-3	7110	Upper Gold Standard	C	0.6	3220	0.8	12	15	21											
237-3	7112	Upper Gold Standard	C	0.4	**23.14** *	3.7	44	15	30						10	10				
237-3	7113	Upper Gold Standard	C	0.4	9720	3.2	103	11	29						8	14				
237-3	7114	Upper Gold Standard	C	0.7	246	<0.1	18	3	13											
237-3	7118	Upper Gold Standard	C	0.6	37	<0.1	1	<2	2											
237-3	7120	Upper Gold Standard	C	0.6	74	<0.1	<1	<2	<1											
238-1	7121	Lakeview	C	0.4	5380	3.4	1	3	1						14	<2				
238-1	7399	Lakeview	C	0.3	549	<0.1	2	4	3											
238-1	7400	Lakeview	C	0.2	<5	<0.1	4	3	3											
238-2	7109	Lakeview	C	0.3	319	<0.1	<1	<2	<1											
238-3	7100	Lakeview	C	0.8	1708	1.8	16	<2	3						13	<2				
238-3	7101	Lakeview	C	0.5	2270	2.2	53	5	7											
238-3	7105	Lakeview	C	0.5	328	0.1	1	<2	3											
238-3	7106	Lakeview	C	0.8	298	0.3	35	<2	7											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
7042																			UW, chl sc (40%), qz (60%), minor py
7347																			UW, qz veins w/py gs sc, resample of7034
7370																			TP, qz (75%), alt sc (25%), py to 5% near adits
7371																			UW, qz veins in gs sc, py to 15% in sc
7355																			TP, qz (90%), gs sc (10%), py <1%
7362																			TP, qz (80%),gs sc (20%),py to 10% locally
7369																			UW, qz (80%), alt sc (20%), py <1%
7348																			TP, qz vein, py clots, limonite
7349																			OC, qz vein-crushed, same vein as 7348
7350																			TP, qz vein w/gs sc partings, py to 15%
7351																			TP, py alt sc, py to 20%
7352																			TP, alt di w/py to 20%
7353																			TP, qz vein w/chl sc partings
7354																			TP, qz (60%), trachytic di (40%), irregular veins
7356																			TP, gs sc (70%), qz (30%), py to 10% sc
7357																			TP, gs sc (70%), qz (30%), py on margin
7358																			TP, gs sc (90%), qz (10%), py to 2%
7359																			TP, gs sc (80%), qz (20%), fest, 10% py
7360																			OC, qz (60%), gs sc (40%), py to 25% sc
7361																			TP, qz (90%), gs sc (10%), trace py
7363																			TP, qz (70%), gs sc (30%), py in sc to 10%
7364																			TP, gs sc (65%), qz (35%), py in sc
7365																			OC, qz (75%), alt gs sc (25%), py in sc to 25%
7366																			TP, qz (95%), gs sc (5%), py to 5%
7367																			TP, qz, near Mahoney Cut
7368																			TP, qz (50%), alt gs sc (50%), py to 25%
7115					1.3														UW, alt gs w/qz-calc veins, py to 5%
7116					0.5														TP, qz vein w/gs partings, py to 5%
7117																			TP, qz-calc vein w/gs fw, py to 1%
7119																			TP, qz vein in bleached sc, py to 1%
7123					3.8														FL, Folwarzny vein, py to 50% in bands
7124																			OC, Folwarzny vein, py in fw, hw barren
7110																			UW, chl sc (30%), qz (70%), py to 10%
7112					3.6														UW, qz (90%), chl sc (10%), py 5-10%
7113					6.1														TP, qz (75%), chl sc (25%), py to 15%
7114																			TP, msv qz in fault, chl sc fragments
7118																			OC, qz, trace py
7120																			OC, qz vein above shaft - barren
7121					4.4														OC, qz vein, py to 3% in clots
7399																			OC, parallel qz vein above 7121, py <1%
7400																			OC, qz vein, same vein as 7399
7109																			TP, qz vein,py to 1%, above trench in gully
7100					3.0														TP, qz vein, py to 1%, ribboned on fw
7101																			UW, qz vein, py to 1%, horizontal slick
7105																			TP, qz veins in gs, no visible py
7106																			TP, qz vein, fw min, hw not

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
238-3	7107	Lakeview	C	0.2	5564	3.7	14	4	6						13	<2				
238-3	7108	Lakeview	C	0.4	5382	4.1	14	32	3											
238-3	7111	Lakeview	C	0.4	8694	7.5	393	54	4											
238-3	7122	Lakeview	Rep	0.6	**12.72** *	4.4	74	7	20											
239-1	7094	Lower Gold Standard	C	1.4	8116	1.2	66	7	30											
239-1	7095	Lower Gold Standard	S		**17.04** *	3.5	131	11	72						10	6				
239-2	7064	Lower Gold Standard	C	0.9	266	<0.1	13	3	35											
239-3	7061	Lower Gold Standard	C	0.4	887	<0.1	129	7	60											
239-4	7062	Lower Gold Standard	C	0.9	7490	0.4	21	3	16											
239-5	7084	Lower Gold Standard	C	1.5	**20.54** *	4.0	108	10	60						9	8				
239-6	7085	Lower Gold Standard	C	1.5	3680	0.2	66	9	72						8	10				
239-7	7092	Lower Gold Standard	C	1.2	2535	<0.1	85	8	63						9	6				
239-8	7093	Lower Gold Standard	C	1.5	234	<0.1	59	5	25											
239-9	7065	Lower Gold Standard	Rep	0.9	**19.37** *	2.7	16	12	8						8	<2				
239-9	7066	Lower Gold Standard	C	0.9	**14.30** *	1.8	266	12	26											
239-10	7086	Lower Gold Standard	C	1.5	**17.86** *	5.9	42	10	32											
239-10	7087	Lower Gold Standard	S		**25.17** *	12.3	23	10	36						10	6				
239-11	7091	Lower Gold Standard	C	1.2	**30.10** *	3.8	106	9	52											
239-12	7090	Lower Gold Standard	C	0.3	1389	0.2	16	<2	6											
239-13	7060	Lower Gold Standard	C	1.5	35	<0.1	34	6	56											
239-14	7079	Lower Gold Standard	C	1.5	107	<0.1	37	5	86											
239-15	7082	Lower Gold Standard	C	0.5	17	<0.1	16	3	12											
239-16	7083	Lower Gold Standard	C	1.5	14	<0.1	1	<2	3											
239-17	7055	Lower Gold Standard	C	1.0	856	<0.1	21	3	17						8	4				
239-18	7058	Lower Gold Standard	C	1.1	1099	0.2	77	7	41											
239-19	7063	Lower Gold Standard	C	1.2	**173.4** *	19.6	21	21	43						10	6				
239-20	7401	Lower Gold Standard	C	2.1	1458	<0.1	180	7	80											
239-21	7057	Lower Gold Standard	C	1.5	**12.41** *	1.1	370	10	70											
239-22	7056	Lower Gold Standard	C	1.5	**10.49** *	2.5	266	9	59						13	3				
239-23	7402	Lower Gold Standard	C	1.4	614	<0.1	242	6	95											
239-24	7059	Lower Gold Standard	C	1.5	2396	1.3	89	14	62											
239-25	7096	Lower Gold Standard	C	2.1	93	<0.1	176	7	85											
239-26	7068	Lower Gold Standard	C	1.5	1954	0.3	203	6	84											
239-27	7067	Lower Gold Standard	C	1.5	**10.63** *	1.0	167	10	73											
239-28	7073	Lower Gold Standard	C	1.2	3332	0.8	145	8	51											
239-29	7074	Lower Gold Standard	C	1.5	331	<0.1	161	6	87											
239-30	7069	Lower Gold Standard	C	1.2	461	<0.1	120	6	77											
239-31	7072	Lower Gold Standard	C	1.2	594	<0.1	142	8	55											
239-32	7070	Lower Gold Standard	C	1.5	**16.83** *	7.1	135	6	64											
239-33	7075	Lower Gold Standard	Rep	3.1	742	0.1	106	6	35						11	14				
239-34	7071	Lower Gold Standard	C	1.5	331	<0.1	143	6	67											
239-35	7076	Lower Gold Standard	C	1.5	18	<0.1	26	7	71											
239-36	7081	Lower Gold Standard	C	1.5	91	<0.1	219	5	94											
239-37	7080	Lower Gold Standard	C	1.5	209	<0.1	115	7	87											
239-38	7077	Lower Gold Standard	C	1.5	<5	<0.1	22	6	99											
239-39	7099	Lower Gold Standard	C	1.5	3227	1.3	97	8	55											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
7107					6.1														TP,	qz, py 1-3%, sil gs in hw, fest
7108																			TP,	ribboned qz w/py to 2%
7111																			TP,	qz vein, ribboned on fw
7122																			TP,	qz vein, pyritic chl sc, py to 10%
7094																			TP,	qz veins w/chl sc, py to 5%
7095					3.0														TP,	chl sc, select from 7094, py to 10%
7064																			TP,	qz veins, 1 barren, 1 fest w/py
7061																			TP,	py chl sc (85%), qz (15%), py 2-3%
7062																			TP,	qz (90%), alt chl sc (10%), py 1-2%
7084					1.2														TP,	chl sc 70%, qz 30%, py 3-5%, main ore zone
7085					0.8														TP,	chl sc (80%), qz (20%), adj to 7084
7092					<0.2														TP,	qz veins, chl sc, py to 3%
7093																			TP,	qz vein w/minor sc, in window of glory hole
7065					1.9														TP,	qz vein, py to 10% along margins
7066																			TP,	qz, chl sc, see 7065, py to 5%
7086																			TP,	chl sc 70%,fel sc 20%,qz 10%, py tp 20%
7087					8.2														TP,	chl/fel sc, py 10-20%
7091																			TP,	qz (20%),chl sc (80%),py to 4% in sc
7090																			TP,	qz vein offset by fault
7060																			TP,	qz (70%), alt chl sc (30%), py <1%
7079																			TP,	chl sc (80%), qz (20%), py <1%
7082																			TP,	qz (98%), chl sc (2%), opposite 7079
7083																			OC,	large qz pod
7055					<0.2														TP,	qz vein (85%), chl sc (15%), ribbon texture
7058																			TP,	chl sc (50%),qz (50%),py to 2%,near 7055
7063					5.1														MD,	chl sc w/abundant py to 20%
7401																			TP,	chl sc (85%), qz (15%), py to 1%
7057																			UW,	chl sc (90%),qz (10%),py to 4%,near 7056
7056					0.8														UW,	chl sc (70%), qz (30%), py 3-5%
7402																			TP,	chl sc, py to 3%, near 7056
7059																			TP,	chl sc (45%), qz (50%), basalt (5%)
7096																			UW,	chl sc (85%), qz veinlets (15%)
7068																			UW,	chl sc (75%), qz (25%), cont w/7067
7067																			UW,	chl sc (60%), qz (40%), py 3-5%
7073																			UW,	chl sc w/qz vein (20%), minor py
7074																			UW,	chl sc w/10% qz, py on margins
7069																			UW,	chl sc (65%), qz (35%), py to 1%
7072																			UW,	qz, chl sc, py to 5% in sc
7070																			UW,	chl sc, py <1%
7075					<0.2														UW,	qz clots/stringers in gs flow
7071																			UW,	chl sc (60%), qz vein swarm (40%)
7076																			UW,	chl sc, qz, cont w/7071
7081																			UW,	chl sc w/py to 5%, minor qz
7080																			UW,	chl sc w/qz stringers/veinlets
7077																			UW,	chl sc (65%), qz (35%), py <1%
7099																			UW,	chl sc (95%), qz (5%), cont w/7098

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
239-40	7098	Lower Gold Standard	C	1.5	**44.40** *	9.4	113	9	59											
239-41	7102	Lower Gold Standard	C	1.5	7050	1.4	330	10	55											
239-42	7088	Lower Gold Standard	C	1.1	191	<0.1	42	7	76											
239-43	7104	Lower Gold Standard	C	1.2	**28.63** *	8.0	63	8	17						<5	<2				
239-44	7089	Lower Gold Standard	S	0.1	2807	0.3	19	13	27						12	7				
239-45	7097	Lower Gold Standard	C	1.5	**35.90**	9.7	39	16	32						8	<2				
239-46	7103	Lower Gold Standard	Rep	0.6	2955	0.3	90	8	46											
239-47	7078	Lower Gold Standard	S		8705	0.8	<1	13	7						9	6				
240-1	7125	Lone Jack/Helm Bay	C	0.4	34	<0.1	94	4	66											
240-1	7126	Lone Jack/Helm Bay	C	0.1	7590	2.9	19	<2	3											
241-1	7397	Snowstorm	Rep	0.23 x 0.61	38	0.1	5	8	6											
241-1	7398	Snowstorm	Rep	0.15 x 3.05	125	<0.1	11	5	9											
241-2	7385	Snowstorm	Rep	0.2	6	<0.1	5	2	3											
241-2	7389	Snowstorm	Rep	0.23 x 1.52	87	<0.1	14	<2	5											
241-2	7390	Snowstorm	Rep	0.37 x 1.83	<5	<0.1	9	3	3											
241-2	7404	Snowstorm	C	0.2	1691	<0.1	7	3	4											
241-2	7405	Snowstorm	C	0.5	9697	0.5	141	5	35											
241-2	7406	Snowstorm	Rep	0.15 x 0.61	6	<0.1	111	5	21											
241-2	7407	Snowstorm	Rep	0.15 x 3.05	383	<0.1	10	<2	3											
241-2	7408	Snowstorm	Rep	0.37 x 1.52	<5	<0.1	12	<2	3											
242-1	7006	Last Chance/Helm Bay	C	3.1	<5	<0.1	54	4	86											
242-1	7007	Last Chance/Helm Bay	C	3.1	<5	<0.1	50	3	61											
242-1	7008	Last Chance/Helm Bay	C	3.1	16	0.1	101	5	75											
242-1	7009	Last Chance/Helm Bay	C	3.1	9	<0.1	45	5	80											
243-1	7374	Beulah	Rep	0.9	42	<0.1	77	11	67											
243-1	7375	Beulah	C	0.9	12	<0.1	69	9	75											
243-1	7376	Beulah	C	0.2	10	<0.1	26	9	14											
243-1	7377	Beulah	C	2.1	1376	0.2	8	5	4											
243-1	7378	Beulah	Rep		3303	0.7	58	14	26	8	11	13	44	22	<20	<20	3.43		17	<1.0
243-1	7379	Beulah	C	1.2	107	<0.1	13	5	15											
243-1	7380	Beulah	C	0.2	190	<0.1	<1	4	5											
243-1	7381	Beulah	C	0.4	<5	<0.1	2	<2	4											
243-1	7382	Beulah	C	0.3	7	<0.1	9	4	15											
243-1	7383	Beulah	C	0.5	409	0.3	17	7	47											
243-1	7384	Beulah	C	1.0	1515	0.2	81	8	18	3	9	9	58	149	<20	<20	2.07		14	<1.0
243-1	7388	Beulah	C	0.5	562	0.5	4	<2	5											
244-1	7001	Puzzler	C	1.5	<5	0.1	137	5	64											
244-1	7002	Puzzler	C	1.2	7	<0.1	41	4	82											
244-1	7003	Puzzler	C	1.5	51	<0.1	121	10	54						10	<2				
244-1	7004	Puzzler	Rep		<5	0.1	53	6	116											
244-1	7005	Puzzler	C	1.2	17	<0.1	37	4	61											
245-1	7322	Hoffman/Alexandra	C	0.2	2642	0.4	43	10	7											
245-1	7323	Hoffman/Alexandra	C	0.3	903	0.2	10	4	3											
245-2	7321	Hoffman/Alexandra	C	1.2	<5	<0.1	26	5	50											
246-1	7270	Annie	C	0.9	314	0.1	66	9	79											
246-1	7271	Annie	C	1.5	9040	0.9	55	10	65											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
7098																			UW, chl sc (75%), qz (25%), py 2-5%
7102																			UW, chl sc w/qz pods, sc warped
7088																			UW, chl sc (65%), qz (35%), py <1%
7104					3.0														UW, bleached chl sc w/2 qz veins, py to 2%
7089					<0.2														UW, qz vein in fault w/chl sc, py to 15%
7097					5.6														UW, chl sc 95%, qz 5%, py to 15%, hw of fault
7103																			UW, qz vein w/chl sc-fault zone,py to 8%
7078					0.6														UW, qz (95%), chl sc (5%), py 5-10%
7125																			UW, sheared chl sc, dissem py to 3%
7126																			UW, qz vein in shear, fest
7397																			OC, qz vein near adit-trenches
7398																			UW, qz, gs sc, trace py
7385																			OC, qz vein on beach
7389																			OC, qz vein in fold hinge, py to 2%
7390																			OC, qz vein intersection, py to 2%
7404																			OC, qz vein, fest, no visible py
7405																			OC, qz (75%), gs sc (25%), py in clots
7406																			OC, qz-calc vein w/gs sc from creek
7407																			OC, qz vein, visible Au found nearby
7408																			OC, qz vein w/trace py
7006																			UW, bleached chl sc,fest,dissem py to 1%
7007																			UW, bleached chl sc, fest, py to 1%
7008																			TP, bleached gs sc, fest, dissem py
7009																			TP, bleached chl sc, py to 1%
7374																			UW, gs sc (90%), qz (10%), py to 5%
7375																			UW, qz (75%), gs sc (25%), py in sc
7376																			UW, qz (95%), gs sc (5%), ankerite, py
7377																			TP, qz, 25% py on margin near sc
7378	5	8	<5		<10		16		8										TP, py sc on fw of vein
7379																			TP, qz (75%), alt gs sc (25%), py <1%
7380																			TP, qz w/limonite, no visible py
7381																			TP, qz, py <1%
7382																			OC, qz (90%), gs sc (10%), above adit
7383																			TP, qz vein w/py sc on hw/fw
7384	<5	<5	<5		<10		9		4										UW, qz veins/py sc in fault zone
7388																			OC, qz vein w/minor sc, py in clots
7001																			UW, sheared metadi - chl sc
7002																			UW, sheared metadi, py 1-3%
7003																			UW, sheared metadi, py 1-3%
7004																			UW, fel sc w/abundant py, qz
7005																			OC, metadi
7322																			UW, qz, py to 5%, 3m from face
7323																			UW, qz, py to 5%, 6m from portal
7321																			OC, qz (70%), alt fel sc (30%)
7270																			UW, qz (30%), gs sc (70%), py in clots
7271																			UW, qz (30%), gs sc (70%), py to 15%

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
246-1	7272	Annie	C	1.8	5781	1.2	109	17	65											
246-1	7274	Annie	C	1.8	5727	0.7	132	8	81											
246-1	7275	Annie	C	0.3	3663	0.3	69	16	67											
246-1	7276	Annie	C	1.5	181	<0.1	68	8	97											
246-1	7277	Annie	C	1.5	1554	0.5	189	9	95											
246-1	7278	Annie	C	1.5	2416	0.3	123	5	25											
246-1	7279	Annie	C	1.5	763	0.1	71	7	91											
246-1	7281	Annie	C	1.5	555	0.2	65	7	97											
246-1	7282	Annie	C	1.7	666	0.1	80	10	95											
246-1	7283	Annie	C	1.5	276	<0.1	82	7	108											
246-2	7280	Annie	C	1.4	13	<0.1	240	7	74											
246-2	7285	Annie	C	0.2	423	0.3	33	8	88											
246-2	7286	Annie	C	0.9	54	0.1	79	7	71											
246-2	7287	Annie	C	0.8	6261	1.4	23	14	35											
246-2	7288	Annie	C	0.9	565	0.1	87	8	105											
246-2	7289	Annie	C	0.9	1317	1.0	53	9	85											
246-2	7290	Annie	C	1.5	155	0.2	47	10	76											
246-2	7291	Annie	C	1.5	910	0.1	57	8	103											
246-2	7292	Annie	C	1.5	361	0.3	144	12	90											
246-2	7293	Annie	C	1.5	954	0.4	75	11	88											
246-2	7294	Annie	C	1.7	52	<0.1	74	7	95											
246-2	7295	Annie	C	1.7	277	0.1	69	8	92											
246-2	7296	Annie	C	1.1	98	0.1	115	12	67											
246-2	7297	Annie	C	2.0	49	<0.1	69	7	81											
246-2	7298	Annie	C	2.4	20	<0.1	73	7	101											
246-2	7299	Annie	S	0.4	**99.94** *	18.3	21	16	18											
246-3	7284	Annie	C	0.3	364	0.1	6	2	5											
247-1	7314	Lone Jack/Gold Mountain	C	1.5	2258	0.3	127	9	78											
247-1	7315	Lone Jack/Gold Mountain	C	1.5	333	0.2	167	10	109											
247-1	7316	Lone Jack/Gold Mountain	C	1.5	20	0.1	176	9	101											
247-2	7300	Lone Jack/Gold Mountain	C	1.2	564	0.6	60	6	68											
247-2	7301	Lone Jack/Gold Mountain	C	1.5	1995	0.5	88	9	65											
247-2	7302	Lone Jack/Gold Mountain	C	1.4	1501	0.1	37	7	49											
247-2	7303	Lone Jack/Gold Mountain	C	1.5	350	0.1	218	7	74											
248-1	7317	Novatney	C	0.6	2830	4.1	20	9	27											
248-1	7318	Novatney	C	1.0	36	0.1	9	3	4											
248-1	7319	Novatney	C	0.8	937	1.1	19	7	14											
249-1	7304	Mountain Top	C	0.6	1570	0.7	55	6	117											
249-2	7305	Mountain Top	C	0.6	106	<0.1	6	2	10											
249-3	7311	Mountain Top	Rep		103	<0.1	3	3	11											
249-3	7312	Mountain Top	C	1.1	22	0.1	118	9	90											
250-1	7306	Jewel	C	0.8	395	0.2	98	7	92											
250-1	7307	Jewel	C	0.4	**17.21** *	2.2	88	7	75											
250-1	7308	Jewel	C	0.6	**11.38** *	1.9	89	6	68											
250-1	7309	Jewel	C	0.6	5578	0.8	102	8	92											
250-1	7310	Jewel	C	0.9	1321	0.1	6	4	5											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
7272																			UW,	qz (20%), gs sc (80%), gouge zone
7274																			UW,	gs sc (95%), qz (5%), py to 10% sc
7275																			UW,	gs sc (40%), qz (60%), py halos
7276																			UW,	gs sc (95%), qz (5%), face of drift
7277																			UW,	gs sc (90%), qz (10%),py along shear
7278																			UW,	qz (95%),gs sc(5%),at drift junction
7279																			UW,	gs sc (55%), qz (45%), py to 5
7281																			UW,	qz veins in gs sc, py to 10% in sc
7282																			UW,	qz veins in gs sc/fault zone, hw-py
7283																			UW,	gs sc w/minor qz stringers, 5% py
7280																			UW,	gs sc (80%), qz (20%), sil, no py
7285																			UW,	qz veins, gs sc, near shaft, py <1%
7286																			UW,	gs sc (75%), qz (25%), py to 3% sc
7287																			UW,	qz (50%), gs sc (50%), py to 20%
7288																			UW,	gs sc, py to 5% near fw
7289																			UW,	gs sc (85%), qz (15%), py 1-10%
7290																			UW,	gs sc (70%), qz (30%), py 2-3%
7291																			UW,	gs sc (95%), qz (5%), adj to 7290
7292																			UW,	gs sc (90%), qz (10%), py to 10%
7293																			UW,	sheared gs sc w/minor qz, py to 5%
7294																			UW,	py gs sc, sheared
7295																			UW,	py gs sc w/0.33m qz vein, py in hw
7296																			UW,	bleached ser sc, gs, qz w/py
7297																			UW,	py gs sc w/qz pods, py to 20%
7298																			UW,	gs sc (98%), qz (2%), py to 5%
7299																			UW,	qz vein w/gs sc, high-grade of 7287
7284																			UW,	qz (95%), gs sc (5%), py in clots
7314																			UW,	gs sc (90%), qz (10%), py to 10%
7315																			UW,	gs sc (90%), qz (10%), py to 8%
7316																			UW,	gs sc, py to 5% in fest zone
7300																			UW,	broken qz in gs, trace py
7301																			UW,	qz veins in gs sc, main shear zone
7302																			UW,	qz 80%, gs sc 20%, visable Au, py to 5%
7303																			UW,	qz (50%),gs sc (50%),py to 5% in sc
7317																			TP,	qz vein, sc margins, py to 10% hw
7318																			TP,	qz vein, limonite
7319																			TP,	qz (95%), chl sc (5%), py to 15% sc
7304																			TP,	qz vein w/in chl sc, oxidized
7305																			TP,	qz vein exposed in shaft
7311																			FL,	qz excavated from trench
7312																			OC,	bleached chl sc, fest, py to 8%
7306																			UW,	gs sc (95%), qz (5%), minor py
7307																			UW,	qz vein in gs sc,py to 4% in stringers
7308																			UW,	gs sc (85%), qz (15%), py on vein margin
7309																			UW,	gs sc (65%), qz (35%), py 1-10%
7310																			TP,	qz in vein above adit portal

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
250-1	7313	Jewel	C	0.8	4473	0.6	53	4	36											
251-1	7393	Rainy Day	S		**11.38** *	27.7	16	1714	10	5										
251-1	7394	Rainy Day	C	0.6	4478	4.1	16	300	10	3										
251-1	7395	Rainy Day	C	0.5	4605	13.7	17	694	11	7										
251-1	7396	Rainy Day	C	0.6	4646	7.3	141	219	26	2										
252-1	7256	Keystone	C	1.8	4470	0.5	131	13	105											
252-1	7257	Keystone	C	1.5	593	0.3	92	9	50											
252-1	7258	Keystone	C	1.5	5453	0.9	32	12	47											
252-1	7259	Keystone	C	1.1	1106	0.1	106	14	73											
252-1	7260	Keystone	C	1.5	7296	0.7	115	18	87											
252-1	7261	Keystone	C	1.2	2852	0.4	40	14	76											
252-1	7262	Keystone	C	1.5	1017	0.1	85	13	100											
252-1	7263	Keystone	C	1.2	1295	0.1	108	14	97											
252-1	7264	Keystone	C	1.5	4188	0.1	63	14	68											
252-1	7265	Keystone	C	1.5	703	0.1	136	15	116											
252-1	7266	Keystone	C	1.2	375	<0.1	110	11	91											
252-1	7267	Keystone	C	1.5	433	0.2	136	14	166											
252-1	7268	Keystone	C	1.5	201	0.1	79	13	78											
252-1	7269	Keystone	S	0.3	1299	0.4	22	19	57											
252-1	7273	Keystone	C	1.5	50	0.1	130	17	63											
253-1	7440	American Eagle	C	0.9	35	<0.1	149	10	87											
253-1	7441	American Eagle	C	0.6	23	<0.1	91	31	48	4	8	18	40	91	<20	<20	3.99		21	<1.0
253-1	7442	American Eagle	C	1.8	2984	0.2	137	9	84											
253-1	7443	American Eagle	C	0.9	56	0.1	168	16	65											
253-1	7444	American Eagle	C	1.3	826	<0.1	134	8	75											
253-1	7446	American Eagle	C	1.4	84	0.1	122	8	71											
253-1	7447	American Eagle	C	1.2	2367	0.2	271	9	85											
253-1	7448	American Eagle	C	0.9	5005	0.4	223	8	87	1	8	24	52	75	<20	<20	4.12		34	<1.0
253-1	7449	American Eagle	C	0.9	4480	0.3	297	6	73	1	5	19	107	71	<20	<20	3.05		23	<1.0
253-1	7451	American Eagle	C	1.1	2610	<0.1	67	9	69											
253-1	7452	American Eagle	C	0.9	1982	<0.1	64	9	36											
254-1	7373	Old Glory	S		1662	0.5	116	10	52											
254-2	7240	Old Glory	C	0.7	8716	0.4	111	11	49											
254-2	7241	Old Glory	C	0.9	622	0.2	133	13	75											
254-2	7242	Old Glory	C	1.1	4148	0.2	144	9	51											
254-2	7243	Old Glory	C	1.1	4700	0.4	71	14	65											
254-2	7248	Old Glory	C	1.2	**17.62** *	1.3	112	10	69											
254-2	7249	Old Glory	C	1.2	1599	0.1	12	9	7											
254-2	7250	Old Glory	C	0.9	6275	0.6	24	14	28											
254-2	7255	Old Glory	C	1.2	1153	0.2	112	7	95											
254-3	7246	Old Glory	C	0.6	7308	0.5	120	17	72											
254-3	7247	Old Glory	C	0.6	7527	0.3	228	13	93											
254-3	7251	Old Glory	C	0.9	557	0.2	188	15	104											
254-3	7252	Old Glory	C	0.9	948	0.1	118	12	53											
254-3	7253	Old Glory	C	0.8	1465	0.2	185	18	75											
254-3	7254	Old Glory	C	0.8	552	0.1	240	11	96											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
7313																			TP,	qz vein, opposite gully from 7310
7393																			MD,	qz from dump, gn, cp
7394																			TP,	banded qz on fw, cp, gn, sl, py
7395																			TP,	qz, alt granite porph w/sulf
7396																			TP,	qz 60%, granite porph 40%, py>cp>gn>sl
7256																			UW,	qz (10%), chl sc (90%), py to 20%
7257																			UW,	qz veins in py chl sc, py to 10%
7258																			UW,	qz (75%), chl sc (25%), py to 25%
7259																			UW,	chl sc w/qz veins, trace py
7260																			UW,	py chl sc w/20% qz
7261																			UW,	chl sc, fault gouge, qz, py to 25%
7262																			UW,	chl sc w/qz veins/pods, py to 10%
7263																			UW,	sheared chl sc w/qz veins (85:15)
7264																			UW,	qz (45%), chl sc (55%), py to 15%
7265																			UW,	qz (30%), chl sc (70%), py 5-20%, trace cp
7266																			UW,	qz (15%), chl sc (85%), py 8-15%
7267																			UW,	qz (15%), chl sc (85%), py 5-10%
7268																			UW,	qz (15%), chl sc (85%), py to 15% in sc
7269																			UW,	sheared chl sc w/qz, high-grade 7261
7273																			UW,	ser/chl sc w/10-15% py
7440																			UW,	chl sc w/10% py, adj to fault
7441	<5	6	<5		<10		13		5										UW,	alt chl sc, py 5-10%, trace cp
7442																			UW,	alt chl sc (90%), qz (10%), py 2-10%
7443																			UW,	alt chl sc, gouge, limonite
7444																			UW,	chl sc (60%), qz (40%), py 1-5%
7446																			UW,	gs sc (90%), qz (10%), py to 2%
7447																			UW,	gs sc (85%), qz (15%), qz xcuts foliation
7448	<5	13	<5		<10		17		4										UW,	qz veins, chl sc, py to 10% in sc
7449	<5	13	<5		<10		14		5										UW,	chl sc w/qz veins adj to shear, py
7451																			UW,	qz vein in chl sc, py to 15%
7452																			UW,	qz veins, chl sc, py
7373																			MD,	qz, fel sc 50:50, py to 15%
7240																			UW,	qz (60%), chl sc (40%), py to 1%
7241																			UW,	qz (10%), chl sc (90%), py to 15%
7242																			UW,	qz (75%), chl sc (25%), py, trace cp
7243																			UW,	qz (45%), chl sc (55%), sulf in sc
7248																			UW,	qz (15%), chl sc (85%), py to 10%, in stope
7249																			UW,	qz vein in stope, trace py
7250																			TP,	qz (90%),chl sc(10)%,py to 20% in sc
7255																			TP,	qz (20%), chl sc (80%), py to 8%
7246																			UW,	qz (35%), chl sc (65%), py to 5%
7247																			UW,	qz (40%), chl sc (60%), py to 8%
7251																			UW,	chl sc w/15% qz veins,py to 2% in sc
7252																			UW,	qz vein, minor chl sc partings, py
7253																			UW,	qz/chl sc (50:50), py in hw sc
7254																			UW,	chl sc w/qz veins to 0.33m(15%), py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
254-4	7324	Old Glory	C	1.4	**26.36** *	0.2	133	11	83											
254-5	7325	Old Glory	C	1.5	6	0.1	168	10	99											
254-6	7328	Old Glory	C	1.5	11	0.1	155	7	64											
254-7	7327	Old Glory	C	1.5	40	0.2	331	11	276											
254-8	7326	Old Glory	C	1.4	87	0.4	248	11	83											
254-9	7337	Old Glory	C	1.2	<5	0.1	183	9	83											
254-10	7336	Old Glory	C	1.5	118	0.1	146	9	73											
254-11	7329	Old Glory	C	1.5	<5	<0.1	145	11	86											
254-12	7343	Old Glory	C	1.2	478	0.1	143	13	61											
254-13	7342	Old Glory	C	0.6	660	0.1	125	15	74											
254-14	7338	Old Glory	C	1.5	103	0.1	109	17	80											
254-15	7339	Old Glory	C	1.8	3949	0.4	106	12	82											
254-16	7345	Old Glory	C	0.5	60	0.1	48	19	79											
254-17	7341	Old Glory	C	0.9	268	0.1	34	14	64											
254-18	7346	Old Glory	C	1.5	992	0.3	132	14	60											
254-19	7340	Old Glory	C	2.0	327	0.1	105	18	88											
254-20	7335	Old Glory	C	1.5	633	0.2	103	17	79											
254-21	7233	Old Glory	C	0.4	5720	1.4	94	11	21											
254-22	7332	Old Glory	C	0.9	93	0.1	174	19	81											
254-23	7331	Old Glory	C	1.5	21	0.1	168	10	79											
254-24	7330	Old Glory	C	1.5	11	0.1	148	12	75											
254-25	7232	Old Glory	C	1.5	**14.49** *	2.2	167	43	88											
254-26	7333	Old Glory	C	1.5	1593	0.5	106	15	98											
254-27	7334	Old Glory	C	0.9	1044	0.3	48	12	43											
254-28	7344	Old Glory	C	1.0	134	0.2	254	9	71											
255-1	7230	Last Chance/Gold Mountain	C	1.1	1632	0.3	128	17	44											
255-1	7231	Last Chance/Gold Mountain	S		7748	3.3	4820	13	10											
255-2	7244	Last Chance/Gold Mountain	S		4005	0.3	225	10	22											
255-2	7245	Last Chance/Gold Mountain	S		**15.01** *	1.4	99	14	96											
255-2	7372	Last Chance/Gold Mountain	C	1.8	5232	1.0	1420	8	55											
256-1		New Adit		No Samples Taken																
257-1	7412	Mary T	SC	3.05@0.15	1844	4.5	5380	5	96	5	5	15	420	113	<20	<20	5.50		29	<1.0
257-1	7413	Mary T	SC	3.05@0.15	597	4.8	6325	8	132	3	3	17	320	91	<20	<20	4.67		26	<1.0
257-1	7416	Mary T	C	1.5	609	1.1	703	6	83											
257-1	7417	Mary T	C	1.5	1657	2.6	2931	5	95											
257-1	7418	Mary T	SC	3.05@0.15	371	2.6	2292	7	189											
257-1	7419	Mary T	SC	3.05@0.15	707	1.5	597	4	108											
257-1	7420	Mary T	SC	3.05@0.15	848	3.1	658	7	92											
258-1	7421	US	SC	3.05@0.15	22	0.2	68	156	210											
258-1	7422	US	SC	3.05@0.15	159	<0.1	44	39	107											
258-1	7423	US	SC	3.05@0.15	5571	0.4	15	53	33											
258-1	7424	US	SC	3.05@0.15	41	<0.1	54	23	147											
259-1	7410	Blue Bucket	C	1.8	2368	3.6	5526	19	134	12	4	19	710	77	<20	<20	5.62		7	1.2
259-1	7411	Blue Bucket	C	1.8	3267	3.8	8162	14	87	14	3	22	680	78	<20	<20	5.71		13	<1.0
259-1	7414	Blue Bucket	C	1.8	918	1.0	2514	5	83											
259-1	7415	Blue Bucket	C	1.8	153	0.8	1264	3	85											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
7324																			UW, gs sc (90%), qz (10%), minor fest
7325																			UW, gs sc, no py, fest
7328																			UW, gs sc (90%), qz (10%), py to 2%
7327																			UW, gs sc (95%), qz (5%), py to 5%
7326																			UW, gs sc, py to 1%, minor ml
7337																			UW, py sil gs sc, fest
7336																			UW, py sil gs sc, qz stringers
7329																			UW, qz in gs sc, py dissem to 10%
7343																			UW, qz veins in gs sc, near raise
7342																			UW, qz veins in gs sc, py to 10% in qz
7338																			UW, qz-rich zone in sil chl sc, py to 5%
7339																			UW, qz veins in gs sc, py to 15% along margin
7345																			UW, qz vein, bleached sc, limonite
7341																			UW, qz (50%), chl sc (50%), shear zone
7346																			UW, qz veins adj to gs sc, main drift
7340																			UW, gs sc (90%), qz (10%), py 10-15%
7335																			UW, qz (30%), gs sc (70%), cubby hole
7233																			UW, qz (70%), chl sc (30%), limonite
7332																			UW, gs sc (95%), qz (5%), best zone
7331																			UW, gs sc (95%), qz (5%), py 10-15%, adj to 7332
7330																			UW, gs sc (95%), qz (5%), py 10-15%
7232																			UW, chl sc (80%), qz (20%), py in sc
7333																			UW, gs sc (70%), qz (30%), py 5-10%
7334																			UW, qz (50%), gs sc (50%), across back
7344																			UW, gs sc (90%), qz (10%), dissem py
7230																			UW, qz (65%), chl sc (35%), cp, py
7231																			UW, qz from shaft, cp to 2%
7244																			MD, qz from dump
7245																			MD, py chl sc from dump
7372																			UW, qz (80%), gs sc (20%), trace ml
No Samples Taken																			
7412	<5	11	<5		<10		11		1										TP, sil chl sc, py 1-10%
7413	<5	13	<5		<10		10		2										TP, sil chl sc, cp to 5%, py to 15%
7416																			TP, chl sc w/minor sil layers, py to 2%
7417																			TP, chl sc w/minor sil layers, py to 5%
7418																			TP, sil chl sc, cp, py
7419																			TP, sil chl sc, cp, py
7420																			TP, qz-rich chl sc, py locally to 2%
7421																			TP, mica sc w/minor qz pods, py to 3%
7422																			TP, musc-chl sc (65%), qz (35%), py
7423																			UW, large qz pod
7424																			TP, musc-chl sc w/qz pods, adj to 7421
7410	<5	5	<5		<10		14		3										UW, qz-rich musc sc, cp, py
7411	<5	10	<5		<10		14		2										UW, sil chl sc (50%), qz (50%), py 15%
7414																			UW, sil chl sc grading to gs sc
7415																			OC, sil chl sc, sulf in stringers

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
260-1		Camaano Point		No Samples Taken																
261-1	7171	Francis	S		<5	<0.1	44	6	18											
261-1	7172	Francis	S		6	<0.1	47	6	12											
261-1	7173	Francis	Rep		<5	<0.1	19	7	20											
261-1	7182	Francis	S		7900	2.5	471	23	45											
261-2	7170	Francis	C	0.5	<5	<0.1	10	7	24											
261-3	7159	Francis	C	1.8	<5	<0.1	3	3	4											
261-3	7169	Francis	C	1.0	<5	<0.1	16	5	10											
262-1	7174	Indian Point	C	0.3	9	0.2	118	10	18											
262-1	7175	Indian Point	SS		9	<0.2	60	9	113	2	28	21	66	30	<20	<20	4.04		42	<1.0
262-1	7176	Indian Point	Rep	3.1	<5	<0.1	45	5	10						16	<2				
262-1	7177	Indian Point	SS		<5	<0.2	28	4	73	1	15	9	49	17	<20	<20	2.07		24	<1.0
262-1	7178	Indian Point	Rep		40	0.2	51	19	34											
262-2	7179	Indian Point	S	0.2	16	0.2	39	18	1470											
262-2	7180	Indian Point	S	0.4	5840	2.9	384	15	15											
262-2	7181	Indian Point	SS		<5	<0.2	83	5	137	1	39	19	87	32	<20	<20	3.92		44	<1.0
263-1	9427	Perk area	S		23	6.4	3542	228	1345	96	620	59	240	150	<100	<1	>10			<5
263-1	9428	Perk area	Rep	27.4	9	1.1	248	91	285	31	40	5	520	420	<100	<1	6.90			<5
264-1	7437	Hump Island	Rep	4.6	2519	0.3	401	3	34	3										
264-1	7438	Hump Island	S	0.15 x 0.30	3837	2.2	1568	3	8	22	10	59	22	211	<20	<20	9.69		6	<1.0
264-2	7436	Hump Island	Rep	3.1	<5	<0.1	122	<2	36	3										
264-3	7430	Hump Island	Rep		75	1.5	2610	3	58	6										
264-4	7439	Hump Island	Rep		14	1.2	1458	7	12	21										
264-5	7429	Hump Island	Rep		38	1.0	1351	<2	18	10										
264-6	7428	Hump Island	Rep		11	1.0	1830	<2	36	61										
264-7	7427	Hump Island	Rep		29	1.4	2197	3	46	99										
264-8	7426	Hump Island	Rep		10	0.4	806	5	13	50	5	5	21	97	<20	<20	1.15		18	<1.0
264-9	7425	Hump Island	Rep		22	0.7	1090	7	30	92										
264-10	7435	Hump Island	Rep	4.6	31	2.5	3080	4	86	29										
264-11	7434	Hump Island	Rep	4.6	44	1.7	2497	<2	52	13										
264-12	7433	Hump Island	Rep	4.6	24	1.5	2571	<2	39	90										
264-13	7432	Hump Island	Rep	4.6	11	1.4	1829	<2	42	71										
264-14	7431	Hump Island	Rep	4.6	36	3.6	2848	3	109	236	5	9	25	101	<20	<20	2.87		18	1.4
Ketchikan Area																				
265-1		Typhoon		No Samples Taken																
266-1	8126	Easter	G		9	<0.1	28	3	19											
266-1	8127	Easter	S		1976	0.7	6	8	7	2	20	10	12	232	<20	<20	3.53		<1	<1.0
266-1	8128	Easter	RC		64	<0.1	67	7	7											
266-1	8388	Easter	S		<5	<0.1	40	55	167											
267-1	5432	Ready Mix quarry	Rep	0.6	315	0.4	197	3	75	10										
267-1	5433	Ready Mix quarry	G	0.0	480	0.4	472	<2	98	8										
267-1	5434	Ready Mix quarry	C	0.1	96	0.5	89	<2	146	9										
267-1	5865	Ready Mix quarry	S		75	0.2	89	<2	177	5										
267-1	5866	Ready Mix quarry	S		1167	0.5	80	4	146	5										
268-1	6169	Carlanna Creek quarry	G	0.2	6	<0.1	17	10	24	3213	<10	<5	58	370	<100	<1	0.7			<5

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
No Samples Taken																				
7171																			OC,	qz, vein w/cp, py
7172																			OC,	qz, cp, py
7173																			OC,	qz, cp, py across several veins
7182																			FL,	qz w/py pod 0.33m X 1m
7170																			OC,	qz, trace py, cp, concordant
7159																			OC,	qz vein in qz-mica sc, py, cp
7169																			OC,	qz, trace py, cp in gray sc
7174																			OC,	qz vein, minor sc, trace cp, fest
7175	6	<5	<5		<10				5											mixed material, black pl bedrock
7176																			OC,	qz vein mass, trace cp,py clots,fest
7177	<5	<5	<5		<10				4											silt-clay, black pl bedrock
7178																			OC,	qz vein w/ankerite-calc margins
7179																			OC,	qz-calc vein, cp, po
7180																			OC,	qz vein, py clots to 0.25m
7181	<5	7	<5		<10				5											silt-clay, black pl, sc bedrock
9427		15	1.8		<10	<0.5	13	15		<0.5	<2	<0.2	<0.5	3.4	5.4	<5			OC,	alt qz-mica-actinolite sc w/py 3%,cp 2%
9428		54.8	1.1		<10	1	6	14		<0.5	<2	<0.2	<0.5	4.3	3.1	37			OC,	qz-sericite sc, fest
7437																			OC,	qz-mica sc near intrusive contact
7438	172	15	<5		11		18		<1										OC,	qz vein, cp + py to 15%
7436																			OC,	garnet bt sc, trace cp, py
7430																			OC,	sil musc sc, cp clots, indurated
7439																			OC,	bt sc, cp to 2% in stringers
7429																			OC,	sil musc sc, phaneritic to fg
7428																			OC,	sil musc sc, cp, py
7427																			OC,	sil musc sc, cp, mo, ml, py
7426	<5	<5	<5		<10		10		5										OC,	sil musc sc, cp, mo, py
7425																			OC,	sil sc, cp, py, fest
7435																			OC,	qz musc sc, cp, py
7434																			OC,	sil musc sc, porph, cp, py
7433																			OC,	sil musc sc, sulf in clots, porph
7432																			OC,	qz musc sc w/minor qz veinlets
7431	<5	6	<5		<10		17		5										OC,	qz musc sc, cp, py
Ketchikan Area																				
No Samples Taken																				
8126																			FL,	gs clasts in qz vein
8127	<5	>2000	21		<10		<1		2										FL,	qz vein w/aspy & py
8128																			MD,	qz vein w/minor py & aspy
8388																			FL,	qz w/gs w/minor py
5432																			TP,	purple, fg sil rock
5433																			TP,	purple, fg sil rock
5434																			TP,	qz vein w/ep, po bleb
5865																			TP,	hn w/sulf & concordant qz
5866																			TP,	hn w/sulf and qz
6169		1	0.2		<10	<0.5	11	14		1.5	<2	0.3	0.6	2.5	1.2	11			OC	sil zone w/ mo stringers

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
268-2	6170	Carlanna Creek quarry	SC	12.5@0.6	9	<0.1	41	13	72	1532	<10	18	470	280	<100	3	4.8			<5
268-3	6785	Carlanna Creek quarry	G	0.1	14	<0.1	99	11	128	625	46	16	820	250	<100	3	3.9			<5
268-4	6784	Carlanna Creek quarry	G	0.2	<5	<0.1	50	9	97	430	<10	31	630	120	<100	3	5.5			<5
268-5	6165	Carlanna Creek quarry	Rep	15.2	269	0.2	101	11	17	26										
268-6	6779	Carlanna Creek quarry	S	0.1	41	0.8	240	6	154	3295	<20	<5	210	540	<100	<1	1.1			<5
268-7	6778	Carlanna Creek quarry	C	0.2	18	0.1	98	6	14	6										
268-8	6168	Carlanna Creek quarry	G	0.1	<5	<0.1	16	14	98	113	25	12	470	200	<100	7	5.2			<5
268-9	6777	Carlanna Creek quarry	C	0.1	11	0.6	323	3	26	22										
268-10	6164	Carlanna Creek quarry	C	0.3	25	0.7	300	7	67	97										
268-11	5867	Carlanna Creek quarry	S		12	0.3	217	3	109	1246										
269-1	5435	Carlanna Creek vicinity	CC	0.2	270	0.1	48	2	92	3										
269-1	5436	Carlanna Creek vicinity	Rep	0.2	26	0.2	324	<2	32	2										
269-1	5476	Carlanna Creek vicinity	C	0.9	10	0.3	54	9	74	6										
269-1	5477	Carlanna Creek vicinity	C	0.1	<5	0.3	46	5	89	7										
269-1	5910	Carlanna Creek vicinity	SS		69	1	48	16	80	4										
269-1	5911	Carlanna Creek vicinity	PC		3058	<0.1	22	10	94	6										
270-1	5430	Hoadley	C	0.5	**88.25** *	2.8	364	<2	17	4	17	464	100	138		<20	6.86			
270-1	5431	Hoadley	S	0.0	**43.37** *	1.6	207	<2	22	5	20	1073	150	85		<20	9.22			
270-1	5864	Hoadley	G	0.2	**139.7** *	6.7	610	<2	14	2	16	30	<20	272		<20	3.16			
271-1	5448	Hoadley Creek, upper	Rep	0.6	13	<0.1	41	<2	63	2					13	3				
271-1	5449	Hoadley Creek, upper	CC	0.2	38	2.4	4695	3	117	<1	110	197			32	<2				
271-1	5450	Hoadley Creek, upper	CC	0.1	7	<0.1	117	<2	45	2					11	3				
271-1	5451	Hoadley Creek, upper	CC	0.1	30	2.3	4387	3	118	2	111	203			32	<2				
271-1	5876	Hoadley Creek, upper	C	0.1	1044	2.6	3420	2	64	7										
271-1	5877	Hoadley Creek, upper	Rep	0.8	12	<0.1	28	<2	95	2						<20				
271-1	5878	Hoadley Creek, upper	C	0.2	76	2.7	4314	<2	116	2	73	196	<20	23		<2	>10			
272-1	5447	Hoadley Creek, lower	RC	0.24x.46	58	0.6	1101	<2	101	3										
272-1	5875	Hoadley Creek, lower	C	0.5	43	<0.1	4	<2	18	8										
273-1	5485	Hoadley Creek, trapdoor	SC	10.67@0.3	13	<0.1	30	6	73	4										
273-1	5486	Hoadley Creek, trapdoor	C	0.1	7237	0.2	31	5	40	3										
273-1	5487	Hoadley Creek, trapdoor	C	0.9	21	<0.1	80	5	32	4										
273-1	5901	Hoadley Creek, trapdoor	C	0.9	<5	<0.1	28	6	77	3										
273-1	5902	Hoadley Creek, trapdoor	SC	8.84@0.3	<5	<0.1	31	5	70	3										
274-1	5446	Hoadley Creek	C	0.0	4643	0.5	136	5	39	8										
274-1	5908	Hoadley Creek	PC		2576	1.7	69	33	83	6										
274-1	5909	Hoadley Creek	PC		2420	1	24	30	75	3										
274-1	6154	Hoadley Creek	SC	3.0@0.1	31	<0.1	19	4	55	<1	<10	35	500	250	<100	<1	>10			<5
274-1	6155	Hoadley Creek	C	0.4	6239	0.6	224	6	70	<3	<25	140	150	220	<210	<10	>10			<26
274-1	6156	Hoadley Creek	G		**21.60** *	1.6	146	5	50	<10	<110	350	<220	<94	<520	<22	>10			<61
274-1	6157	Hoadley Creek	C	1.1	20	<0.1	29	4	61	<1	76	38	290	130	<100	<1	8.9			<5
274-1	6158	Hoadley Creek	RC	0.9	20	<0.1	24	5	67	<1	16	33	530	150	<100	<1	8.4			<5
274-1	6764	Hoadley Creek	C	0.1	34	<0.1	223	5	83	<1	15	24	340	190	<100	6	9.4			<5
274-1	6765	Hoadley Creek	SC	4.3@0.1	28	<0.1	30	5	73	<1	16	33	380	160	<100	<1	7.5			<5
274-1	6766	Hoadley Creek	SC	4.3@0.1	22	<0.1	36	6	90	<1	18	38	420	170	<100	<1	9.4			<5
275-1	5475	White Cliff	Rep	0.6	<5	<0.1	63	5	101	6										
275-1	5894	White Cliff	G		<5	<0.1	10	3	21	2										

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
6170		6.5	3.1		<10	<0.5	18	31		0.8	3	0.4	1	3.8	1.6	44			OC	metased and gd w/ mo
6785		12	0.9		<10	1.8	25	45		0.8	4	0.6	1.1	7.8	5.6	91			OC	metased w/ mo
6784		24	0.4		<10	0.9	24	45		0.8	3	0.4	0.7	4.7	2.6	74			OC	metased w/ mo along fractures
6165																			OC	pyritic gd w/ mo stringers
6779		4.1	0.4		<10	0.5	22	36		2.9	6	1.1	3.9	16	7.9	53			OC	gd w/ sil band w/ mo.
6778																			OC	qz dike vein w/ po
6168		2.7	0.3		<10	0.8	27	53		0.5	4	0.6	1.2	8.1	4.1	58			OC	Mo in metased @ contact of dike.
6777																			OC	br qz vein w/ gossan
6164																			OC	banded metased w/ qz,mo,po,py,sl
5867																			TP,	qz vein w/mo along shear
5435																			OC,	qz vein w/sparse blebs of po
5436																			RC,	qz vein w/1.3cm py cubes
5476																			OC,	fest sc and pl w/5% sulf
5477																			OC,	qz lens
5910																			FL,	stream sediment
5911																			FL,	four 0.4m pans
5430	110	>2000	15	0.22															FL,	fest qz vein cp, py, aspy
5431	43	>2000	37	0.381															FL,	aspy, py, cp
5864	195	51	<5	0.272															FL,	qz boulder w/py, cp, aspy
5448																			UW,	di w/py
5449																	<5	2	UW,	po vein w/sparse qz
5450																	9	9	UW,	po vein w/sparse qz.
5451																	<5	2	UW,	po vein w/qz
5876																			UW,	vein of msv po
5877																			UW,	di w/interbedded sc
5878	20	<5	<5	0.094															UW,	msv po vein
5447																			UW,	qz lens
5875																			OC,	qz vein in py-bearing di
5485																			UW,	di w/dissem po
5486																			UW,	irregular qz vein
5487																			UW,	di at shear w/dissem po
5901																			UW,	sulf-bearing di
5902																			UW,	sulf-bearing di
5446																			OC,	fest di w/py & qz lens/vein
5908																				sed, four 0.4m pans
5909																				sed, four 0.4m pans
6154		16	0.6		<10	<0.5	23	32		0.8	3	0.6	1.1	1.8	0.9	18			OC	bt,hnbd,qz diorite w/ fg dissem py
6155		>10000	<8.5		<41	<0.5	11	22		<0.5	8	0.7	<0.5	1.8	<0.8	<15			OC	fest bt,hnbd,qz diorite
6156		>10000	<59.4		<92	<1.2	4	<25		<0.5	<23	<1.1	<0.5	<2.1	<2	<35			OC	sulf seam (aspy?) in bt,hnbd,qz di
6157		65	0.6		<10	1	9	12		<0.5	<2	0.3	<0.5	1	0.5	17			OC	bt,hnbd,qz di w/ fg sulf
6158		36	0.6		<10	<0.5	13	27		0.7	3	0.3	0.8	1.2	0.5	26			OC	bt,hnbd,qz di
6764		22	1.2		<10	<0.5	12	14		<0.5	<2	0.3	<0.5	1	0.5	43			OC	fest bt,hnbd,qz di w/ py
6765		12	0.6		<10	<0.5	15	25		<0.5	<2	0.3	0.8	1.8	0.8	18			OC	bt,hnbd,qz di w/ py
6766		10	0.6		<10	<0.5	21	34		0.6	3	0.4	0.9	1.8	1	18			OC,	hnbd qz di
5475																			UW,	qz & fest gs sc
5894																			MD,	qz float w/py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
275-1	5895	White Cliff	C	0.6	<5	0.2	52	6	89	6										
276-1	5429	Forest Avenue quarry	G	0.1	222	1.3	2970	4	106	111										
276-1	5861	Forest Avenue quarry	C	1.2	196	0.9	2429	14	375	26										
276-1	5862	Forest Avenue quarry	C		141	0.7	1731	7	76	26										
277-1	5421	Prison parking lot	CC	0.2	6	<0.1	28	6	38	3										
277-1	5422	Prison parking lot	G		<5	0.3	86	9	195	6										
277-1	5423	Prison parking lot	C	0.7	2067	0.2	73	7	132	4										
277-1	5856	Prison parking lot	C	1.7	12	0.2	64	8	119	6										
277-1	5857	Prison parking lot	C	1.0	27	<0.1	75	3	217	3										
278-1	5488	Nevada Lode	C	0.1	964	1.6	8187	12	93	28										
278-1	5489	Nevada Lode	G	0.1	1078	1.8	12010	7	70	23										
278-1	5490	Nevada Lode	G	0.1	2540	1.6	2584	12	44	22										
278-1	5912	Nevada Lode	C	0.2	1577	3.2	8725	9	61	231										
278-1	5913	Nevada Lode	S	0.2	890	1.5	5661	11	91	23	3	10	290	103		<20	4.8			
278-1	5914	Nevada Lode	SC	2.44@0.1	1282	1.9	5705	8	99	39										
279-1	5905	American Legion quarry	Rep	1.0	37	0.8	435	58	2235	2										
279-1	5906	American Legion quarry	C	0.5	19	0.4	101	18	329	3										
279-1	6166	American Legion quarry	Rep	0.9	41	0.3	131	28	833	4										
280-1	5440	Cape Fox adit	C	0.3	8	<0.1	53	8	109	2										
280-1	5441	Cape Fox adit	CC	0.2	<5	<0.1	5	<2	14	4										
280-1	5869	Cape Fox adit	C	0.5	9	0.2	134	12	274	8	6	20	650	46		<20	5.06			
280-1	5870	Cape Fox adit	C	0.2	20	0.8	130	<2	24	2										
280-1	5871	Cape Fox adit	C	0.2	<5	<0.1	20	<2	33	2										
280-1	5872	Cape Fox adit	C	0.4	<5	<0.1	20	10	99	4										
281-1	5470	Black Swan	C	0.1	6	0.5	555	4	22	4										
281-1	5891	Black Swan	Rep	0.1	9	<0.1	135	5	62	2										
282-1	5885	Laundromat adit	SC	8.54@0.3	11	<0.1	101	5	86											
283-1	5456	Jim's cut	Rep	0.1	32	0.7	765	10	84	10										
283-1	5457	Jim's cut	S	0.0	20	0.4	752	10	127	6										
283-1	5458	Jim's cut	C	0.1	45	0.2	723	<2	18	97										
283-1	5459	Jim's cut	Rep	0.1	46	0.7	1496	10	46	10										
283-1	5460	Jim's cut	Rep	0.0	113	0.8	2148	<2	36	39										
283-1	5461	Jim's cut	Rep	0.6	254	1.5	3856	<2	84	111										
283-1	5471	Jim's cut	SC	22.87@0.6	68	0.5	986	15	97	58										
283-1	5472	Jim's cut	Rep	0.1	378	2.3	5820	4	60	143										
283-1	5883	Jim's cut	C	0.5	259	6.8	6445	<2	54	6										
283-1	5884	Jim's cut	S	0.1	240	2.3	5516	<2	31	945										
283-1	5892	Jim's cut	SC	22.87@0.6	163	1.1	2632	3	48	115										
283-1	6167	Jim's cut	C	0.1	34	0.5	694	16	32	7										
283-1	6780	Jim's cut, S end	G		9	0.6	425	24	28	14										
284-1	5464	Gold Nugget	CC	0.3	**14.05** *	7.9	85	829	1585	1	9	13	140	277		<20	3.45			
284-1	5465	Gold Nugget	C	0.2	217	1.6	82	370	319	2										
284-1	5466	Gold Nugget	C	0.2	1170	8.6	6	2819	682	7										
284-1	5467	Gold Nugget	C	0.3	30	1	4	291	140	6										
284-1	5468	Gold Nugget	C	1.1	30	<0.1	18	14	98	2										
284-1	5469	Gold Nugget	C	0.6	37	0.2	115	9	110	4										

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
5895																			OC, gray sc w/irregular qz bodies, py
5429																			RC, fg purple sil rock
5861																			OC, sil volc w/py, qz, ml, az
5862																			TP, sil volc w/py, cp, ml, az
5421																			TP, qz lens w/po
5422																			OC, py-bearing, fest pl & sc
5423																			OC, shear zone w/qz & fest sc
5856																			OC, gray sc w/qz & po
5857																			OC, pl w/cp, sl
5488																			OC, qz lens w/cp, ml, az
5489																			RC, min sil gs
5490																			TP, sil gs w/py, cp
5912																			OC, sulf zone in sil gs
5913	5	5	<5	0.058															MD, sil gs
5914																			OC, sil gs
5905																			TP, gs sc w/qz veins & py
5906																			TP, chl gs sc w/qz veins
6166																			OC talc,chl gs sc w/ py & qz stringers
5440																			UW, qz stringer zone in greensc
5441																			OC, irregular qz lens
5869	<5	<5	<5	0.01															UW, greensc/pl w/qz
5870																			UW, qz lens in greensc
5871																			OC, irregular, folded qz lens
5872																			UW, qz vein in greensc
5470																			OC, qz lens
5891																			TP, gs sc w/py, qz vein/stringer
5885																			UW, min greensc w/qz
5456																			TP, fg gray min di
5457																			RC, fg gray di w/cp
5458																			TP, qz feldspar vein
5459																			RC, di w/po and sparse cp
5460																			RC, ml stained di w/dissem py & cp(?)
5461																			TP, di w/dissem py, po, cp(?)
5471																			OC, fel intrusive w/po, cp, ml
5472																			RC, di w/po, cp, ml
5883																			TP, qz vein w/py, ml, cp(?)
5884																			TP, fel intrusive w/mo, py, cp, qz
5892																			TP, min fel to intermediate intrusive
6167																			OC alt volc w/ po & cp
6780																			OC metavolc w/ po & cp
5464	<5	56	<5	0.168															OC, qz vein w/py, sl, gn
5465																			OC, dike w/sparse sulf
5466																			OC, qz vein w/py, gn
5467																			OC, qz vein
5468																			OC, dike w/dissem sulf
5469																			OC, gs-gs sc w/py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
284-1	5473	Gold Nugget	CC	0.2	8	<0.1	32	<2	8	3										
284-1	5474	Gold Nugget	C	0.8	<5	<0.1	13	3	25	5										
284-1	5886	Gold Nugget	C	0.6	<5	<0.1	4	<2	19	<1										
284-1	5887	Gold Nugget	SC	1.83@0.15	32	<0.1	21	7	93	2										
284-1	5888	Gold Nugget	C	0.4	18	0.8	4	316	61	2										
284-1	5889	Gold Nugget	C	0.7	650	0.9	4	174	70	4										
284-1	5890	Gold Nugget	C	0.3	79	3.3	39	822	356	3										
284-1	5893	Gold Nugget	C	1.0	<5	0.2	47	9	152	4										
284-1	5896	Gold Nugget	G		1218	2.9	11	685	1423	4										
285-1	5907	S Quarry	C	0.1	8140	31.5	22	**1.04** *	**2.08** *	2										
285-1	8087	S Quarry	S		3318	5.2	359	485	2971											
286-1	8398	Goldstream	G		213	2.9	46	1781	5032											
286-1	8399	Goldstream	G		11	<0.1	35	20	201	1	4	16	42	17	<20	<20	4.75		46	<1.0
286-2	8150	Goldstream	Rep		365	0.2	121	<2	17											
286-2	8151	Goldstream	RC	0.2	35	<0.1	65	15	12	4	4	3	28	158	<20	<20	0.90		8	<1.0
286-2	8152	Goldstream	C	1.2	4728	47.4	975	7887	**6.28** *	37	5	10	20	130	<20	133	3.89		<1	286.9
286-2	8400	Goldstream	S		8560	**103.2** *	524	**7.20** *	**15.00** *											
286-2	8401	Goldstream	G		565	0.5	100	150	269											
286-3	8153	Goldstream	C	0.3	4820	44.8	290	**4.95** *	**2.59** *	15	7	17	13	78	<20	<20	7.91		28	135.7
286-3	8154	Goldstream	CC	.6x.1x.3	1758	8.1	432	7000	**2.16** *											
287-1	9079	SE Gravina Island	CH	1.2x.01x.01	1154	3.7	203	1515	3275											
287-1	9363	SE Gravina Island	S		**11.66** *	**148.8** *	998	**3.70** *	**4.85** *	7	7	9	12	171	<20	544	5.20		8	251
288-1	9368	Heckman	Rep		5	0.2	30	36	200											
288-2	9082	Heckman	SC	2.0@0.1	3159	3.4	311	1564	15148	4	9	19	24	75	<20	135	4.75		35	84.4
288-3	9367	Heckman	SC	4.0@0.2	2108	9.4	150	5371	11905											
288-4	9081	Heckman	SC	3.4@0.2	1580	0.5	206	98	399											
288-5	9080	Heckman	SC	4.3@0.2	2668	7.3	335	3852	19065	6	9	18	28	51	<20	159	4.49		25	98.8
288-6	8156	Heckman	S		2280	29.9	551	**1.80** *	**15.00** *											
288-7	8155	Heckman	SC	3.1@0.2	6260	2.5	289	815	15900											
288-8	9366	Heckman	C	1.2	32	0.6	63	172	317											
288-9	9365	Heckman	C	1.4	1592	6.2	414	6048	**4.54** *											
288-10	9364	Heckman	Rep	3.7	1520	5.9	255	3445	**3.09** *	<1	8	13	36	129	<20	331	3.95		12	174
289-1	9126	Six Point area	C	0.5	11	5.0	342	127	471	3	35	53	23	64	<20	<20	7.78		10	1.1
289-1	9127	Six Point area	Rep		<5	0.5	72	16	15											
289-1	9396	Six Point area	S	0.1	14	8.1	558	200	3726		62	68	9	76	<20	<20	>10		10	44.9
289-1	9397	Six Point area	C	0.5	11	5.7	618	129	1810											
291-1	8100	Ire	S		34	<0.1	548	3	6	<1										
291-1	8101	Ire	S		25	1.2	**4.90** *	3	12	2	8	24	19	109	<20	<20	6.37		34	<1.0
292-1	8095	Dent Cove	C	2.7	<5	2.5	12760	19	127	6										
292-1	8096	Dent Cove	C	0.7	<5	3.3	10645	15	128	13										
292-1	8097	Dent Cove	C	1.1	<5	2.3	19124	11	149	3										
292-1	8098	Dent Cove	Rep		<5	1.7	16710	10	151	<1	12	99	21	61	<20	<20	9.74		45	<1.0
292-1	8099	Dent Cove	S		<5	0.5	373	14	7	<1										
292-1	8365	Dent Cove	S		<5	0.2	262	4	9											
292-1	8366	Dent Cove	Rep	4.3	<5	0.9	1287	9	32											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
5473																			OC,	qz vein
5474																			OC,	qz carbonate lens
5886																			OC,	qz vein in metamorphosed dike
5887																			OC,	micaceous, feldspathic dike w/py
5888																			OC,	qz vein w/py, gn
5889																			OC,	qz vein w/py, gn
5890																			OC,	qz vein w/gn, coarse py cubes
5893																			OC,	black slate w/med-coarse py cubes
5896																			MD,	qz rubble at edge of shaft
5907																			TP,	qz pegmatite vein w/py,cp,sl,gn
8087																			RC,	msv, coarse py, po, in qz
8398																			MD,	gs sc w/qz
8399	9	8	<5		<10		<1		5										MD,	gs & talc sc
8150																			TP,	qz vein w/py & gs sc clasts
8151	<5	9	<5		<10		<1		2										TP,	qz vein w/py, in talc sc
8152	48	>2000	81		21		<1		2										TP,	qz lenses w/sl, gn, aspy, py in talc sc
8400																			TP,	qz vein w/sulf
8401																			TP,	qz w/py, aspy
8153	21	600	47		33		<1		2										OC,	talc & chl sc w/py, sl, gn
8154		561																	OC,	chl-talc sc w/qz lenses & py,sl,gn
9079																			OC,	qz-chl-talc sc w/gn .05%, py 2%
9363	<5	242	35		116		<1		3										OC,	alt mafic metavolc w/py 10%,gn 15%
9368																			MD,	chl greenschist w/minor py
9082	<5	>2000	34		<10		<1		3										TP,	qz-chl sc w/py 2%,gn .05%,sl<1%
9367																			TP,	alt mafic metavolc w/gn 5%,py 5%,sl 2%
9081																			TP,	qz-chl sc w/py 3%,sl<1%,gn<1%
9080	<5	>2000	30		<10		<1		3										TP,	qz-talc-chl sc w/dissem py & qz lenses w/sl,gn.py
8156		7850																	RC,	qz lenses w/msv sl, gn, py
8155		>10000																	OC,	talc-chl-qz sc w/py, sl, gn, aspy
9366																			OC,	alt mafic metavolc, adjacent to 9365
9365																			OC,	qz-rich, fest, alt mafic metavolc w/gn,py
9364	<5	>2000	55		24		<1		3										OC,	alt mafic metavolc w/py 5%, gn 5%, sl 3%
9126	7	174	<5		<10		2		4										OC,	fg sulf in sil metased, py~20%
9127																			OC,	dolomite w/minor py + 0.01m qz vein
9396	17	396	9		<10		<1		5										OC,	msv py + cp in sil dolomite br
9397																			OC,	chert br w/py 30%,cp 1%
8100																			TP,	fel intrusive w/minor py, cp
8101	7	<5	<5		<10		<1		6										TP,	sil intrusive w/cp
8095																			TP,	metavolc w/cp, py, hem
8096																			TP,	sil metavolc w/py + cp
8097																			TP,	sheared metavolc w/py, cp, hem
8098	15	<5	<5		<10		11		14										MD,	metavolc w/py, lm + cp
8099																			RC,	porphyry w/sulf, py
8365																			TP,	metarhyolite? w/py, hem
8366																			TP,	metarhyolite? in shear zone w/py, cp

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
292-1	8367	Dent Cove	Rep		<5	0.2	2124	10	161	2	12	28	28	29	<20	<20	8.61	0.12	22	<1.0
		George Inlet Area																		
293-1	7183	Mahoney	Rep		49	<0.1	16	21	65						19	<2				
293-1	7184	Mahoney	C	0.2	154	1.1	97	400	**7.08** *						21					497
293-1	7185	Mahoney	C	0.3	320	24.8	195	**3.18** *	**9.92** *						28					730
293-1	7186	Mahoney	C	0.5	68	14.8	75	**2.75** *	**7.12** *						21					460
293-1	7187	Mahoney	C	0.5	156	2.9	197	1800	**11.57** *						34					850
293-1	7188	Mahoney	C	0.5	90	2.8	178	2600	**10.44** *						31					726
293-1	7189	Mahoney	C	0.4	94	30.9	88	**5.78** *	**14.97** *						10					200.0
293-1	7190	Mahoney	C	0.4	146	6.5	261	7200	**4.91** *						21					340
293-1	7191	Mahoney	C	0.3	416	**107.3** *	127	**13.25** *	**8.10** *						10					603
293-1	7192	Mahoney	C	0.5	45	1.4	140	900	**3.91** *						9					259.0
293-1	7193	Mahoney	C	0.6	262	**55.20** *	417	**14.12** *	**8.26** *						15					524
293-1	7194	Mahoney	C	0.3	40	3.3	187	3275	**5.86** *						25					395
293-1	7196	Mahoney	C	0.4	366	**86.06** *	159	**24.97** *	**5.15** *						10					385
293-1	7197	Mahoney	C	0.4	359	**56.57** *	522	**11.73** *	**10.33** *						48					661.0
294-1	1647	Londevan	C	.09 x 1.52	<5	0.4	51	5	1013											
294-1	1664	Londevan	C	0.6	<5	0.4	17	9	1280											
294-2	1648	Londevan	C	0.9	<5	0.6	38	10	161											
294-2	1665	Londevan	C	0.8	9	0.4	7	8	156											
294-3	1659	Londevan	C	0.5	<5	6.6	37	63	850											
294-4	1660	Londevan	Rep		<5	**47.31** *	45	2941	1050											
294-5	7445	Londevan	C	1.2	18	3.0	23	584	1900							<2				
294-5	7450	Londevan	C	1.1	16	**237.7** *	81	4300	18400	11	26	15	93	127	<20	140	4.55		82	402
294-5	7453	Londevan	S	0.3	24	**936.0** *	229	9720	**6.43** *	<1	16	14	50	160	29	29	8.81		19	1336
294-5	7454	Londevan	C	0.9	<5	4.2	25	120	385							<2				
294-5	7455	Londevan	C	1.1	<5	1.7	4	35	117							<2				
294-5	7456	Londevan	C	0.2	54	**69.26** *	72	1740	3390							30				
294-5	7457	Londevan	Rep		<5	1.8	15	88	6242							<2				
294-5	7458	Londevan	C	0.3	13	3.5	33	70	159							3				
294-5	7459	Londevan	C	0.4	25	4.5	29	191	193							5				
294-5	7460	Londevan	C	1.8	20	3.5	58	144	662							9				
294-5	7461	Londevan	C	1.8	115	6.6	18	1110	401							13				
294-6	1666	Londevan	C	0.2	93	0.2	8	9	56											
295-1	7216	Alaska Lead & Silver	C	0.9	7	1.1	18	43	100											
295-2	7223	Alaska Lead & Silver	C	0.7	9	45.5	16	493	102											
295-3	7218	Alaska Lead & Silver	C	0.4	<5	3.3	23	327	320											
295-4	7217	Alaska Lead & Silver	C	0.4	<5	**63.09** *	31	3590	2892											
295-5	7215	Alaska Lead & Silver	C	0.7	244	19.5	26	465	142											
295-6	7222	Alaska Lead & Silver	C	0.6	20	6.2	14	127	150											
295-7	7214	Alaska Lead & Silver	C	0.6	1440	5.7	16	88	215											
295-8	7213	Alaska Lead & Silver	C	0.6	18	27.4	57	383	835											
295-9	7211	Alaska Lead & Silver	C	0.6	26	5.9	35	252	351											
295-10	7220	Alaska Lead & Silver	C	0.5	70	20.1	30	630	3334											
295-10	7221	Alaska Lead & Silver	S	0.2	13	39.1	86	2000	**2.66** *			10		284	15	<2	4.19		2	620
295-11	7219	Alaska Lead & Silver	C	0.7	16	10.9	19	334	1229											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
8367	19	<5	<5		<10		4		5										TP,	aphanitic, mafic rock w/dissem cp
George Inlet Area																				
7183																			UW,	fel dike, qz, py <0.5%
7184																			UW,	msv sulf vein, sl to 20%, gn to 3%
7185																			UW,	msv sulf, black sc, w/sl,gn to 7%
7186																			UW,	msv sulf, black sc, sl, gn in veins
7187																			UW,	msv sulf, black sc, sl, gn to 25%
7188																			UW,	msv sulf in stope, sl, gn to 20%
7189																			UW,	msv sulf lens in sil black pl,sl,gn
7190																			UW,	sil min metasediment, sl, gn to 5%
7191																			UW,	msv sulf in sil black pl, sl, gn
7192																			UW,	black pl w/msv sulf veinlets
7193																			UW,	msv sulf in sil black pl, sl gn to 50%
7194																			UW,	msv sulf, sil black pl, from stope
7196																			UW,	msv sulf pod, gn>sl
7197																			TP,	msv sulf in sil black pl, gn>sl
1647																			OC,	qz vein w/py, sl, po
1664																			OC,	qz-calc vein w/gn, sl to 3%, high angle fault
1648																			OC,	alt di dike, py to 10%, trace sl
1665																			OC,	qz vein w/ser, trace sl, gn
1659																			OC,	qz veins w/gn, sl, py near hnbd di
1660																			RC	banded qz in hn, fest, gn, sl, py
7445																			UW,	banded qz vein-hn w/sl,gn,py clot
7450	538	<5	<5		26														UW,	qz vein w/hn, sl, py
7453	1956	<5	9		104														UW,	qz vein stockwork in hn w/gn, sl, cp in clots
7454																			UW,	banded qz vein-hn
7455																			UW,	qz
7456																			UW,	qz
7457																			UW,	qz
7458																			UW,	qz
7459																			UW,	qz
7460																			UW,	qz vein w/hn
7461																			UW,	qz w/graphitic sc
1666																			OC,	qz vein in bt sc, py, trace sl, west of adit
7216																			UW,	qz near edge of cribbing, sl
7223																			UW,	qz vein, sulf on hw, sl, gn, py
7218																			UW,	qz (60%), hn (40%), sl, py
7217																			UW,	qz (80%), hn (20%), sl to 1%
7215																			UW,	qz in hn from stope, trace sl, py
7222																			UW,	qz vein, hn w/trace py
7214																			UW,	qz in hn from stope, sl, py
7213																			UW,	qz (45%), hn (55%), sl to 0.5%, py
7211																			UW,	qz (50%), hn (50%) w/sl, py, in stope
7220																			UW,	qz vein, sl, gn in clots
7221	113	6	11		21														UW,	qz vein, high-grade of 7220
7219																			UW,	ribbon qz, dissem sulf and clots

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
295-12	7224	Alaska Lead & Silver	C	0.6	55	36.5	44	1675	7048											
295-13	7225	Alaska Lead & Silver	C	0.4	20	**58.63** *	30	1100	3100			4		289	8	<2	1.79		5	77.9
295-14	7226	Alaska Lead & Silver	C	0.5	53	11.3	1	200	300											
296-1	7387	Peterson	C	0.4	<5	0.5	29	6	37	4	9	3	104	211	<20	<20	0.94		19	<1.0
296-1	7391	Peterson	C	0.7	<5	0.2	14	6	90		14	2								
296-1	7392	Peterson	C	0.2	<5	0.5	65	10	351											
296-2	5452	Peterson	C	1.5	9	1.1	52	13	181	6										
296-2	5453	Peterson	C	0.3	6	0.5	5	10	10	<1										
296-2	5454	Peterson	C	0.7	<5	<0.1	12	<2	12	7										
296-2	5455	Peterson	Rep	0.3	23	6.2	860	4	399	2										
296-2	5879	Peterson	G	0.2	<5	0.3	23	4	41	2										
296-2	5880	Peterson	C	0.6	12	1.8	70	82	442	19										
296-2	5881	Peterson	G		28	7.2	1066	8	2469	2	246	95			24	<2				
296-2	5882	Peterson	G	0.1	<5	0.4	20	11	1538	2										
Sealevel Area																				
297-1		Tyee		No Samples Taken																
298-1	9023	Massachusetts	C	1.3	9	0.2	3	20	5											
298-1	9024	Massachusetts	C	0.9	7	<0.1	13	13	96	2	14	28	24	39	<20	<20	5.00		15	<1
298-1	9025	Massachusetts	S		6710	**98.74** *	21	**1.69** *	2930	8	9	4	5	281	<20	28	0.82		<1	23.5
298-1	9026	Massachusetts	Rep		953	0.5	4	33	130											
298-1	9027	Massachusetts	Rep		20	<0.1	2	10	14											
298-1	9028	Massachusetts	C	1.0	30	1.6	49	123	116											
298-1	9029	Massachusetts	S		4211	35.4	5	207	70	<1	29	109	9	79	<20	<20	>10		7	1.1
298-1	9315	Massachusetts	S		1565	35.5	11	4626	2690											
298-1	9320	Massachusetts	C	1.3	128	1.3	6	65	72											
298-1	9321	Massachusetts	C	0.2	25	0.2	15	8	102											
298-1	9322	Massachusetts	C	0.9	**11.07** *	**134.7** *	35	9216	4908											
298-1	9323	Massachusetts	C	0.3	115	1.0	22	146	145											
299-1		Baltic		No Samples Taken																
300-1	8185	Sea Breeze	S		1708	10.2	7	2210	10110	7	10	7	5	288	<20	<20	1.16		4	47.2
300-2	8182	Sea Breeze	C	1.0	9	0.4	104	8	69											
300-2	8183	Sea Breeze	C	2.3	114	0.2	18	26	203	2	26	21	47	279	<20	<20	4.96		22	<1.0
300-2	8184	Sea Breeze	C	0.9	44	<0.1	3	4	43											
300-2	8432	Sea Breeze	RC	6.1	402	1.7	8	49	2880											
300-2	9038	Sea Breeze	G		6	<0.1	31	5	108											
300-3	8431	Sea Breeze	G		<5	<0.1	3	3	3											
300-4	8433	Sea Breeze	C	0.7	219	0.1	3	3	12											
300-4	9333	Sea Breeze	C	0.8	7	0.5	181	11	103											
300-5	8181	Sea Breeze	SC	2.6@0.2	2046	0.3	3	11	11											
300-5	8186	Sea Breeze	C	0.5	3098	1.2	7	15	68											
300-5	9332	Sea Breeze	C	0.3	269	0.4	39	25	217											
301-1	8048	Sealevel	S		**62.85** *	23.1	1	387	123											
301-2	8180	Sealevel	C	1.6	4022	1.3	5	10	78	4	8	19	48	222	<20	<20	4.88		18	<1.0
301-2	8429	Sealevel	C	0.6	69	0.2	3	8	13											
301-2	8430	Sealevel	Rep		2465	0.8	14	15	144											
301-3	8434	Sealevel	C	1.1	615	0.3	3	5	15											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
7224																			UW, qz w/sl, py, trace gn
7225	394	9	<5		24														UW, qz w/sl, gn, py
7226																			UW, qz vein at face, sl, gn to 5%
7387	<5	19	<5		<10		4		<1										OC, qz-hn br, py 5-10%
7391																			OC, qz-hn br, py to 3%
7392																			OC, qz vein w/sl, py, fest
5452																			UW, sil gray black dike w/py
5453																			FL, vuggy qz vein
5454																			RC, qz vein rubble
5455																			RC, qz po vein
5879																			FL, qz boulder w/dissem py
5880																			OC, sheared mafic intrusive w/py & qz
5881																			RC, msv po w/some qz
5882																			FL, banded qz boulder w/py, sl
Sealevel Area																			
No Samples Taken																			
9023																			TP, qz vein
9024	<5	37	<5		<10		<1		2										TP, alt metavolc w/minor py
9025	23	15	27		38		<1		<1										RC, qz w/gn,sl,py
9026																			RC, qz w/minor py
9027																			OC, qz w/minor py
9028																			OC, alt metavolc
9029	6	249	<5		<10		<1		<1										MD, py from alt metavolc adjacent to qz vein
9315																			RC, qz w/gn 3%,py 2%
9320																			OC, qz vein w/minor py,gn
9321																			OC, alt metavolc w/py 5%
9322																			TP, qz vein w/minor py + gn
9323																			TP, alt metavolc w/py 5%,gn 2%
No Samples Taken																			
8185	23	13	9		11		<1		<1										MD, qz vein w/sl, gn, py
8182																			UW, sheared sc w/minor qz lenses
8183	<5	26	<5		<10		3		10										UW, qz vein hosted by sheared sc
8184																			UW, qz vein
8432																			MD, qz w/py, gn
9038																			UW, alt metavolc
8431																			MD, qz
8433																			TP, qz
9333																			TP, alt mafic metavolc w/py 10%
8181																			TP, qz vein
8186																			TP, qz vein
9332																			TP, alt mafic metavolc w/py 5%
8048																			MD, qz w/sulf, py
8180	<5	51	<5		<10		3		2										UW, qz vein in alt metavolc
8429																			UW, qz vein
8430																			UW, msv metavolc w/py
8434																			TP, qz

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
301-4	9325	Sealevel	C	0.7	2820	1.3	4	38	19											
301-4	9326	Sealevel	C	0.2	25	<0.1	9	9	193											
301-5	8187	Sealevel	C	0.3	**76.59** *	36.3	3	113	175	<1	15	27	4	280	<20	<20	5.19		2	<1.0
301-5	8188	Sealevel	C	1.3	4201	2.1	2	27	28											
301-5	9032	Sealevel	Rep	0.4	45	0.3	3	<2	9											
301-5	9033	Sealevel	C	1.3	190	<0.1	4	6	128											
301-5	9034	Sealevel	S		**16.25** *	7.3	3	11	45	4	19	102	18	52	<20	<20	9.30		17	<1
301-5	9065	Sealevel	Rep	0.6	15	<0.1	64	<2	10											
301-5	9066	Sealevel	Rep	0.7	631	0.4	93	10	151											
301-5	9067	Sealevel	Rep	0.3	168	<0.1	16	5	23	<1	4	4	33	250	<20	<20	1.33		3	<1
301-5	9068	Sealevel	S		3629	0.4	24	10	95	2	4	25	52	29	<20	<20	5.02		15	<1
301-5	9327	Sealevel	C	1.1	8	<0.1	3	<2	44											
301-5	9353	Sealevel	C	0.6	<5	0.2	268	<2	30											
301-5	9354	Sealevel	C	0.6	1166	0.8	60	17	114											
301-5	9355	Sealevel	C	0.5	<5	0.2	32	4	18											
301-5	9356	Sealevel	C	0.7	132	<0.1	22	11	148											
301-6	8436	Sealevel	C	0.4	85	0.1	2	2	4											
301-6	9035	Sealevel	C	1.6	1004	0.2	10	9	137											
301-6	9036	Sealevel	SC	4.3@0.3	<5	<0.1	7	3	147	2	9	28	219	43	<20	<20	4.72		202	<1
301-6	9037	Sealevel	C	1.1	52	<0.1	9	8	152	3	3	25	53	26	<20	<20	5.89		25	1
301-7	8435	Sealevel	RC	15.3	243	0.1	10	12	116	1	7	29	70	106	<20	<20	7.21		54	<1.0
301-7	9330	Sealevel	RC		1417	0.3	15	14	131											
301-8	8437	Sealevel	RC		363	0.1	3	3	5	1	5	4	11	348	<20	<20	1.14		5	<1.0
301-8	9331	Sealevel	Rep		158	<0.1	4	<2	146											
301-9	9328	Sealevel	C	0.5	308	0.3	4	3	9											
301-9	9329	Sealevel	C	0.3	1062	0.5	6	16	94											
301-10	8428	Sealevel	Rep	0.4	67	0.2	2	2	3	1	7	1	3	350	<20	<20	0.56		3	<1.0
301-11	8427	Sealevel	C	0.1	7	<0.1	3	4	7											
301-12	8179	Sealevel	SC	4.1@0.1	63	0.9	12	8	71											
301-12	9039	Sealevel	C	1.2	1555	0.4	11	15	105											
301-13	8425	Sealevel	Rep		25	<0.1	3	6	4											
301-13	8426	Sealevel	G		4276	1.4	17	41	107	1	13	39	49	44	<20	<20	7.99		36	<1.0
301-13	9334	Sealevel	C	0.3	1136	0.2	18	19	128											
301-14	9016	Sealevel	C	0.5	<5	0.1	21	7	68											
301-14	9316	Sealevel	CC	.2x.2x.1	6	0.2	10	17	62											
301-15	9312	Sealevel	C	0.4	12	0.4	107	13	139											
301-15	9313	Sealevel	C	0.3	75	0.9	13	18	27											
301-15	9314	Sealevel	C	0.4	15	<0.1	39	5	131											
302-1	9022	Goo Goo	C	0.9	600	0.3	5	3	31											
302-1	9319	Goo Goo	G		1069	1.0	81	16	155											
302-2	8044	Goo Goo	Rep	16.8	1447	0.5	<1	3	24											
302-2	8325	Goo Goo	S		1685	0.3	<1	5	48											
302-3	8045	Goo Goo	C	2.7	9	<0.1	<1	<2	7											
302-4	8326	Goo Goo	RC		1601	1.3	<1	4	6											
302-5	8172	Goo Goo	SC	4.2@0.1	487	0.2	2	2	12											
302-6	8422	Goo Goo	C	1.9	86	<0.1	18	6	18	1	10	6	28	330	<20	<20	2.36		12	<1.0

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
9325																			TP,	qz vein w/py 2%
9326																			TP,	alt mafic metavolc w/py 5%
8187	<5	115	<5		<10		<1		<1										UW,	qz vein
8188																			UW,	qz vein + alt metavolc
9032																			UW,	qz w/minor py,limonite
9033																			UW,	alt metavolc w/py
9034	<5	478	<5		<10		<1		3										UW,	py in alt metavolc from vein margin
9065																			UW,	fest qz vein w/minor schistose partings
9066																			UW,	alt mafic metavolc w/py~3%
9067	<5	8	<5		<10		2		2										UW,	qz w/minor py at margins
9068	<5	51	<5		<10		<1		6										UW,	py-rich alt metavolc adjacent to qz stringers
9327																			UW,	qz vein w/py 3%
9353																			UW,	qz vein w/py 3%
9354																			UW,	alt metavolc w/cubic py 15%
9355																			UW,	qz vein w/py 2%
9356																			UW,	alt metavolc w/py 5%
8436																			OC,	qz vein
9035																			OC,	alt metavolc w/minor py
9036	<5	<5	<5		<10		4		8										OC,	mafic metavolc
9037	<5	17	<5		<10		2		5										OC,	alt metavolc w/minor py
8435	<5	7	<5		<10		3		3										MD,	alt metavolc w/qz, py
9330																			MD,	alt mafic metavolc w/py 5%
8437	<5	7	<5		<10		<1		<1										MD,	qz w/py
9331																			MD,	crushed qz w/minor py
9328																			TP,	qz vein w/py 5%
9329																			TP,	alt mafic metavolc w/py 5%
8428	<5	<5	<5		<10		<1		<1										MD,	qz
8427																			TP,	qz
8179																			TP,	qz veins in alt metavolc
9039																			TP,	alt metavolc
8425																			TP,	qz
8426	6	47	<5		<10		<1		2										TP,	metavolc w/py
9334																			TP,	alt mafic metavolc w/py 5%
9016																			TP,	schistose mafic metavolc
9316																			TP,	qz vein, fest
9312																			TP,	alt mafic metavolc
9313																			TP,	qz vein, fest
9314																			TP,	alt mafic metavolc w/minor py
9022																			TP,	qz vein w/minor py
9319																			RC,	qz w/py 10%
8044																			MD,	qz vein w/py
8325																			MD,	qz w/py
8045																			TP,	qz vein
8326																			MD,	qz
8172																			TP,	qz vein
8422	<5	<5	<5		<10		1		2										TP,	qz vein w/py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
302-7	8175	Goo Goo	SC	2.0@0.1	66	2.6	171	146	133	2	13	3	8	336	<20	<20	1.35		6	<1.0
303-1	8171	Goo Goo Extension	SC	3.4@0.1	546	1.4	75	8	373											
303-2	8421	Goo Goo Extension	C	1.8	1803	1.5	19	14	43											
303-3	8170	Goo Goo Extension	C	1.3	495	0.1	2	9	9											
303-4	8412	Goo Goo Extension	C	2.1	424	0.2	3	13	27											
303-5	8327	Goo Goo Extension	C	1.2	475	0.7	<1	<2	8											
303-5	9044	Goo Goo Extension	C	2.4	128	0.2	25	14	168											
303-5	9045	Goo Goo Extension	C	1.2	14	<0.1	9	4	100	<1	14	9	29	381	<20	<20	4.31		10	<1
303-6	9043	Goo Goo Extension	C	0.9	27	<0.1	4	<2	7											
303-7	8328	Goo Goo Extension	C	1.2	48	<0.1	6	4	104											
303-8	8046	Goo Goo Extension	C	1.4	16	<0.1	<1	<2	5											
303-9	9042	Goo Goo Extension	Rep	0.7	140	<0.1	4	<2	5											
303-10	9336	Goo Goo Extension	C	0.2	<5	<0.1	4	<2	7											
303-10	9337	Goo Goo Extension	C	5.5	64	<0.1	21	7	117	<1	8	28	28	81	<20	<20	5.71		28	<1
303-11	8176	Goo Goo Extension	C	0.4	<5	<0.1	2	3	8											
303-11	8177	Goo Goo Extension	Rep		25	0.1	23	11	148	1	9	36	54	30	<20	<20	8.08		52	<1.0
303-11	9335	Goo Goo Extension	C	1.0	102	<0.1	14	6	158											
303-12	8423	Goo Goo Extension	C	1.1	591	0.3	5	9	15											
303-13	8178	Goo Goo Extension	G		**17.35** *	3.4	12	47	26											
303-14	9041	Goo Goo Extension	Rep		<5	<0.1	9	<2	100											
303-15	8424	Goo Goo Extension	C	1.1	<5	<0.1	4	4	45											
303-15	9040	Goo Goo Extension	C	1.2	82	0.2	35	7	109											
303-16	8047	Goo Goo Extension	S		542	<0.1	7	5	1210	7	8	13	220	257		<20	3.75			
303-16	8329	Goo Goo Extension	G		117	<0.1	<1	3	11											
304-1	9020	Gold Banner	Rep		4192	36.2	4	4400	41											
304-2	8165	Gold Banner	C	0.1	<5	<0.1	2	5	4											
304-2	8404	Gold Banner	C	0.7	59	0.3	2	16	29											
304-2	8405	Gold Banner	C	0.5	851	0.1	2	4	4											
304-3	8159	Gold Banner	C	2.1	7	0.4	2	86	112											
304-3	8160	Gold Banner	C	0.9	35	0.8	3	230	26	5	5	3	13	315	<20	<20	1.00		6	<1.0
304-3	8161	Gold Banner	C	0.9	12	<0.1	50	10	84											
304-3	8162	Gold Banner	C	1.5	703	0.3	9	42	160											
304-3	8163	Gold Banner	Rep		53	<0.1	4	15	38											
304-3	8164	Gold Banner	S		8991	2.4	5	43	73	2	36	94	20	56	<20	<20	9.03		17	<1.0
304-4	8166	Gold Banner	C	0.4	16	<0.1	3	8	15											
304-4	8167	Gold Banner	G		7	1.9	145	15	68	<1	41	54	33	39	<20	<20	3.71		25	<1.0
304-4	8408	Gold Banner	C	0.8	936	0.6	4	155	60											
304-4	8409	Gold Banner	S		**16.39** *	**59.31** *	8	**56.57** *	44	<1	14	18	20	218	<20	<20	2.71		11	<1.0
304-5	8403	Gold Banner	C	0.6	411	0.7	2	12	86											
304-5	8406	Gold Banner	Rep		221	0.3	9	14	50											
304-5	8407	Gold Banner	SC	3.7@0.2	1398	0.3	11	25	113	<1	9	27	59	49	<20	<20	6.70		54	<1.0
304-6	8168	Gold Banner	G		<5	0.1	13	10	223	1	11	33	64	54	<20	<20	6.47		226	<1.0
304-6	8410	Gold Banner	SC	7.6@0.3	102	0.3	17	33	127	4	11	33	27	65	<20	<20	6.98		125	<1.0
304-7	8157	Gold Banner	G		<5	0.1	3	35	140	1	9	<1	3	348	<20	<20	0.41		2	<1.0
304-7	8158	Gold Banner	G		16	0.2	3	93	339											
304-7	8402	Gold Banner	Rep		141	0.1	2	10	8											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
8175	<5	<5	<5		<10		<1		1										TP, qz vein
8171																			TP, qz vein w/minor py
8421																			TP, qz vein
8170																			TP, qz vein w/minor py
8412																			TP, qz vein w/minor py
8327																			TP, qz w/py
9044																			TP, alt mafic metavolc w/py~3%
9045	<5	14	6		<10		1		3										TP, qz vein w/50% limonite & minor py
9043																			OC, qz vein w/py~1%
8328																			TP, qz vein
8046																			OC, qz
9042																			OC, qz vein w/py~1%
9336																			OC, qz vein w/py 1%
9337	<5	25	<5		<10		<1		4										OC, alt mafic metavolc w/py 5%
8176																			TP, qz vein
8177	<5	21	<5		<10		1		4										TP, alt metavolc w/py
9335																			TP, alt mafic metavolc w/py 1%
8423																			TP, qz vein w/py
8178																			TP, qz vein w/py-bearing sc
9041																			OC, po-bearing mafic metavolc
8424																			TP, qz vein
9040																			TP, alt metavolc w/minor py
8047	<5	21	<5	0.256															MD, qz w/sulf, py
8329																			MD, qz w/py
9020																			MD, qz w/gn,py
8165																			TP, qz vein
8404																			TP, qz vein
8405																			TP, qz vein
8159																			TP, qz vein
8160	<5	<5	<5		<10		<1		<1										TP, qz vein in metavolc
8161																			TP, shear zone in metavolc w/qz stringers
8162																			TP, qz vein
8163																			UW, qz vein in metavolc
8164	6	61	<5		<10		<1		3										TP, sc w/py cubes in shear
8166																			UW, qz vein in sericite sc
8167	7	71	31		<10		<1		1										UW, metavolc w/py
8408																			UW, qz + sheared rock w/py
8409	9	14	31		16		<1		<1										UW, qz w/py, gn
8403																			UW, qz vein
8406																			UW, qz in metavolc w/py
8407	9	9	<5		<10		2		2										UW, metavolc w/py
8168	6	<5	<5		<10		2		9										OC, gneiss w/po
8410	5	<5	<5		<10		9		14										OC, qz sc w/po
8157	<5	31	<5		<10		<1		<1										UW, qz vein
8158																			UW, qz vein
8402																			TP, qz vein

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
304-8	9317	Gold Banner	S		<5	0.3	127	5	73	8	37	34	19	65	<20	<20	7.48		84	<1
304-9	9015	Gold Banner	Rep		967	0.3	3	79	262	4	6	<1	2	255	<20	<20	0.32		<1	1
304-9	9311	Gold Banner	Rep		5706	1.9	4	5	20	7	9	5	7	303	<20	<20	1.77		<1	<1
304-10	9014	Gold Banner	Rep		42	1.2	4	326	301											
304-10	9310	Gold Banner	Rep		332	0.5	26	57	120											
304-11	8169	Gold Banner	C	0.4	1993	3.5	4	596	251	3	10	6	19	288	<20	<20	1.98		8	<1.0
304-12	8411	Gold Banner	C	0.4	36	0.4	4	79	20											
305-1	9017	Wild West	C	0.1	331	0.2	23	12	167											
305-1	9018	Wild West	Rep	0.3	1799	1.4	59	99	251	<1	9	22	59	40	<20	<20	4.48		19	1.6
305-1	9019	Wild West	Rep	0.2	22	0.2	17	7	153	<1	8	24	42	33	<20	<20	4.78		14	<1
305-2	9011	Wild West	Rep		54	<0.1	2	<2	20											
305-2	9308	Wild West	CC	.3x.1x.1	146	1.1	64	162	380	2	46	43	97	176	<20	<20	6.14		17	1.8
305-3	9009	Wild West	C	0.8	226	<0.1	4	15	193											
305-3	9010	Wild West	C	1.7	<5	0.2	3	50	5	3	7	<1	18	263	<20	<20	0.39		<1	<1
305-3	9307	Wild West	G		**15.22** *	**124.5** *	7	9570	3718	1	10	10	13	317	<20	36	2.27		<1	19.6
305-4	9302	Wild West	G		965	0.3	8	32	150											
305-5	9008	Wild West	G		314	0.6	3	13	7											
305-6	9002	Wild West	C	0.14	7	<0.1	3	4	16											
305-6	9003	Wild West	C	0.6	2066	0.3	15	14	174											
305-6	9004	Wild West	C	0.2	134	0.6	3	10	90											
305-6	9005	Wild West	Rep	0.6	255	0.1	19	14	173											
305-6	9301	Wild West	G		187	0.5	2	140	12											
305-7	9303	Wild West	C	0.2	4504	0.7	4	<2	8											
305-7	9304	Wild West	C	1.2	8150	2.4	28	34	137											
305-7	9305	Wild West	C	0.2	6	0.1	4	4	7											
305-7	9306	Wild West	C	0.2	**23.21** *	13.3	8	262	72											
305-8	9007	Wild West	SC	11.0	153	<0.1	42	12	114											
305-9	9006	Wild West	C	0.5	<5	0.4	42	7	179											
305-10	9341	Wild West	C	1.2	<5	<0.1	4	2	7											
305-10	9342	Wild West	Rep		<5	0.2	15	31	138											
305-11	9052	Wild West	S		2330	2.1	65	45	185	8	14	24	20	89	<20	<20	8.99		10	1.5
305-11	9344	Wild West	C	0.6	5041	3.5	40	62	115											
305-12	9046	Wild West	C	0.6	<5	0.1	4	<2	15											
305-12	9047	Wild West	SC	1.2@0.1	<5	<0.1	11	6	98											
305-12	9048	Wild West	C	0.6	<5	<0.1	7	<2	63											
305-13	9340	Wild West	Rep	0.4	<5	<0.1	3	<2	7											
305-14	9338	Wild West	C	0.8	<5	<0.1	6	2	11											
305-14	9339	Wild West	C	0.6	347	1.4	101	108	175											
305-15	9051	Wild West	Rep	1.4	<5	0.3	37	11	150	14	8	44	17	69	<20	<20	9.45		95	<1
305-15	9343	Wild West	C	1.0	<5	0.3	32	9	150	12	11	47	21	118	<20	<20	>10		105	1.3
305-16	9049	Wild West	C	0.5	<5	<0.1	4	<2	5											
305-16	9050	Wild West	Rep	0.4	<5	<0.1	7	9	179											
306-1	9012	Sealevel Creek	C	0.5	21	0.1	28	6	149											
306-1	9013	Sealevel Creek	Rep	0.7	185	2.2	2	11	80	3	5	2	3	228	<20	<20	0.48		<1	<1
306-1	9309	Sealevel Creek	S		5369	4.6	5	70	14	6	28	32	14	302	<20	<20	4.25		3	<1

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
9317	<5	<5	<5		<10		<1		7										OC,	alt metavolc w/po 10%,py 5%
9015	<5	<5	<5		<10		<1		<1										MD,	hydrothermally alt metavolc
9311	<5	21	<5		<10		<1		1										MD,	qz w/minor py
9014																			MD,	qz w/py,gn,sl
9310																			MD,	alt metavolc, py~3%
8169	<5	56	<5		<10		<1		<1										TP,	qz vein w/py
8411																			UW,	qz, metavolc, fault gouge
9017																			TP,	qz vein w/minor sl,gn
9018	<5	48	<5		<10		<1		6										TP,	alt metavolc adjacent to qz vein
9019	<5	14	<5		<10		<1		5										TP,	alt metavolc w/dissem py
9011																			OC,	qz w/minor py
9308	<5	46	7		<10		<1		6										OC,	alt metavolc w/py 5%
9009																			TP,	qz vein, minor py
9010	<5	<5	<5		<10		<1		<1										TP,	pl, hosting qz vein, w/minor py
9307	12	63	63		18		<1		<1										FL,	qz float w/gn 5%,py 5%
9302																			MD,	alt metavolc w/py 10%
9008																			MD,	qz from dump
9002																			OC,	qz vein w/minor limonite
9003																			OC,	alt metavolc adjacent to qz vein
9004																			OC,	sheared qz vein w/limonite, clay minerals
9005																			OC,	alt metavolc adjacent to qz vein, py 3%
9301																			OC,	fest qz vein
9303																			OC,	qz vein, very minor py, po
9304																			TP,	alt mafic metavolc w/py 10%,po 3%
9305																			TP,	qz vein, py+po~1%
9306																			TP,	alt metavolc w/py 10%,po 5%
9007																			TP,	alt metavolc near qz veins
9006																			OC,	alt qz-chl sc w/dissem & lensoidal py
9341																			TP,	qz vein w/gn 1%
9342																			TP,	alt metavolc w/py 10%
9052	<5	131	<5		<10		<1		5										TP,	alt metavolc w/~30%py
9344																			TP,	alt metavolc w/py 30%
9046																			TP,	qz w/~3% limonite
9047																			TP,	alt metavolc w/minor py
9048																			TP,	qz vein w/minor alt metavolc inclusions + limonite
9340																			OC,	qz vein, minor fest
9338																			TP,	qz vein w/py 2%
9339																			TP,	alt metavolc w/py 10%
9051	<5	<5	<5		<10		3		15										OC,	sulf-rich fel sc
9343	<5	<5	<5		<10		2		16										OC,	alt metavolc w/py 30%
9049																			TP,	qz vein w/minor limonite
9050																			TP,	alt metavolc w/ minor py
9012																			OC,	qz vein
9013	<5	<5	<5		<10		<1		<1										OC,	alt metavolc adjacent to vein
9309	<5	154	<5		<10		<1		<1										OC,	qz vein w/py 20%

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
307-1		Moth Bay		No Samples Taken																
308-1	8062	Alava Bay	Rep		<5	<0.1	20	<2	63								>10	2.07		
308-1	8063	Alava Bay	SC	16.5@0.6	<5	<0.1	20	<2	66		16	44		48			>10	1.91	841	
308-1	8064	Alava Bay	SC	16.2@0.6	<5	<0.1	39	<2	60		14	49		40			>10	1.85	711	
308-1	8065	Alava Bay	Rep		<5	<0.1	53	<2	52								6.13	1.67		
308-1	8339	Alava Bay	SC	16.5@0.6	<5	<0.1	59	<2	65								8.72	1.87		
308-1	8340	Alava Bay	SC	13.7@0.6	<5	<0.1	52	<2	62								8.17	1.96		
308-1	8341	Alava Bay	SC	10.1@0.6	<5	<0.1	62	<2	65								9.21	1.97		
308-1	8342	Alava Bay	SC	10.4@0.6	<5	<0.1	93	<2	65	<1	7	34	280	23		<20	9.02	1.98		
308-1	8343	Alava Bay	S		<5	<0.1	76	<2	69		28	64		57			>10	1.91	841	
308-2	8066	Alava Bay	Rep		<5	<0.1	10	<2	60	3	13	23					>10	1.98		
308-2	8067	Alava Bay	Rep	3.7x3.1	<5	<0.1	14	<2	67								8.46	2.06		
308-2	8068	Alava Bay	Rep		<5	<0.1	32	<2	50								3.20	1.31		
308-2	8069	Alava Bay	Rep		<5	<0.1	12	<2	70								8.96	2.26		
308-2	8344	Alava Bay	SC	9.6@0.6	<5	<0.1	17	3	69								>10	2.02		
308-3	8070	Alava Bay	Rep		<5	<0.1	41	<2	51	<1	6	24	200	30			6.15	1.85		
308-3	8071	Alava Bay	Rep	5.5	<5	<0.1	14	<2	48		16	41		44			9.76	1.71	782	
308-3	8345	Alava Bay	S		<5	<0.1	20	<2	102								>10	2.84		
308-4	8346	Alava Bay	Rep	9.2	<5	<0.1	49	<2	70								7.61	2.25		
South Gravina Area																				
309-1	9069	SW Bostwick Inlet	S		<5	3.1	393	218	1751	9	5	6	39	14	<20	<20	2.23		33	5.5
309-1	9357	SW Bostwick Inlet	C	0.8	<5	0.3	46	50	1276	40	20	19	15	72	<20	<20	6.70		66	3.2
309-1	9358	SW Bostwick Inlet	SC	3.5@0.1	<5	1.0	55	248	15738											
309-1	9359	SW Bostwick Inlet	S	0.5	<5	2.8	169	918	**10.69** *	60	26	49	3	24	<20	846	>10		9	432
310-1	8110	North Paula	Rep	0.6	71	0.6	2574	36	37											
310-1	8111	North Paula	C	2.1	108	0.3	1729	19	51											
310-2	8106	North Paula	C	3.1	177	0.8	1681	27	76											
310-2	8107	North Paula	C	2.9	74	0.4	1306	19	72											
310-2	8108	North Paula	C	1.2	207	1.2	3230	37	20	12	15	27	18	163	<20	<20	6.82		35	<1.0
310-2	8109	North Paula	C	2.0	91	0.4	2710	12	58											
310-3	8369	North Paula	C	1.8	91	0.2	601	440	125											
310-3	8370	North Paula	C	1.7	214	2.9	10790	99	96											
310-3	8371	North Paula	Rep	3.1	103	0.4	485	113	147	5	61	44	7	163	<20	<20	9.92		108	<1.0
311-1	8105	Seal Cove	C	1.4	32	4.6	2516	218	7152				>20000							
311-1	8368	Seal Cove	S		20	34.4	1000	**20.36** *	**4.16** *	25	2	13	37	52	<20	<20	4.14		<1	288.6
311-2	8132	Seal Cove	C	1.8	38	1.0	1383	26	47	9	9	31	22	110	<20	<20	7.05		32	<1.0
311-2	8133	Seal Cove	C	0.6	55	1.1	1228	35	379	10	15	39								
311-3	8122	Seal Cove	C	1.9	45	2.4	3340	43	1270											
311-3	8123	Seal Cove	C	1.6	29	1.9	5000	19	567											
311-3	8124	Seal Cove	S		94	8.1	**3.32** *	58	223	23	27	64	7	106	<20	<20	7.93		1	<1.0
311-4	8125	Seal Cove	SC	5.8@0.3	<5	<0.1	160	19	237											
311-4	8384	Seal Cove	SC	6.4@0.3	<5	0.2	775	16	133											
311-4	8385	Seal Cove	SC	5.5@0.3	<5	0.2	930	10	238											
311-4	8386	Seal Cove	SC	8.5@0.3	<5	<0.1	169	17	163											
311-4	8387	Seal Cove	SC	8.5@0.3	<5	<0.1	165	22	176											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
	No Samples Taken																			
8062																	15	6	OC,	mag-bearing hornblendite
8063		19															<5	<1	OC,	mag-bearing hornblendite
8064		28																	OC,	mag-bearing hornblendite
8065																			OC,	mag-bearing hornblendite
8339																			OC,	mag-bearing hornblendite
8340																			OC,	mag-bearing hornblendite
8341																			OC,	mag-bearing hornblendite
8342	6	<5	<5	<0.010													10	3	OC,	mag-bearing hornblendite
8343		24																	OC,	mag-bearing hornblendite
8066																			OC,	mag-bearing hornblendite
8067																			OC,	mag-bearing hornblendite
8068																			OC,	hornblendite
8069																			OC,	mag-bearing hornblendite
8344																			OC,	mag-bearing hornblendite
8070	6	<5	<5	<0.010													<5	4	OC,	mag-bearing hornblendite
8071		8																	OC,	mag-bearing hornblendite
8345																			OC,	mag-bearing hornblendite
8346																			OC,	mag-bearing hornblendite
South Gravina Area																				
9069	<5	124	247		<10		5		45										OC,	metarhyolite w/py & minor gn,cp
9357	<5	312	9		<10		12		75										OC,	ar w/py 20%
9358																			OC,	metarhyolite w/ calc veins, py 5%,
9359	11	1231	93		21		<1		8										OC,	msv sulf, py 60%, in metarhyolite
8110																			TP,	min shear
8111																			TP,	min shear
8106																			TP,	sheared metavolc w/qz stringers & sulf
8107																			TP,	sheared metavolc w/qz stringers & py, cp
8108	49	254	<5		<10		9		1										TP,	silica-rich shear in metavolc w/py, cp
8109																			TP,	sheared metavolc w/cp & py
8369																			TP,	qz vein in gs w/cp
8370																			UW,	qz vein w/py
8371	19	133	<5		<10		<1		3										UW,	gs w/qz stringers and msv py
8105																			OC,	qz-barite vein w/cp
8368	39	27	31		25		5		5										OC,	barite vein w/gn
8132	45	89	<5		<10		22		4										TP,	gs w/qz vein & dissem sulf
8133																			TP,	qz vein
8122																			UW,	shear br w/minor cp
8123																			UW,	shear br w/cp
8124	75	662	<5		<10		1		4										TP,	min shear, cp to 10%
8125																			UW,	chl sc in shear
8384																			UW,	chl sc w/py, cp
8385																			UW,	chl sc w/py, cp
8386																			UW,	chl sc w/py, cp?
8387																			UW,	chl sc & br w/py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
311-4	8413	Seal Cove	C	0.9	50	0.8	4760	24	181	11	10	10	52	91	<20	<20	>10		21	<1.0
311-4	8414	Seal Cove	C	1.1	14	0.2	1190	16	97											
311-4	8415	Seal Cove	C	1.2	25	0.7	6240	17	162											
311-4	8416	Seal Cove	C	2.3	9	0.8	1180	22	269	7	10	14	29	62	<20	<20	>10		31	<1.0
311-4	8417	Seal Cove	C	3.1	<5	0.5	616	20	222	13	13	20	41	75	<20	<20	9.54		31	<1.0
311-4	8418	Seal Cove	SC	2.4@0.2	18	0.9	1930	21	340	10	7	10	54	101	<20	<20	7.02		14	<1.0
311-4	8419	Seal Cove	Rep	6.1	11	0.6	461	24	105	29	13	30	35	79	<20	<20	8.69		72	<1.0
311-4	8420	Seal Cove	S		<5	1.6	5790	16	229	3	14	15	22	58	<20	<20	>10		19	<1.0
311-5	8117	Seal Cove	RC		<5	2.0	546	298	500	1	5	15	771	121	<20	<20	6.11		12	<1.0
311-6	9060	Seal Cove	S		1780	0.2	4906	10	51	4	26	16	47	97	<20	21	7.87		74	<1
311-6	9345	Seal Cove	C	0.1	281	0.2	1344	12	16	7	8	30	8	159	<20	<20	7.01		15	<1
311-7	8129	Seal Cove	SC	4.4@0.2	38	1.2	3730	13	106											
311-7	8130	Seal Cove	C	0.5	196	2.1	10603	8	67	32	37	28	15	203	<20	<20	7.14		59	<1.0
311-7	8389	Seal Cove	Rep	3.4	124	1.5	6305	65	175											
311-8	8131	Seal Cove	C	1.9	210	0.3	8489	4	86	5	174	31								
311-9	8390	Seal Cove	Rep	3.7	147	3.8	7210	33	157	9	92	30	26	217	<20	<20	7.86		75	<1.0
311-10	8121	Seal Cove	SC	13.7@0.3	18	<0.1	710	10	75	3	15	16	87	100	<20	<20	7.25		96	<1.0
311-10	8381	Seal Cove	Rep	7.6	199	0.5	7648	43	59											
311-10	8382	Seal Cove	C	2.7	130	0.6	4957	30	49											
311-10	8383	Seal Cove	S		206	1.0	7819	56	229	10	12	69	5	201	<20	<20	>10		13	<1.0
311-11	8118	Seal Cove	C	1.5	204	<0.1	2819	35	70											
311-11	8119	Seal Cove	C	1.7	282	0.9	8545	36	71											
311-11	8120	Seal Cove	S		9	1.0	148	14	409											
311-12	8112	Seal Cove	C	2.4	200	0.7	7889	16	52	10	66	95	6	192	<20	<20	8.53		42	<1.0
311-12	8372	Seal Cove	SC	9.2@0.3	27	0.3	1284	33	102											
311-12	8373	Seal Cove	C	1.5	49	0.5	3020	39	58											
311-12	8374	Seal Cove	C	1.0	297	0.4	7239	12	77	4	30	38	30	90	<20	<20	7.67		79	<1.0
311-12	8375	Seal Cove	C	2.7	450	0.2	2720	15	85											
311-12	8376	Seal Cove	SC	8.0@0.2	136	0.2	3240	23	93	2	46	38	17	91	<20	<20	7.86		69	<1.0
311-12	8377	Seal Cove	SC	4.6@0.2	51	0.7	7452	15	128											
311-13	9063	Seal Cove	Rep		26	0.5	2952	14	183											
311-13	9349	Seal Cove	C	1.7	79	2.0	11865	12	145											
311-13	9350	Seal Cove	S	0.4	260	10.6	**6.91** *	19	64	19	44	126	6	93	<20	<20	8.68		15	<1
311-14	9059	Seal Cove	S		576	1.5	5430	43	14	<1	3	5	74	139	<20	<20	1.12		<1	<1
311-15	9062	Seal Cove	Rep		545	0.6	8057	10	69	15	25	62	9	107	<20	<20	7.14		39	1.1
311-15	9348	Seal Cove	Rep		486	2.7	**4.52** *	25	33	19	30	126	3	80	<20	<20	9.40		10	<1
311-16	9070	Seal Cove	C	2.3	40	<0.1	1583	10	70											
311-16	9071	Seal Cove	Rep	0.4	85	0.3	1984	13	92	15	57	23	85	243	<20	<20	5.91		59	<1
311-16	9360	Seal Cove	S	0.4	44	0.3	9348	13	289	7	111	30	26	253	<20	<20	8.21		93	2.6
311-17	8378	Seal Cove	S		4511	5.7	**10.35** *	39	36	4	60	225	3	100	<20	<20	>10		8	<1.0
311-17	8379	Seal Cove	Rep	6.1	329	0.7	13142	18	91	3	33	70	21	101	<20	<20	>10	0.17	70	<1.0
311-17	8380	Seal Cove	Rep	2.7	206	0.6	7900	46	44											
311-18	8113	Seal Cove	C	4.9	167	0.3	3358	19	95	4	27	36	24	119	<20	<20	>10	0.16	63	<1.0
311-18	8114	Seal Cove	SC	1.7@0.2	135	0.4	6880	8	34											
311-18	8115	Seal Cove	S		487	2.7	**5.27** *	45	67	12	26	34	4	170	<20	<20	>10		22	<1.0
311-18	8116	Seal Cove	Rep		<5	<0.1	350	5	63											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
8413	117	<5	<5		<10		<1		2										UW,	silicic chl sc in shear w/cp
8414																			UW,	silicic chl sc in shear w/cp, hem
8415																			UW,	silicic chl sc in shear w/cp
8416	21	<5	<5		<10		<1		2										UW,	alt intrusive/sc w/cp, hem
8417	8	5	<5		<10		14		2										UW,	sheared silicic chl sc w/cp, ba
8418	30	8	<5		<10		19		3										UW,	msv microcrystalline qz, chert
8419	7	19	<5		<10		43		2										UW,	silicic chl sc
8420	19	<5	<5		<10		<1		2										UW,	br w/cp & barite
8117	<5	10	<5		<10		33		10										RC,	br of metavolc w/hem & ba
9060	18	<5	<5		<10		<1		2										OC,	rich parts of metavolc w/cp,py,hem
9345	7	72	<5		<10		2		<1										OC,	qz vein w/py 30%
8129																			TP,	slate w/qz vein, dissem py & cp
8130	7	56	<5		<10		2		3										TP,	qz vn w/cp & py
8389																			TP,	qz veins in gs or slate w/cp, py
8131																			OC,	slate or metavolc w/qz veins/stringers, w/cp, py
8390	49	<5	<5		<10		2		4										MD,	qz & gs/slate w/py, cp
8121	10	<5	<5		<10		4		3										OC,	alt fel intrusive w/cp
8381																			MD,	sheared gs w/qz stringers & py
8382																			TP,	qz veins w/py & hem in shear zone
8383	32	644	<5		<10		16		3										OC,	qz veins w/msv py & cp in shear
8118																			UW,	alt metavolc w/cp
8119																			UW,	alt metavolc w/cp
8120																			UW,	chl sc, alt metavolc &
8112	24	98	<5		<10		<1		2										OC,	min shear
8372																			OC,	fault gouge, qz stringers & msv sulf
8373																			OC,	fault gouge, msv sulfs & qz stringers
8374	12	<5	<5		<10		2		4										OC,	qz stringers, gs in shear zone
8375																			OC,	qz stringers, gs in shear zone
8376	13	10	<5		<10		1		3										OC,	fault gouge & sheared rock w/sulf
8377																			OC,	fest rock in shear zone w/fault gouge
9063																			OC,	mafic metavolc adjacent to shear w/minor cp,py
9349																			OC,	alt mafic metavolc w/cp 20%,py 10%
9350	<5	191	5		<10		<1		<1										OC,	msv cp + py in alt mafic metavolc
9059	121	<5	<5		<10		5		2										OC,	metatuff w/minor sulf,cp
9062	<5	182	<5		<10		2		2										MD,	msv to dissem sulf in metavolc,cp,py
9348	<5	450	7		<10		<1		<1										MD,	msv sulf, cp~30%, py~20%
9070																			TP,	shear-hosted cp & py in mafic metavolc & fel intrusive
9071	<5	29	15		<10		12		3										RC,	sil sulf-bearing mafic metavolc
9360	<5	9	14		<10		7		5										TP,	alt metavolc w/cp 15%,hem 1%
8378	375	481	<5		<10		4		3										MD,	br gs & qz vein
8379	61	67	<5		<10		<1		7										MD,	br gs & qz vein
8380																			TP,	gs, min shear, silicic br
8113	26	58	<5		<10		12		8										TP,	min shear in metavolc
8114																			OC,	min qz-rich shear in metavolc
8115	82	147	<5		<10		<1		2										MD,	qz w/cp, py, hem
8116																			TP,	metavolc & intrusive w/dissem sulf

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
311-19	9064	Seal Cove	S		26	0.2	2734	7	87											
311-19	9352	Seal Cove	G		82	0.5	8758	4	15	6	9	6	55	194	<20	<20	4.41		13	<1
312-1	9136	Concord Group	Rep		7	<0.1	973	10	201	<1	150	38	80	208	<20	<20	9.39		163	<1
312-1	9137	Concord Group	S		401	1.7	**2.74** *	8	128	5	26	8	20	122	21	<20	>10		56	<1
312-1	9405	Concord Group	C	1.8	364	1.4	14314	12	94		61	49	21	162	<20	<20	>10		78	<1
312-2	9100	Concord Group	C	1.2	51	0.8	6810	13	129	4	36	29	47	139	<20	<20	7.96		34	<1
312-2	9128	Concord Group	C	1.3	<5	<0.1	88	33	90	<1	11	10	437	92	<20	<20	8.20		12	<1
312-2	9129	Concord Group	C	0.9	6	<0.1	947	8	153											
312-2	9130	Concord Group	C	1.4	14	0.3	2787	9	315	<1	32	29	121	62	<20	<20	>10		23	<1
312-2	9131	Concord Group	SC	2.0@0.2	30	0.9	159	18	129											
312-2	9132	Concord Group	Rep	1.5	17	2.5	1929	40	73	2	20	31	29	75	<20	<20	9.80		12	<1
312-2	9380	Concord Group	Rep		215	1.9	**3.51** *	36	58	5	15	20	9	120	<20	<20	7.09		10	<1
312-2	9381	Concord Group	Rep		208	1.3	14613	25	75	4	12	12	30	117	<20	<20	7.16		10	<1
312-2	9398	Concord Group	S		430	1.0	14790	24	119		25	22	37	117	<20	<20	>10		23	<1
312-2	9399	Concord Group	C	4.9	25	0.2	1965	13	137											
312-2	9400	Concord Group	C	1.2	34	0.4	1146	12	116											
312-2	9401	Concord Group	C	1.7	12	<0.1	814	12	102		21	22	199	48	<20	<20	>10		28	<1
312-3	9099	Concord Group (Grenadier)	Rep	1.5	23	<0.1	588	8	220											
313-1	9133	Dall Bay area	SC	11.6@0.6	<5	2.3	2390	7	110	<1	13	11	358	100	<20	<20	6.39		9	<1
313-1	9134	Dall Bay area	SC	4.9@0.2	12	0.2	4381	8	97											
313-1	9135	Dall Bay area	S		41	0.7	**2.19** *	10	215	3	19	18	21	141	<20	<20	7.83		35	<1
313-1	9402	Dall Bay area	SC	10.7@0.3	<5	0.7	857	9	145											
313-1	9403	Dall Bay area	SC	3.7@0.2	7	<0.1	138	6	116		16	19	781	70	<20	<20	>10		64	<1
313-1	9404	Dall Bay area	C	1.4	<5	<0.1	576	5	69		12	8	783	204	<20	<20	5.74		11	<1
313-2	8146	Dall Bay area	SC	8.5@0.3	1845	1.2	11223	10	84											
313-2	8147	Dall Bay area	S		222	2.3	**2.01** *	8	31	10	14	22	23	150	<20	<20	6.43		15	<1.0
313-2	8396	Dall Bay area	SC	7.0@0.3	203	0.7	7003	5	53											
313-3	8144	Dall Bay area	SC	6.4@0.2	362	0.7	6494	5	20											
313-3	8145	Dall Bay area	S		864	1.8	**2.51** *	6	60	19	12	25	27	118	<20	<20	6.18		12	<1.0
314-1	8142	Dall Bay	C	1.3	20	<0.1	570	<2	8											
314-1	8143	Dall Bay	S		551	0.2	5410	4	19	3	23	38	38	85	<20	<20	9.72		15	<1.0
314-2	8141	Dall Bay	C	1.5	<5	<0.1	62	<2	6											
314-2	8394	Dall Bay	C	7.6	<5	<0.1	72	3	25	3	12	14	259	100	<20	<20	4.74		31	<1.0
314-3	8134	Dall Bay	S		247	0.6	**3.07** *	4	11	45	31	85	6	108	<20	<20	9.38		12	<1.0
314-3	8135	Dall Bay	SC	3.4@0.1	12	<0.1	2229	<2	9											
314-3	8136	Dall Bay	S		476	0.5	**0.44** *	4	15											
314-3	8137	Dall Bay	S		<5	<0.1	17110	<2	5	1	3	5	>20000	71	<20	<20	3.84		2	<1.0
314-4	8391	Dall Bay	SC	2.8@0.2	6	0.2	288	25	35											
314-5	8392	Dall Bay	SC	2.4@0.2	10	<0.1	362	4	10	4	8	19	542	151	<20	<20	3.01		15	<1.0
314-5	8393	Dall Bay	Rep	6.1	36	0.2	5174	9	14											
314-6	8001	Dall Bay	SC	6.7@0.3	194	0.2	5419	<2	4											
314-6	8002	Dall Bay	G		7	<0.1	59	<2	7	4	12	61	190	118		<20	4.20			
314-6	8138	Dall Bay	SC	7.8@0.1	172	0.3	3733	3	4											
314-6	8139	Dall Bay	SC	23.2@0.3	185	0.4	13702	4	6	28	10	46	36	202	<20	<20	3.05		13	<1.0
314-6	8140	Dall Bay	SC	13.7@0.3	23	0.1	1019	2	5											
314-6	9072	Dall Bay	SC	3.2@0.2	218	<0.1	1163	3	9											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
9064																			OC, cp-bearing fragmental mafic metavolc
9352	<5	<5	<5		<10		2		<1										FL, qz float w/cp 5%
9136	11	<5	<5		<10		9		9										MD, mafic metavolc w/seams & dissem py,cp
9137	57	<5	<5		<10		54		8										MD, qz matrix br vein in mafic metavolc
9405	17	62	<5		<10		4		4										TP, alt metavolc br w/cp 5%,py 5%
9100	<5	44	<5		<10		10		6										TP, cp-bearing br 60%, clay fault gouge 40%
9128	12	<5	<5		<10		<1		5										UW, alt leucocratic intrusive w/minor dissem py,cp
9129																			UW, sheared, alt, leucocratic intrusive
9130	24	<5	<5		<10		<1		7										TP, sheared, min br w/cp 1%
9131																			TP, highly oxidized, sheared br
9132	18	37	<5		<10		<1		3										TP, min br w/py 3%,cp .05%,ba 5%
9380	7	33	<5		<10		<1		2										MD, br w/cp 15%,hem 10%
9381	140	<5	<5		<10		<1		3										MD, br w/cp 10%,hem 10%
9398	71	5	<5		<10		<1		5										MD, qz-calc br w/cp 5%,py 2%
9399																			TP, qz-calc br w/cp 3%,py<1%
9400																			TP, qz-calc br w/cp 2%
9401	16	<5	<5		<10		<1		4										TP, qz-calc br w/cp 2%
9099																			TP, alt fault br w/minor cp 1%,ba 10%
9133	12	8	<5		<10		<1		1										OC, alt fel intrusive w/minor cp
9134																			OC, sheared alt intrusive w/minor cp
9135	37	<5	<5		<10		<1		2										OC, alt shear br w/knots & lenses of cp
9402																			OC, alt intrusive w/cp 1%
9403	<5	<5	<5		<10		<1		3										OC, alt intrusive w/cp<1%
9404	<5	<5	<5		<10		<1		1										OC, intrusive w/cp 2%
8146																			TP, shear br w/cp in leucocratic intrusive
8147	60	<5	<5		<10		<1		2										MD, min, sheared intrusive & hem matrix br, both w/cp
8396																			TP, qz br w/cp, py, hem
8144																			TP, alt intrusive w/cp
8145	58	<5	<5		<10		<1		2										MD, br leucocratic intrusive w/cp
8142																			UW, alt leucocratic intrusive w/minor sulf
8143	19	<5	<5		<10		<1		2										MD, alt, br leucocratic intrusive w/minor sulf
8141																			TP, alt leucocratic intrusive
8394	5	<5	<5		<10		9		3										TP, granitic intrusive
8134	29	<5	<5		<10		<1		2										TP, alt intrusive w/cp & py
8135																			TP, alt, sheared intrusive w/minor cp, py
8136																			MD, alt intrusive w/cp & py
8137	7	<5	<5		<10		<1		1										RC, qz-barite vein w/cp & py
8391																			OC, qz- & feldspar-rich intrusive w/py
8392	<5	<5	<5		<10		5		2										TP, leucocratic intrusive w/cp
8393																			MD, qz-rich metamorphic rock w/cp, py
8001																			OC, qz-rich vein w/ dissem cp & py
8002	<5	<5	<5	<0.010															OC, qz-rich, py-hem-bearing rock
8138																			OC, leucocratic intrusive w/cp
8139	73	<5	<5		<10		29		6										OC, leucocratic intrusive w/cp
8140																			OC, leucocratic intrusive w/cp
9072																			OC, alt trondjemite(?) w/cp 1%, py 1%

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
314-6	9073	Dall Bay	SC	4.6@0.2	20	<0.1	137	5	14											
314-6	9074	Dall Bay	SC	7.6@0.3	64	0.1	1736	2	6											
314-6	9075	Dall Bay	S		376	0.5	12630	4	5	16	11	22	26	233	<20	<20	3.05		3	<1
314-6	9076	Dall Bay	S		8	0.2	6810	6	8	6	8	24	28	130	<20	<20	2.92		6	<1
314-6	9361	Dall Bay	SC	9.1@0.3	128	0.2	5174	8	66											
314-6	9362	Dall Bay	SC	9.1@0.3	100	0.1	1511	11	367											
315-1		Black Jack		No Samples Taken																
316-1	8004	Carita	Rep		10	0.2	3620	15	197											
316-1	8005	Carita	Rep	2.1	41	0.2	3256	359	1111											
316-1	8006	Carita	S		112	0.9	**2.03** *	516	2090	6	14	19	1400	30		<20	>10			
316-1	8301	Carita	C	0.9	10	<0.1	1537	49	130											
316-2	8007	Carita	RC		<5	<0.1	4287	7	174											
316-2	8302	Carita	S		7	<0.1	242	36	138											
316-2	9147	Carita	SC	1.7 @ 0.15	<5	0.4	434	37	187											
316-2	9412	Carita	C	1.2	7	<0.1	6667	10	389											
316-3	8008	Carita	S		554	1.2	**6.42** *	10	209											
316-4	9409	Carita	SC	5.5@0.2	13	<0.1	964	526	791											
316-4	9410	Carita	SC	4.6@0.1	<5	0.2	5390	48	185											
316-4	9411	Carita	Rep		<5	0.2	1450	21	169											
316-5	8003	Carita	S		<5	2.4	7554	152	776				2900		11					
317-1		Washington		No Samples Taken																
318-1	9093	Edge Point	SC	5.5@0.3	31	0.5	2341	6	68											
318-1	9094	Edge Point	SC	2.0@0.2	60	1.2	4074	7	75	<1	21	144	18	53	<20	<20	8.07		189	1
318-1	9095	Edge Point	Rep	5.5	<5	0.2	736	5	109	<1	27	38	28	58	<20	<20	4.91		162	<1
318-1	9096	Edge Point	S		201	4.7	19780	5	70	3	55	614	7	35	<20	<20	9.89		127	1.1
318-1	9097	Edge Point	S		94	2.5	10887	6	45	<1	145	267	8	24	<20	<20	>10		112	1.3
318-1	9377	Edge Point	SC	30@.5	20	0.2	1657	5	85											
318-1	9378	Edge Point	C	0.4	172	3.0	11486	5	61	<1	65	118	7	43	<20	<20	>10		149	1.5
318-1	9379	Edge Point	SC	6.1@0.2	139	2.7	14514	4	65	<1	62	414	6	46	<20	<20	>10		151	1.3
319-1	9142	Cat Island	S		13	0.8	1730	11	32											
319-1	9408	Cat Island	C	0.3	278	2.3	13714	6	31		103	1866	5	268	<20	<20	>10		42	<1
319-2	9139	Cat Island	Rep	3.4	<5	<0.1	735	4	28											
319-2	9140	Cat Island	Rep	9.3 sq. m	45	0.8	3771	4	29	6	12	28	30	179	<20	<20	3.58		26	<1
319-2	9406	Cat Island	SC	2.5@0.1	<5	<0.1	272	4	32		6	9	84	145	<20	<20	3.74		25	<1
319-2	9407	Cat Island	Rep		13	0.3	1807	3	20											
320-1	8012	Percy Islands Ultramafic	Rep	2.4	<5	<0.1	58	<2	27		108	53		455			3.60		252	
320-1	8306	Percy Islands Ultramafic	S		<5	<0.1	61	<2	74		1028						>10	0.78		
320-2	8010	Percy Islands Ultramafic	G		<5	<0.1	248	2	76		328	144		222			9.97	0.2	83	
320-2	8303	Percy Islands Ultramafic	Rep		<5	<0.1	17	<2	18								1.70	0.57		
320-2	8304	Percy Islands Ultramafic	C	1.2	<5	<0.1	60	2	40	1	4	18	130	46		<20	5.84	0.8		
320-3	8011	Percy Islands Ultramafic	Rep	12.2	<5	<0.1	70	3	62		15						6.58	1.15		
320-3	8305	Percy Islands Ultramafic	SC	8.2@0.3	<5	<0.1	57	<2	41								7.90	1.61		
321-1	8021	Duke Island (Hall Cove)	Rep	4.6	<5	<0.1	15	<2	25		243	62		757				0.15	93	
321-1	8022	Duke Island (Hall Cove)	Rep		<5	<0.1	5	<2	69		696	155		710				0.04	23	
321-1	8023	Duke Island (Hall Cove)	Rep		<5	<0.1	5	<2	102		463	182		48				0.03	12	

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
9073																			OC,	alt trondjemite w/dissem & banded cp 1%, py 1%
9074																			OC,	alt trondjemite w/minor cp & py
9075	<5	16	<5		<10		17		4										OC,	qz-rich zone in alt intrusive, w/sulf
9076	<5	<5	<5		<10		30		4										OC,	sulf-rich part of alt intrusive
9361																			OC,	trondjemite w/cp,py,hem
9362																			OC,	trondjemite w/cp,py,hem
No Samples Taken																				
8004																			OC,	siderite vein w/qz & cp
8005																			TP,	oxidized siderite vn w/cp
8006	44	<5	<5	0.241															MD,	qz vein w/cp
8301																			TP,	feldspar-rich rock w/minor cp
8007																			OC,	gossan w/cp
8302																			OC,	gossan
9147																			TP,	br w/minor cp
9412																			UW,	fest br w/cp 3%
8008																			MD,	min br w/cp
9409																			OC,	fest br w/cp 3%,py 1%,gn<1%
9410																			OC,	qz br w/cp 3%,py 1%
9411																			FL,	qz br w/cp 1%,py<1%,gn<1%
8003																			OC,	metaplutonic rock w/barite, cp
No Samples Taken																				
9093																			OC,	hornblendite w/veins,pods, & dissem py+po
9094	<5	<5	<5		<10		<1		3										OC,	hornblendite w/dissem & veined py+po 30%
9095	<5	<5	<5		<10		<1		10										OC,	hornblendite w/py,po,mag
9096	<5	<5	<5		<10		<1		<1										OC,	hornblendite w/banded & veined sulf
9097	<5	<5	<5		<10		<1		<1										RC,	msv po 50% & py 20% w/hornblendite
9377																			OC,	hornblendite w/py 10%,po 5%,mag 5%
9378	<5	6	<5		<10		<1		2										OC,	msv po + py + mag in hornblendite
9379	<5	<5	<5		<10		<1		<1										OC,	msv py + po + mag in hornblendite
9142																			TP,	hornblendite w/minor cp<1%
9408	22	<5	<5		<10		<1		<1										TP,	msv cp in hornblendite
9139																			OC,	sil, banded metaplutonic(?) w/py,cp
9140	<5	<5	<5		<10		3		2										FL,	sil, banded metaplutonic w/banded cp 2%,py 3%
9406	<5	<5	<5		<10		3		5										OC,	di w/py 3%,cp 1%
9407																			FL,	di w/py 2%,cp<1%
8012		10															<5	<1	OC,	olivine pyroxenite
8306																			OC,	gabbro
8010		33																	OC,	mag in hnbd-pyroxenite
8303																			OC,	hornblendite
8304	<5	<5	<5	<0.010															OC,	pegmatite
8011																	12	7	OC,	mag-bearing hornblendite
8305																			OC,	gabbro
8021		19															<5	<1	OC,	peridotite w/minor chromite
8022		28															8	1	OC,	olivine-rich peridotite/dunite w/chromite
8023		22															31	10	OC,	peridotite

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
321-1	8024	Duke Island (Hall Cove)	G		<5	<0.1	48	4	162		22	27		37				0.75	341	
321-1	8311	Duke Island (Hall Cove)	SC	6.1@0.6	<5	<0.1	6	<2	25		256	62		1065			2.76	0.24	148	
321-1	8312	Duke Island (Hall Cove)	SC	3.1@0.6	7	<0.1	<1	<2	68								>10	0.04		
321-2	8019	Duke Island (Hall Cove)	Rep		<5	<0.1	46	<2	72		532	112		580			9.16	0.27	116	
321-3	8018	Duke Island (Hall Cove)	Rep		<5	<0.1	161	<2	75		584						>10	0.17	99	
321-4	8017	Duke Island (Hall Cove)	Rep	0.9	5	<0.1	2223	<2	21		90						7.17	0.33	183	
321-4	8020	Duke Island (Hall Cove)	G		<5	<0.1	8	<2	44		408	95		824				0.12	70	
321-5	8016	Duke Island (Hall Cove)	Rep		<5	<0.1	100	<2	63		61						8.63	1.68	892	
322-1	8015	Duke Island (Judd Harbor)	G		<5	<0.1	7	<2	20		308	53		1071			2.45	0.28	132	
322-1	8309	Duke Island (Judd Harbor)	Rep	0.9	<5	<0.1	3	<2	77		1028	149		203			9.45	0.05	18	
322-1	8310	Duke Island (Judd Harbor)	Rep	6.1	<5	<0.1	5	<2	54		1240	131		661			7.41	0.05	25	
323-1	9174	Boundary	PC	4 pans	6754	<0.2	31	22	74	<1	20	19	821	109		<20	>10			
324-1		Unuk River Gold		No Samples Taken																
								West Hyder Area												
325-1	6250	West side Chickamin Glacier	Rep	0.1	89	10.2	2486	43	3990	<1	15	23	<50	390	<100	<1	2.5			260
325-1	6251	West side Chickamin Glacier	RC	0.1	**11.01** *	**311.0** *	6029	2381	824	<3	<25	14	900	290	<490	4	7.1			<15
325-1	6890	West side Chickamin Glacier	G	0.1	1263	6	745	50	126	20	<10	13	70	250	<100	<1	6			<5
325-1	6891	West side Chickamin Glacier	G		35	5.4	782	27	69	1	23	98	70	400	<100	<1	8.8			<5
326-1	6907	Cathedral, upper	C	0.5	91	5.7	93	289	578	3	16	<5	68	670	<100	<1	0.7			<5
326-1	6908	Cathedral, upper	C	0.1	326	**225.6** *	1810	**6.68** *	**32.10** *	<3	<44	40	<110	150	<270	247	3.9			2000
326-2	6262	Cathedral ,lower	C	0.3	1440	36.6	391	**2.24** *	4994	4	<10	<5	<50	540	<100	<1	2			110
327-1	6696	Chickamin	RC		12	1.7	168	209	300	<1	<10	9	1100	130	<100	3	4.6			6
328-1	6132	West Texas Glacier	G	0.1	4520	**228.0** *	12659	**5.09** *	45500	8	<25	40	470	370	<250	<1	4.6			470
328-1	6144	West Texas Glacier	C	0.1	10	3.5	64	1490	160	6	<10	7	190	470	<100	<1	1.3			<5
328-1	6145	West Texas Glacier	C	0.1	<5	0.4	15	6	130	1	<10	<5	<50	510	<100	<1	0.5			<5
328-1	6146	West Texas Glacier	C	0.2	120	6.1	745	1590	2300	6	<10	<5	260	410	<100	<1	1.3			23
328-1	6747	West Texas Glacier	C	0.2	1204	**94.29** *	1438	**10.31** *	21300	<1	<10	9	<50	420	<100	3	1.5			300
328-1	6758	West Texas Glacier	C	0.1	184	**74.40** *	387	**3.35** *	19900	4	<10	18	520	260	<100	4	3			220
328-1	6759	West Texas Glacier	CC	0.1	1134	47.9	4318	**2.00** *	4200	2	<10	10	<50	380	<100	<1	1.4			59
328-2	6741	West Texas Glacier	G	0.1	690	**99.43** *	1475	**4.75** *	>90000	6	<67	110	<140	85	<340	<11	>10			>2000
329-1	6752	Solo, N	C	0.1	14	0.4	15	36	110	<1	<10	5	370	410	<100	2	2.6			<5
329-2	6757	Solo, N	C	0.8	29	1.1	76	21	<100	2	<10	12	1700	210	<100	3	3.8			<5
329-3	6751	Solo, N	C	0.2	60	0.5	16	44	120	<1	<10	10	410	250	<100	2	5.8			<5
329-4	6137	Solo, N	C	0.2	105	1	44	35	110	6	25	17	1200	280	<100	6	4.6			<5
329-5	6138	Solo, N	S		155	**64.11** *	530	**1.70** *	110	8	<10	12	590	480	<100	5	3.8			<5
329-6	6134	Solo, N	C	0.1	63	4.7	186	603	1400	4	46	21	2400	210	<100	9	5			14
329-7	6135	Solo, N	C	0.2	167	1.9	59	88	240	3	35	22	1600	300	<100	11	5.5			<5
329-8	6136	Solo, N	C	0.2	294	**92.57** *	3390	**1.37** *	14300	5	18	18	1100	350	<100	8	4.4			170
329-9	6750	Solo, N	C	0.3	45	1.6	46	342	670	<1	24	9	650	340	<100	10	3.1			6
329-10	6749	Solo, N	C	0.6	37	1.5	72	396	620	1	53	19	1900	340	<100	12	5.5			<5
329-11	6748	Solo, N	C	0.1	20	1	50	201	320	2	<10	14	1200	230	<100	14	4.4			<5
329-12	6756	Solo, N	C	0.6	<5	1	74	91	<100	<1	14	<5	460	330	<100	<1	1.2			<5
329-13	6139	Solo, N	C	0.1	33	1.1	36	40	<100	6	<10	6	1100	220	<100	7	7			<5
329-14	6143	Solo, N	C	0.4	7	1	44	17	130	7	<10	9	1400	310	<100	4	5.2			<5
329-15	6257	Solo ledge	C	0.3	40	8.6	54	1143	858	24	45	13	550	320	<100	7	2			18
329-15	6258	Solo ledge	C	0.2	33	7.3	73	650	1246	14	46	16	1000	98	<100	2	3.1			24

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
8024		23																	FL,	py-bearing rock
8311		10																	OC,	peridotite/dunite
8312																			OC,	pyroxenite
8019		22															9	165	OC,	olivine pyroxenite
8018																	31	13	OC,	pyroxenite
8017																			OC,	fest pyroxenite
8020		48															21	264	OC,	fg, olivine-rich peridotite
8016																			OC,	hnbd pyroxenite w/mag
8015		16																	OC,	peridotite, cg
8309		22															23	9	OC,	peridotite
8310		27															<5	9	OC,	peridotite
9174	16	<5	<5	0.025																two small Au flakes in each pan
No Samples Taken																				
West Hyder Area																				
6250		5.1	0.8		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			FL	qz vein w/ po,cp
6251		132	638		<60	<0.5	10	<21		<0.5	<6	0.5	<0.5	1.8	<0.7	46			FL	alt intrusive w/ po, cp
6890		2.6	0.5		<10	<0.5	5	<5		<0.5	<2	<0.2	<0.5	0.8	1.6	10			RC	qz vein w/ po,cp
6891		28	0.8		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.3	0.2	11			RC	qz w/ po lens bearing cp
6907		4.8	6.5		<10	<0.5	3	5		<0.5	<2	<0.2	<0.5	0.7	0.7	9			TP	qz vein w/ scattered sulf.
6908		28	147		<32	<1.1	12	19		<0.5	<2	<0.2	<0.5	1.2	<0.6	28			TP	msv sulf band w/ sl,gn,cp
6262		33	19.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.4	0.7	7			TP	qz vein w/ bands & blebs of sulf
6696		4.4	0.8		<10	1.9	14	25		<0.5	4	0.5	2.2	22.6	13	180			RC,	qz band w/dissem po (gn, sl)
6132		556	152		<20	<0.5	7	<12.0		<0.5	3	0.3	<0.5	2.1	1	58			OC,	qz vein w/20% sulf
6144		7.8	0.8		<10	<0.5	3	<5.0		<0.5	<2	<0.2	<0.5	0.5	0.3	20			OC,	barren qz vein in ar
6145		2.6	0.4		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC,	qz vein
6146		3.7	1.6		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.3	0.3	25			OC,	qz vein w/sparse sulf
6747		15	123		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	12			OC,	qz vein w/sl, gn, cp
6758		25	166		<10	<0.5	7	<5.0		<0.5	3	<0.2	<0.5	1.3	1.1	37			OC,	qz vein w/30% sulf
6759		20	28.2		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC,	qz vein w/sl, gn, cp
6741		98.5	52.2		<29	<1.5	<2	<27.0		<0.5	<3	<0.2	<0.5	<0.8	<0.8	<28			FL,	sl, po boulder w/qz blebs
6752		25	2.1		<10	<0.5	4	6.7		<0.5	<2	<0.2	<0.5	0.8	0.3	36			OC,	qz br vein
6757		44	1.9		<10	1.9	14	23		<0.5	<2	0.3	0.9	2.6	1.3	120			OC,	fest qz vein w/ar br
6751		67.1	2.7		<10	1.3	5	11		<0.5	2	0.3	<0.5	1	0.6	37			RC,	qz br vein w/sulf
6137		696	5.1		<10	1	11	17		<0.5	3	0.3	<0.5	2.5	1	110			OC,	qz ar br
6138		34	74.7		<10	0.8	7	14		<0.5	2	0.3	<0.5	1.6	0.5	60			OC,	msv qz w/ar, gn(5%)
6134		169	7.8		<10	3.4	20	35		0.5	3	0.2	0.8	3.6	1.9	200			OC,	qz stringers along shear in ar
6135		45	3.1		<10	2.1	16	28		0.5	2	0.3	0.8	3.1	1.5	97			OC,	qz stringers along shear in ar
6136		73.1	47		<10	2.2	9	10		<0.5	<2	0.3	<0.5	2.3	1.2	76			OC,	qz/ar br w/3% sulf
6750		211	3.1		<10	1.3	7	10		<0.5	<2	0.3	<0.5	1.6	0.9	63			OC,	qz br vein w/40% ar
6749		29	2.9		<10	2.6	16	30		<0.5	3	0.4	0.6	3.5	1.7	110			MD,	shear in ar w/30% qz, sulf
6748		35	1.8		<10	1.2	15	25		0.6	3	0.4	<0.5	3.2	1.5	89			OC,	shear in ar w/40% qz, 2% sulf
6756		1.8	0.3		<10	<0.5	3	<5.0		<0.5	<2	<0.2	<0.5	0.6	0.3	24			OC,	qz vein w/br ar
6139		520	12.5		<10	1.4	5	8.9		<0.5	<2	0.2	<0.5	1.2	0.5	110			OC,	qz gossan zone
6143		261	12.3		<10	1.8	10	13		<0.5	2	<0.2	<0.5	1.7	1.1	120			OC,	qz/carbonate br vein w/ar
6257		74	6.5		<10	0.9	13	21		<0.5	<2	<0.2	0.5	2.8	3.8	43			OC	qz/carb vein
6258		95.4	7.3		<10	0.8	21	35		0.7	3	0.4	0.6	4.3	3.3	75			OC	carb/qz vein along shear

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
329-16	6241	Solo, ledge	C	0.1	3945	**1105** *	3397	**3.93** *	**4.39** *	45	52	20	1100	270	<860	19	6.4			662
329-16	6259	Solo ledge	C	0.5	86	23.9	114	2105	3010	11	23	6	380	300	<100	2	1.7			46
329-16	6876	Solo, ledge	C	0.2	8059	**742.6** *	2505	**6.73** *	**5.77** *	43	40	10	730	200	<490	15	5.2			862
329-16	6904	Solo ledge	C	0.4	6756	**1045** *	1881	**1.80** *	**2.65** *	<20	<46	<5	600	300	<790	16	2.9			360
329-17	6905	Solo ledge	S	0.1	241	**146.4** *	345	**5.01** *	10732	18	96	30	1900	200	<100	8	6.6			150
329-18	6906	Solo ledge	G	0.1	7	1.4	60	117	116	<1	20	10	2100	79	<100	12	6.3			<5
329-19	6260	Solo ledge	C	0.4	8	0.6	84	23	125	<1	14	13	2900	75	<100	11	4.2			<5
329-19	6261	Solo ledge	C	0.9	53	0.5	61	35	90	<1	<10	9	1900	49	<100	7	2.4			<5
329-20	6930	Solo, 40 ft N of ice cap stream	S	0.1	2145	**774.5** *	484	**2.89** *	**5.58** *	<3	<44	<5	190	240	<390	14	2.2			946
329-21	6240	Solo, platforms	Rep	0.2	**37.51** *	**56.91** *	28	27	68	<1	14	7	1400	180	<290	3	2.1			<5
329-22	5418	Solo, platforms	S	0.1	1035	**68.57** *	300	8680	6800	3	<37	<5	250	160	<570	8	3.1			
329-22	6071	Solo, platforms	C	0.1	1512	**361.7** *	691	**5.91** *	>90000	<51	<240	<24	<1200	<630	<3000	<22	3			890
329-23	6279	Solo, above platform	G		1077	20.8	156	6755	**4.52** *	<6	<29	6	170	400	<210	<1	1.4			836
329-24	6280	Solo, above platform	C	0.1	161	31.1	160	737	1277	<4	<10	<5	110	400	<100	<1	1.4			19
329-25	6682	Solo, adit	SC	3.05@0.15	8	<0.1	37	9	360	17	<10	6	72	230	<100	<1	7.1			<5
329-26	6072	Solo, Pecos	C	0.1	2639	15.6	125	1879	5600	<23	<140	<12	<1400	<230	<1200	<6	5.2			77
329-27	6073	Solo, Pecos	C	0.1	94	1.5	49	166	310	<1	<10	7	840	220	<100	13	4.6			<5
329-28	6683	Solo, Pecos	C	0.1	<5	0.4	95	37	170	2	29	9	6040	200	<100	1	3.7			<5
329-29	6687	Solo, Pecos	CC	0.1	621	1.5	99	395	490	<1	<10	6	430	<20	<100	15	>10			<5
329-30	6075	Solo, Pecos	C	0.1	5504	**107.7** *	1668	**6.94** *	5800	<1	35	20	640	130	<100	29	>10			51
329-31	6074	Solo, Pecos	C	0.1	4897	**294.2** *	165	**20.37** *	31000	<3	<36	11	<140	350	<230	7	2.9			260
329-32	6684	Solo, Pecos	C	0.0	33	0.3	18	309	220	<1	<10	9	240	170	<100	41	>10			<5
329-33	5419	Solo, Pecos	S	0.1	**15.36** *	**339.1** *	5036	**23.8** *	>90000	<5	<69	42	<240	<140	<450	12	2			
329-33	5420	Solo, Pecos	C	0.2	5080	**80.91** *	805	**8.11** *	76300	<1	<36	29	<50	210	<100	7	4.7			
329-33	6685	Solo, Pecos	CC	0.1	**32.36** *	**62.74** *	5661	8787	3400	3	<10	<5	120	250	<100	6	7			37
329-33	6686	Solo, Pecos	S	0.1	**24.72** *	**118.6** *	3570	**9.25** *	3100	<2	<10	<5	370	230	<200	10	3.9			35
329-34	6688	Solo, Pecos	CC	0.2	60	0.6	53	481	750	<1	<10	12	380	140	<100	9	>10			12
329-35	6077	Solo, Pecos	C	0.1	601	19.6	1291	1898	360	1	<10	<5	58	210	<100	3	9.4			<5
329-36	6076	Solo, Pecos	C	0.1	2124	**1168** *	77	**65.43** *	<470	<11	<90	<13	<510	<300	<1200	<33	6.4			<62
330-1	6898	Silver King	C	0.1	**12.55** *	**604.1** *	4152	**25.44** *	**17.52** *	<6	<48	17	<180	180	<580	<5	1.6			2000
330-1	6899	Silver King	G		**14.61** *	**867.8** *	5071	**32.16** *	**16.51** *	<13	<96	<28	<490	<190	<1700	<22	1.6			2000
330-1	6900	Silver King	S	0.3	48	4.4	1134	574	490	13	37	140	180	28	<100	2690	>10			<5
330-1	6901	Silver King	C	0.2	191	12	450	2781	1761	2	<10	23	93	740	<100	12	2.7			33
331-1	6253	Stampede	C	0.2	26	4.6	213	156	451	1	<10	<5	<50	410	<100	<1	0.7			<5
331-1	6254	Stampede	C	0.4	12	2.3	175	295	360	<1	27	50	1300	68	<100	<1	9.4			<5
331-1	6255	Stampede	Rep		34	42.7	3552	**8.69** *	**10.43** *	<1	29	19	550	46	<100	4	5.5			1840
331-1	6256	Stampede	S		34	2	510	95	138	17	35	210	1600	65	<100	<1	>10			<5
332-1		Morning Star		No Samples Taken																
333-1	6120	Lakeside	C	0.8	28	0.4	16	53	<100	5	<10	<5	<50	440	<100	<1	0.7			<5
333-1	6730	Lakeside	G		757	**546.9** *	**4.02** *	**2.74** *	13100	7	20	31	<50	440	<100	<1	8.4			230
333-1	6731	Lakeside	S		49	2.2	205	75	<100	1	<10	<5	<50	570	<100	<1	1.6			<5
334-1	6060	Blasher	S		615	**208.5** *	16830	**1.69** *	4500	5	<10	18	<50	220	<100	<1	3.8			88
334-1	6061	Blasher	S		47	4.5	479	250	160	1620	<10	<5	740	220	<100	4	0.9			6
334-1	6663	Blasher	S	1.0	5034	**550.3** *	**5.34** *	**1.03** *	7000	8	48	190	<50	220	<100	4	>10			140
335-1	6126	Double Anchor and vicinity	Rep	0.5	6	0.3	46	17	270	4	<10	19	1300	99	<100	<1	6.9			<5
335-2	6740	Double Anchor and vicinity	S		11	9	836	3890	37600	3	<10	34	740	270	<100	2	3			260

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
6241		736	1110		<97	<1.3	24	<37		<0.5	<18	1.4	<0.5	3.1	3.5	100			MD	msv sulf zone near shear w/ qz
6259		106	30.6		<10	<0.5	9	8.6		<0.5	<2	0.2	<0.5	1.6	1.8	37			TP	qz/carb vein in shear zone
6876		370	760		<58	<0.5	22	<20		<0.5	<10	1.3	1	4.6	4.8	95			TP	qz vein w/ fg gn,sl and cg cp
6904		726	1240		<98	<1.2	27	<34		<0.5	<15	<0.8	<0.5	3.8	2.2	57			RC	fest qz/carb vein w/ sl,gn,cp,py
6905		300	115		<10	2.3	33	47		0.6	<2	0.6	1.2	7.6	5.2	140			OC	qz br w/ gn,sl,cp,py
6906		219	10		<10	0.9	31	44		0.5	2	0.3	1.1	6.1	2.1	120			RC	qz-calc br w/ py,gray sulf
6260		41	1.4		<10	1.6	20	35		0.5	2	0.2	1.2	5.8	2.2	100			OC	qz br zone along shear
6261		22	0.8		<10	1.2	15	24		<0.5	<2	<0.2	0.9	4	1.3	78			OC	qz br along shear
6930		4520	234		<50	<0.5	<4	<16		<0.5	<6	<0.2	<0.5	1.7	<0.7	<22			OC	ar br w/ qz,sl,cp,gn
6240		27	1		<10	<0.5	8	13		<0.5	<2	<0.2	0.6	2.3	1.4	85			FL	sil br w/ py,sl
5418		2190	63.8		<91	<0.5	6	<37.0		<0.5	<4	<0.6	<0.5	1.8	<0.6	34			OC,	qz/qz br vein w/sl and gn
6071		4350	>3000		<330	<5.5	<3	<250		<2.7	<103	<5.1	<3.5	<9.3	<5.4	<140			OC,	small qz vein w/sulf
6279		2420	10.2		<27	<0.5	2	<11		<0.5	<3	<0.2	<0.5	0.8	0.6	<13			FL	qz vein w/ banded gn,sl,py
6280		2360	15.3		<26	0.7	3	<5		<0.5	<3	<0.2	<0.5	<0.5	<0.2	13			OC	qz vein w/ gn,sl,cp,po
6682		5.4	1.2		<10	0.7	18	33		0.5	4	0.3	0.8	6.2	3.2	12			UW,	highly sil green rock w/sulf
6072		>10000	31.3		<150	<3.1	<14	<110		<1.6	<35	<1.6	<2.5	<4.1	<2.4	<82			OC,	qz stringers w/fg gn in ar
6073		602	12.9		<10	<0.5	10	15		<0.5	3	<0.2	<0.5	1.9	1.4	81			OC,	qz stringers in ar
6683		17	1.1		<10	<0.5	15	31		0.5	3	0.3	<0.5	3.5	1.7	89			OC,	qz vein
6687		30	5.1		<10	1	4	<5.0		<0.5	2	0.4	<0.5	0.5	0.4	42			TP,	fest band, sil w/sl, gn
6075		82.6	100		<10	1.7	7	20		<0.5	2	0.5	<0.5	<0.2		98			OC,	qz/sulf vein w/gn, cp in ar
6074		149	340		<29	<0.5	2	<18.0		<0.5	5	<0.2	<0.5	<1.0	<0.6	28			OC,	qz/sulf vein w/gn, sl and ml stain
6684		67.5	3.4		<10	0.6	3	<5.0		<0.5	2	0.3	<0.5	<0.2	0.2	23			TP,	qz vein w/5% sulf
5419		109	353		<72	<1.6	2	<61.0		<0.5	<5	1.3	<0.5	<1.7	<1.1	61			RC,	qz, sl, gn, cp vein material
5420		59.2	77.9		<10	<0.5	2	<10.0		<0.5	<2	<0.2	<0.5	<0.4	0.5	42			OC,	qz br w/sl, gn, cp
6685		81	13.1		<10	<0.5	4	<20.0		<0.5	<2	<0.2	<0.5	<0.5	<0.6	<10			TP,	qz vein w/gn, sl, cp, ml
6686		57.4	86		<21	<0.5	3	<20.0		<0.5	<2	0.4	<0.5	<0.6	<0.5	35			TP,	qz vein w/gn, sl, cp
6688		39	10.3		<10	<0.5	6	<5.0		<0.5	2	0.4	<0.5	1.2	0.4	29			OC,	qz br w/gray sulf
6077		456	14		<10	<0.5	3	<5.0		<0.5	3	<0.2	<0.5	<0.2	<0.2	11			OC,	qz zone in ar
6076		685	1410		<200	<2.1	<2	<140		<1.3	<47	<2.3	<1.4	<3.7	<2.2	<61			OC,	gn lens
6898		183	740		<71	<1.2	<2	<28		<0.5	<4	<0.5	<0.5	<1.5	<1.1	<19			TP	qz vein w/ gn,sl,cp
6899		684	2710		<210	<2.5	7	<81		<1.2	<32	<1.7	<1.4	<3.6	<3.3	<46			MD	qz vein w/ gn,sl,cp
6900		1.3	4.5		<10	<0.5	11	14		<0.5	<2	0.4	<0.5	1.2	2.4	<5			OC	fest an w/ po,py,cp
6901		23	13.8		<10	<0.5	3	6.4		<0.5	<2	<0.2	<0.5	<0.2	0.2	9			OC	qz vein w/ sparse sl,gn,py,cp
6253		4	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			RC	qz vein w/ rare sulf
6254		27	1.8		<10	0.6	14	17		0.6	2	0.3	0.6	1.5	0.9	49			TP	fest, gossanous ar in shear
6255		23	32.2		<10	0.8	8	16		<0.5	<2	<0.2	<0.5	1	0.6	39			MD	sil shear zone w/ gn,cp,sl
6256		5.9	0.7		<10	<0.5	12	23		0.6	<2	0.2	0.6	1.2	1.1	58			FL	alt an (?) w/ cp,sl
No Samples Taken																				
6120		3.8	0.3		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			TP,	qz boulder
6730		43	5.9		<10	<0.5	2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	0.7	<5			MD,	qz sulf vein w/py, cp, sl, gn
6731		2	0.6		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			FL,	qz vein w/blebs of po
6060		11	11.6		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.3	0.4	<5			MD,	coarse qz rubble w/gn, cp, py
6061		2.2	0.6		<10	<0.5	3	<5.0		0.7	<2	<0.2	<0.5	8.9	11	110			OC,	mo in qz veinlets
6663		392	5.2		<10	<0.5	<2	<5.0		<0.5	<2	0.3	<0.5	<0.2	<0.2	<5			MD,	qz cp vein w/gn, py, sl, po
6126		1.3	0.4		<10	<0.5	26	48		0.8	4	0.6	0.8	3.9	1.9	81			TP,	fest gs
6740		50	7.9		<10	<0.5	5	12		<0.5	<2	<0.2	<0.5	4.9	2.2	61			MD,	sil ar & gw w/sl, gn

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
335-3	6127	Double Anchor and vicinity	Rep	0.6	<5	0.2	5	11	<100	2	16	6	320	300	<100	<1	0.5			<5
335-4	6664	Double Anchor and vicinity	G		**36.82** *	**207.0** *	1401	**7.12** *	1200	<4	73	350	<110	210	<480	6	>10			23
335-5	6062	Double Anchor and vicinity	C	0.1	**28.86** *	**60.34** *	102	**2.08** *	290	3	18	34	370	260	<280	2	>10			<5
335-6	6665	Double Anchor and vicinity	G		85	3.8	284	510	240	8	16	6	2300	260	<100	2	2.4			<5
335-7	6239	Double Anchor, N of	G		20	0.7	40	70	50	2	<10	<5	160	420	<100	<1	0.8			<5
335-7	6902	Double Anchor, in box canyon	Rep	1.1	26	2.1	40	777	577	2	<10	<5	<50	470	<100	1	0.9			<5
335-8	6123	Double Anchor and vicinity	C	0.1	10	1.2	146	150	390	<1	<10	34	2600	34	<100	2	8			<5
335-9	6734	Double Anchor and vicinity	S	0.2	907	45.8	63	**2.75** *	1200	8	16	<5	370	500	<100	56	3.3			15
335-10	6122	Double Anchor and vicinity	C	0.1	1420	**313.7** *	162	**11.93** *	75400	12	<36	11	230	190	<380	<20	8.1			960
335-11	6733	Double Anchor and vicinity	G		<5	0.9	62	98	760	1	36	12	1100	240	<100	1	3.3			11
335-12	6121	Double Anchor and vicinity	Rep	0.1	142	22.5	195	**1.22** *	5900	5	<10	7	1800	290	<100	3	>10			88
335-13	6732	Double Anchor and vicinity	S		533	12.9	450	3049	6400	9	<10	7	1100	440	<100	4	5.9			90
336-1	6097	Dog Hole adit	C	1.7	1228	5	118	4370	3200	4	<32	<5	1200	180	<250	<1	4.2			25
336-1	6098	Dog Hole adit	C	0.7	859	21.8	359	6390	21700	5	<26	5	620	230	<100	<1	7.1			170
336-1	6099	Dog Hole adit	S		1273	30.1	681	8400	17700	6	<28	6	680	320	<100	<1	>10			130
336-2	6708	Dog Hole	C	0.4	10	0.1	18	5	<100	2	<10	<5	1100	330	<100	1	2.1			<5
336-2	6709	Dog Hole	G		717	2.9	120	952	20700	3	<10	5	380	210	<100	9	3.6			140
336-2	6710	Dog Hole	G		407	6	107	2498	500	15	<10	<5	670	270	<100	3	6			<5
336-2	6711	Dog Hole	G		323	15.9	190	4886	18700	5	<10	8	490	200	<100	5	7.7			160
336-2	6712	Dog Hole	Rep	0.6	9	1.1	52	88	310	2	<10	<5	440	270	<100	4	3.7			<5
336-2	6871	Dog Hole	G		983	6.9	248	3344	17970	<4	22	<5	810	270	<260	<1	4			200
337-1	6277	Dog Hole, vicinity	G		351	1.9	65	707	10210	5	<10	<5	160	490	<100	<1	1.1			120
337-2	6278	Dog Hole, vicinity	C	0.8	8	0.5	121	19	87	7	50	14	930	200	<100	<1	3.7			<5
337-2	6872	Dog Hole, vicinity	G	0.1	64	3.8	63	1006	147	13	35	50	2500	240	<100	<1	>10			<5
337-3	6873	Dog Hole, vicinity	Rep	0.2	8	0.4	70	66	117	4	<10	8	2300	250	<100	2	3			<5
337-3	6874	Dog Hole, vicinity	Rep	0.3	71	2.5	26	176	110	1	<10	<5	840	400	<100	<1	1			<5
337-3	6875	Dog Hole, vicinity	C	0.1	4304	**84.00** *	484	9755	**4.87** *	<6	<160	<36	<420	<250	<860	<6	4.8			940
338-1		Hummel		No Samples Taken																
339-1	6010	Hummel area	C	0.2	8	0.3	6	110	<100	2	<10	<5	270	420	<100	2	0.5			<5
339-1	6011	Hummel area	C	0.1	<5	0.3	5	62	<100	2	<10	<5	510	290	<100	2	1.4			<5
339-1	6012	Hummel area	C	0.1	<5	<0.1	5	15	<100	2	<10	<5	400	330	<100	<1	0.5			<5
339-1	6013	Hummel area	C	0.3	<5	<0.1	4	9	<100	1	<10	<5	<50	350	<100	<1	0.4			<5
339-1	6617	Hummel area	S	0.0	18	1.8	250	65	47800	<1	<10	18	1200	56	<100	<1	3.5			300
340-1	6928	Mid Iron Cap	G	0.1	1538	**1297** *	2238	**26.08** *	**2.02** *	<7	<62	<13	<220	<88	<620	26	>10			390
340-1	6929	Mid Iron Cap	C	0.4	7	2.1	45	292	435	4	<10	<5	850	230	<100	6	3.6			<5
340-2	6927	Mid Iron Cap	C	0.1	1823	**127.5** *	283	9340	6450	<29	<140	<5	<330	<150	<940	<7	>10			150
340-3	6124	Mid Iron Cap	C	0.2	<5	1	33	265	160	6	<10	<5	210	450	<100	<1	0.9			<5
340-3	6125	Mid Iron Cap	C	0.3	<5	<0.1	5	27	<100	<1	<10	<5	260	300	<100	<1	0.5			<5
340-3	6738	Mid Iron Cap	G		8	0.6	273	79	520	2	<10	19	6350	160	<100	3	5.2			6
340-3	6739	Mid Iron Cap	S		5	0.6	343	63	340	2	95	48	<50	520	<100	<1	4.2			<5
341-1	6925	Iron Cap west	C	0.1	312	10.3	1031	66	194	5	210	410	160	<20	<100	<1	>10			<5
341-1	6926	Iron Cap west	C	0.1	57	27.7	343	820	**3.95** *	<1	50	46	74	100	<100	<1	7.9			962
341-2	6924	Iron Cap west	C		40	2.6	196	28	**6.18** *	3	62	83	<50	76	<100	2	>10			1440
341-3	6921	Iron Cap west	C	0.2	22	5.7	850	964	**2.86** *	2	<10	190	2500	37	<100	<1	>10			737
341-3	6922	Iron Cap west	C	0.1	21	3.6	773	440	15639	6	58	220	1400	68	<100	<1	>10			370
341-3	6923	Iron Cap west	G	0.2	116	7.4	1094	53	1190	4	55	200	290	<20	<100	3	>10			11

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
6127		6	0.6		<10	<0.5	3	6.4		<0.5	<2	<0.2	<0.5	0.8	0.7	27			TP, qz-rich zone in ar
6664		1610	106		<53	<0.5	<2	<33.0		<0.5	<3	<0.5	<0.5	<0.9	<0.9	<20			MD, banded qz sulf w/cp, gn, sl, py
6062		600	29.2		<29	<0.5	3	<19.0		<0.5	<2	0.4	<0.5	<0.5	<0.4	17			OC, qz lens capped by lens of py, gn
6665		9.3	1.3		<10	<0.5	28	50		0.5	2	<0.2	1.1	11	5.4	68			OC, sil band w/dissem py
6239		6.8	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			MD barren white qz vein
6902		14	8.1		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.4	0.2	<5			OC qz vein w/ 4% sulf
6123		43	1.4		<10	1.1	23	44		0.9	3	0.5	<0.5	3.8	1.4	130			TP, sil band w/minor py
6734		1440	41.1		<10	<0.5	5	<5.0		<0.5	2	<0.2	<0.5	0.9	0.4	41			OC, fest qz br w/sl, gn, py
6122		1150	303		<36	<0.5	7	<23.0		<0.5	<3	0.6	<0.5	<0.9	<0.7	34			TP, qz/msv sulf vein
6733		12	1		<10	0.7	22	33		0.5	3	0.4	0.7	3.8	2.6	74			UW, sil ar w/py, sl
6121		267	11.1		<10	0.9	12	20		<0.5	<2	<0.2	<0.5	2.7	1.7	63			UW, qz vein w/15% sulf (py, sl, gn)
6732		330	9.5		<10	0.8	13	22		<0.5	2	<0.2	<0.5	2.4	1.9	76			UW, fest qz br w/py, sl, gn
6097		2700	15.8		<30	<0.5	9	<22.0		<0.5	<6	0.5	<0.5	2.4	1	36			OC, ar w/sulf
6098		595	22.4		<10	<0.5	11	<16.0		<0.5	<2	0.3	<0.5	2.1	1.5	40			OC, ar w/qz and sulf
6099		986	25.8		<24	<0.5	6	<21.0		<0.5	<2	<0.2	<0.5	<0.7	0.9	24			RC, high-grade of sulf
6708		10	1.1		<10	<0.5	6	10		<0.5	<2	<0.2	<0.5	2.4	1.4	16			OC, qz vein
6709		125	3.1		<10	<0.5	8	<5.0		<0.5	<2	<0.2	<0.5	1.3	1	26			OC, sil volc w/5% sulf
6710		306	7.6		<10	0.7	7	7.8		<0.5	<2	<0.2	<0.5	2.5	1.5	63			OC, sil volc w/sulf
6711		265	18.8		<10	<0.5	5	13		<0.5	<2	<0.2	<0.5	1	0.5	<5			OC, sil volc w/py and sl
6712		117	0.4		<10	<0.5	22	39		<0.5	<2	<0.2	0.5	8	3	11			TP, sil fest volc
6871		4390	28.6		<48	1	5	<16		<0.5	<5	<0.3	<0.5	1.7	0.7	42			MD sil zone in rhyolite w/ py,gn,sl,cp
6277		103	1.4		<10	<0.5	4	6.6		<0.5	<2	<0.2	<0.5	0.6	0.7	19			FL qz ar br w/ gn,sl,py
6278		2.7	0.8		<10	<0.5	18	28		<0.5	2	0.3	<0.5	3.7	2.8	65			OC fest fg gw w/ fg dissem sulf
6872		450	34.6		<10	<0.5	13	24		<0.5	<2	0.3	0.5	3.3	2	44			RC sil py zone in gw
6873		4.5	2.2		<10	<0.5	13	25		0.5	<2	<0.2	<0.5	3.3	1.6	100			RC qz gw zone w/ py,po
6874		31	1.2		<10	<0.5	3	5.5		<0.5	<2	<0.2	<0.5	0.8	0.3	11			OC fest qz vein
6875		>10000	74.1		<110	<1.5	<2	<41		<0.5	<18	<1.4	<0.5	<4	<1.5	<28			OC fest qz vein w/ py,gn,sl,cp
	No Samples Taken																		
6010		1.2	0.3		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.9	0.3	10			OC, qz vein
6011		1.7	0.2		<10	<0.5	4	6.2		<0.5	<2	<0.2	<0.5	1.7	0.7	32			OC, qz vein
6012		1.2	0.2		<10	<0.5	4	7		<0.5	<2	<0.2	<0.5	1.6	0.6	26			OC, barren qz vein
6013		1	0.1		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC, barren qz vein
6617		11	0.6		<10	1.4	16	31		<0.5	2	0.3	0.8	3	1.5	200			OC, zone of carbonate, silica, sl
6928		1500	1160		<79	<0.5	<2	<29		<0.5	<16	<0.6	<0.5	<1.5	<1.4	<28			RC gn,po,py,cp band
6929		224	10.7		<10	0.7	3	<5		<0.5	<2	<0.2	<0.5	0.7	1	25			OC gossan,carbonate,silica w/ qz br
6927		>10000	259		<130	<1.8	<5	<43		<0.5	<55	<1.1	<1.6	<2.5	<2	<49			OC qz-carb band w/ py,sl,gn
6124		4	1		<10	<0.5	4	6.4		<0.5	<2	<0.2	<0.5	0.8	0.4	13			OC, barren qz vein in ar
6125		1.7	0.4		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.2	<0.2	<5			OC, qz vein w/rare sulf and some calc
6738		20	1		<10	1.5	23	39		0.8	3	0.5	0.9	4.7	2.5	170			OC, fest hn w/10% sulf (po)
6739		21	0.3		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			RC, qz vein w/po, cp
6925		15	0.9		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC po lens hosted in sil gs
6926		263	14.8		<10	<0.5	3	7.4		<0.5	<2	<0.2	<0.5	<0.2	<0.2	13			OC carbonitized gs w/ bands of sl
6924		13	1.2		<10	<0.5	15	27		1	4	0.4	<0.5	1.6	0.6	<5			OC sil an w/ po,sl,cp
6921		6.3	3.3		<10	<0.5	9	16		0.6	<2	0.2	<0.5	2.3	1.4	57			OC sil zone w/ po,sl,cp
6922		5.9	1.9		<10	0.8	7	<5		<0.5	<2	0.2	0.6	2.3	1.5	50			OC sil an w/ po,sl,cp in gd
6923		156	2.5		<10	<0.5	5	<5		<0.5	<2	0.4	<0.5	<0.2	<0.2	<5			RC fg msv sl,po,cp

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
341-4	6699	Iron Cap West	C	0.1	<5	0.1	42	31	<510	<72	<85	<5	<2400	<820	<1500	>30000	2.2			<100
342-1	6080	Iron Cap	SC	2.20@0.1	15	0.4	45	184	120	3	<10	14	1300	87	<100	1	3.4			<5
342-1	6081	Iron Cap	SC	2.07@0.1	<5	0.4	94	90	340	6	38	13	2600	99	<100	2	4.6			<5
342-1	6082	Iron Cap	C	2.7	<5	3.2	457	2800	1100	15	47	27	1500	150	<100	1	7			16
342-1	6083	Iron Cap	SC	2.72@0.1	23	8.6	899	5487	450	12	18	10	2900	95	<100	3	6			<5
342-1	6084	Iron Cap	C	0.6	<5	0.5	164	247	990	<1	200	77	820	1400	<100	3	>10			13
342-1	6690	Iron Cap	C	1.3	10	1.6	477	173	120	115	80	37	220	230	<100	<1	>10			<5
342-1	6691	Iron Cap	S		10	12.5	791	1620	47600	26	44	30	260	180	<100	<2	8.2			953
342-1	6692	Iron Cap	S		6	9.6	162	7270	630	4	46	27	1100	110	<100	3	>10			10
342-1	6693	Iron Cap	S		<5	0.9	133	66	790	2	22	14	590	120	<100	2	>10			10
342-1	6694	Iron Cap	G	0.1	150	**42.86** *	186	1027	110	4	<10	<5	1800	250	<100	4	4.9			<5
342-1	6695	Iron Cap	SC	4.27@0.15	<5	1	87	391	120	<2	<10	8	>20000	130	<100	<1	3.1			<5
343-1	6233	Silver Bell Extension	C	0.7	9	1.5	734	10	218	<1	<10	98	520	53	<100	2	>10			<5
343-2	6087	Silver Bell Extension	C	0.8	33	<0.1	25	36	<100	1	<10	<5	73	460	<100	<1	1.9			<5
344-1	6866	Silver Bell	G		1166	**467.3** *	3706	**61.01** *	**3.95** *	<5	<29	<5	<140	<55	<490	10	2.3			450
344-1	6867	Silver Bell	CC	0.2	616	**332.2** *	16676	**36.48** *	**17.26** *	<22	<160	<19	<870	<370	<3300	<19	2.4			2000
344-1	6868	Silver Bell	C	0.2	836	**176.6** *	8905	**14.29** *	**6.98** *	<3	<32	16	<140	200	<430	943	5			791
344-1	6869	Silver Bell	C	0.4	354	**941.8** *	**2.21** *	**41.12** *	**3.80** *	<44	<260	<37	<1700	<810	<6500	<36	5.5			<210
344-1	6870	Silver Bell	C	0.4	58	14.9	2061	3086	**2.28** *	5	<10	7	640	520	<270	6	2.7			270
345-1	6689	Iron Cap, SW	G	0.2	24	46.3	471	**5.37** *	73000	4	140	66	<50	110	<100	<3	>10			1520
345-2	6078	Iron Cap, SW	C	0.1	16	5.1	11	2630	120	2	<10	<5	570	510	<100	<1	1.5			<5
345-2	6079	Iron Cap, SW	C	0.3	7	0.4	17	96	<100	2	<10	<5	970	390	<100	2	1.4			<5
346-1	6235	Silver Star vicinity	Rep	0.1	7	5.8	1976	10	135	3	<10	26	3200	93	<100	3	8.5			<5
346-2	6234	Silver Star vicinity	Rep	0.8	<5	0.2	149	8	63	5	36	29	1200	110	<100	<1	6.1			<5
346-3	6236	Silver Star vicinity	C	1.4	66	37.8	872	900	950	15	39	15	690	330	<100	<1	>10			9
346-4	6237	Silver Star vicinity	S	0.1	<5	0.2	134	10	51	4	<10	29	2300	79	<100	<1	6.3			<5
346-5	6238	Silver Star vicinity	G	0.2	15	18.6	3486	4876	6533	<1	28	21	<50	300	<100	<1	5.2			84
347-1		Silver Star		No Samples Taken																
348-1	6892	Ibex saddle	G		109	40.7	256	**2.59** *	**7.54** *	2	<10	42	460	89	<100	<1	7.9			1450
348-1	6893	Ibex saddle	G		53	8.6	670	9443	**4.28** *	2	<10	45	600	100	<100	<1	>10			914
348-1	6894	Ibex saddle	G	0.1	111	24	5714	144	10895	4	31	99	1500	120	<100	<1	>10			200
348-1	6895	Ibex saddle	C	0.1	220	17	1158	6886	17914	8	<10	360	300	96	<100	<1	>10			430
348-1	6896	Ibex saddle	C	1.5	25	0.8	129	70	250	2	36	22	2100	110	<100	2	6.9			<5
348-1	6897	Ibex saddle	C	0.1	656	38.6	2705	**2.19** *	**3.91** *	<1	<10	41	640	100	<100	<1	9.3			874
349-1	6018	Ibex	C	0.2	3095	34.7	2479	**4.27** *	1000	7	<10	11	880	150	<100	3	3.6			15
349-1	6021	Ibex	Rep	0.2	16	2.2	167	1045	8100	<1	<10	<5	<50	390	<100	<1	2.3			76
349-1	6022	Ibex	C	0.5	78	5.5	201	2648	970	39	<10	11	190	120	<100	4	2.8			8
349-1	6023	Ibex	C	0.2	32	**108.7** *	9915	**1.31** *	3800	16	<10	8	280	240	<100	12	4.2			14
349-1	6622	Ibex	C	0.4	380	**338.7** *	9325	**17.26** *	42900	20	<10	12	440	110	<100	9	5.3			44
349-1	6623	Ibex	C	0.6	2034	**91.20** *	5675	**1.93** *	51300	25	<38	5	470	130	<330	10	6.7			60
350-1	6017	Silver Coin	C	1.0	4061	11.8	2248	**1.99** *	910	4	<10	7	2700	270	<100	3	2.7			14
350-1	6063	Silver Coin	C	0.2	51	0.6	37	83	120	4	<10	5	420	290	<100	2	2.3			<5
350-1	6064	Silver Coin	C	0.1	393	0.8	75	87	150	7	<10	13	950	220	<100	12	3.2			<5
350-1	6666	Silver Coin	C	0.8	2312	**132.7** *	15943	**8.74** *	310	5	14	20	2900	190	<100	3	6.5			22
350-1	6667	Silver Coin	C	0.4	1474	**144.3** *	19635	**9.62** *	990	10	<10	<5	>20000	290	<270	6	7.1			62
350-1	6668	Silver Coin	C	0.3	1147	**161.1** *	3068	4713	420	8	24	43	2100	280	<100	3	4.8			9

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
6699		<9.8	<0.7		<170	<2.0	7	<160		<3.1	<15	<7.4	<0.5	<5.7	<4.2	<27			OC,	qz vein w/7% py
6080		16	1.7		<10	2.7	12	29		0.7	3	0.3	0.6	2.7	1.5	99			TP,	br w/qz stringers
6081		11	1.6		<10	2.3	15	26		0.5	3	<0.2	1	3.3	1.8	140			TP,	tan sil rock
6082		18	3.3		<10	1.7	12	21		<0.5	<2	<0.2	0.6	2.3	1.1	86			TP,	qz vein w/8% sulf (cp,po,sl)
6083		27	5.3		<10	2.5	12	22		0.5	<2	0.4	0.8	3.5	1.6	120			TP,	fest sil rock w/qz
6084		188	7.5		<10	6.6	15	23		0.9	4	0.5	<0.5	0.9	0.5	120			TP,	highly sil gray rock
6690		102	2.3		<10	<0.5	3	<5.0		<0.5	<2	0.2	<0.5	0.6	0.4	30			OC,	qz vein w/po, cp on fractures
6691		7.7	1.4		<10	1	5	16		<0.5	<2	<0.2	<0.5	1.3	0.5	<14			RC,	sl-rich qz-chert w/po and cp
6692		16	5		<10	2.2	70	140		0.6	<2	0.3	0.8	2.5	1.2	110			RC,	hn (sil) w/gn
6693		16	2.1		<10	3	51	94		0.7	2	0.3	0.8	2.5	1.4	110			RC,	hn (sil) 20% py
6694		2.5	2.1		<10	1	22	51		<0.5	<2	0.2	<0.5	1.8	1.4	110			OC,	lens of clay, chert and gray sulf
6695		27	1.7		<10	2.2	19	27		0.7	2	0.3	<0.5	1.6	0.9	51			OC,	calc chert br zone w/hem
6233		54.7	0.6		<10	1.8	9	14		0.7	<2	0.3	<0.5	1.4	0.9	14			OC	fest lens w/ py,po,cp in metased
6087		3.1	4.1		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC,	barren qz in gray ar
6866		222	602		<58	<0.5	<2	<24		<0.5	<5	<0.4	0.5	<1	<0.8	<14			MD	qz-sulf vein w/ gn,sl,py,cp,ml,az
6867		4840	3000		<390	<4.1	5	<150		<2	<88	<2.6	<2.5	<6.8	<5.2	<77			OC	sil zone w/ gn,sl,py,cp,ml,az
6868		1290	498		<51	<0.5	3	<19		<0.5	<10	<0.2	<0.5	<0.9	<0.7	15			OC	qz sulf vein w/ gn,sl,cp,py,ml,az
6869		2340	3000		<850	<6.8	<13	<320		<3.1	<206	<5.6	<4.6	<14	<10	<150			TP	qz sulf zone w/ gn,sl,cp,py,ml,az
6870		107	202		<38	<0.5	4	12		<0.5	<2	<0.2	0.5	<0.2	<0.2	30			OC	qz ar br w/ sulf
6689		26	43.4		<10	<0.5	<2	<21.0		<0.5	<2	<0.2	<0.5	<0.5	<0.4	<20			FL,	qz vein w/po, sl, gn, cp
6078		12	6.9		<10	0.7	<2	<5.0		<0.5	<2	<0.2	<0.5	0.6	0.4	84			OC,	barren qz vein
6079		6.4	1.4		<10	0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.5	0.3	58			OC,	qz vein w/chl and ep
6235		12	0.6		<10	4.3	12	19		<0.5	<2	0.3	1	2.8	1.5	94			FL	ar bouldre w/ dissem py,cp
6234		18	0.6		<10	0.8	15	28		0.6	3	0.2	0.6	2.4	1.9	64			OC	Hazelton metased w/ fg py,cp
6236		1400	4.1		<10	1.9	14	32		<0.5	<2	0.2	<0.5	3	1.6	62			OC	gos sil fest sulf rich lens in sed
6237		11	0.9		<10	<0.5	14	22		0.5	2	0.3	0.6	2.4	1.5	73			FL	fest ar w/ 5%py
6238		26	2.5		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			FL	qz vein w/ py,sl,cp
	No Samples Taken																			
6892		2.8	4		<10	<0.5	12	19		<0.5	<2	0.3	<0.5	1.9	0.7	74			RC	sil an w/ sl,py
6893		4.9	4.3		<10	2	14	24		<0.5	<2	0.3	0.5	3	1.2	82			RC	sil an w/ sl,gn
6894		19	1.3		<10	1.9	11	20		<0.5	<2	<0.2	0.5	1.4	0.9	53			OC	alt an w/ py,sl,cp, gray sulf
6895		4.3	5.7		<10	<0.5	10	13		<0.5	<2	0.2	0.6	1.4	0.6	18			OC	alt an w/ py,sl,cp,gray sulf
6896		5.6	2		<10	1.5	15	21		0.6	2	0.3	<0.5	2.7	1.5	73			OC	fest an w/ 5% sulf
6897		3.3	9.3		<10	1	12	11		0.7	<2	0.5	0.5	2.4	1.2	60			OC	alt an w/ py,cp,sl,gray sulf
6018		5.4	16.4		<10	3	7	<5.0		<0.5	<2	<0.2	<0.5	2.1	3.8	35			OC,	qz gouge vein
6021		5	5.5		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	5			OC,	qz vein w/sl, gn hosted in ar
6022		152	14.8		<10	0.6	6	<5.0		<0.5	<2	<0.2	<0.5	1	0.8	57			OC,	qz stringer zone in ar
6023		77.4	69.6		<10	0.7	6	<5.0		<0.5	3	<0.2	<0.5	0.9	2.1	57			OC,	qz vein w/gn, cp, ml stain
6622		1730	60.7		<10	0.9	9	21		<0.5	<2	<0.2	<0.5	0.9	3.9	54			OC,	qz vein w/gn, sl
6623		2160	71.6		<39	1	11	<21.0		<0.5	<6	<0.2	<0.5	1.3	4.9	53			OC,	shear zone w/qz, gn, py, ml, ar
6017		3.6	9.4		<10	1.5	8	16		<0.5	<2	<0.2	<0.5	3.1	2.8	93			OC,	qz vein w/dissem gn, cp, py
6063		2.7	1.2		<10	0.5	5	6.8		<0.5	<2	<0.2	<0.5	1.6	1.1	41			UW,	qz vein/stringer in gd
6064		7.4	1.7		<10	2.8	16	34		<0.5	<2	<0.2	<0.5	5.4	3.5	200			UW,	qz gouge zone
6666		39	40.7		<10	<0.5	5	9		<0.5	<2	<0.2	<0.5	2.2	5	56			OC,	qz blebs of gn, cp
6667		259	116		<33	0.9	6	<19.0		<0.5	<2	<0.2	<0.5	1.8	3.7	44			OC,	qz vein w/blebs of gn, cp
6668		30	13.4		<10	<0.5	3	<5.0		<0.5	<2	0.3	<0.5	0.8	3.3	35			OC,	qz vein w/blebs of cp, gn, py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
351-1	6014	Homestake	C	0.9	244	0.4	41	230	320	<1	<10	10	4700	130	<100	7	4.9			<5
351-1	6015	Homestake	C	0.5	2880	26	2793	**4.03** *	1100	3	26	24	3900	260	<100	2	6.7			14
351-1	6016	Homestake	C	0.4	4371	**173.5** *	**3.21** *	**60.97** *	7700	<6	<21	22	>20000	63	<310	<22	>10			180
351-1	6019	Homestake	Rep	1.5	2734	31.5	6076	**6.15** *	5200	2	<10	14	3700	230	<100	4	4.4			74
351-1	6020	Homestake	C	0.6	3846	24.7	4248	1362	<100	4	22	7	350	430	<100	2	2.9			<5
351-1	6618	Homestake	C	0.9	**14.46** *	21	2980	**2.04** *	900	4	<10	8	5670	350	<100	<1	2.7			19
351-1	6619	Homestake	C	0.1	1261	**198.9** *	4360	**25.75** *	1000	<5	<44	10	1600	<120	<990	8	4.6			60
351-1	6620	Homestake	C	0.2	5832	**877.0** *	12210	**22.97** *	<5200	<33	<250	<28	3400	<630	<6000	<72	4.7			<130
351-1	6621	Homestake	C	1.4	3127	48.6	5781	**8.15** *	2200	3	<10	15	2100	300	<100	3	3.5			59
352-1	9190	Casey Glacier Sphalerite	S		64	25.8	1448	2390	**20.09** *	3	<40	120	<50	84	<100	<2	5.60			>2000
352-1	9191	Casey Glacier Sphalerite	Rep		16	2.7	344	347	12194	<1	<10	19	270	170	<100	<1	5.80			230
352-1	9438	Casey Glacier Sphalerite	Rep		66	8.5	212	613	**10.50** *	<1	<27	52	240	190	<100	<3	6.50			1800
352-1	9442	Casey Glacier Sphalerite	C	0.1	20	**51.09** *	11257	266	511	5	15	5	300	480	<100	<1	2.60			15
352-1	9443	Casey Glacier Sphalerite	C	0.3	6	3.9	2036	44	311	<1	<10	11	990	270	<100	<1	2.90			<5
352-2	9200	Casey Glacier Sphalerite	S		4969	**62.40** *	1125	676	**29.54** *	<1	<41	81	<50	180	<100	<3	4.00			>2000
352-2	9201	Casey Glacier Sphalerite	C	0.4	32	**65.14** *	7580	583	4380	1	23	17	520	170	<100	<1	5.70			36
352-2	9202	Casey Glacier Sphalerite	S		141	**195.4** *	19820	1731	**2.59** *	<1	18	25	390	260	<100	<1	7.10			190
352-2	9444	Casey Glacier Sphalerite	C	0.9	<5	2.1	1766	254	1377	<1	<10	40	1700	60	<100	<1	6.90			19
352-2	9445	Casey Glacier Sphalerite	C	0.5	28	**147.8** *	13230	322	1043	2	<10	20	610	150	<100	<1	8.50			<5
352-3	9439	Casey Glacier Sphalerite	Rep		369	25.9	249	7475	**13.35** *	<1	<30	61	540	160	<100	<3	5.60			>2000
352-4	9194	Casey Glacier Sphalerite	S		91	22.2	210	3875	**17.38** *	<1	<30	94	<50	54	<100	<2	4.40			>2000
352-4	9195	Casey Glacier Sphalerite	S		<5	0.3	65	61	4258	<1	<10	24	670	<20	<100	2	5.30			77
352-4	9235	Casey Glacier Sphalerite	S		**12.48** *	18.0	62	5550	6110	<39	<850	<34	<1600	<720	<6000	<22	>10			<230
352-4	9236	Casey Glacier Sphalerite	S		1159	3.5	9	651	607	<15	<400	<33	<660	<290	<2400		>10			<73
352-5	9192	Casey Glacier Sphalerite	S		137	9.3	297	1800	**7.89** *	<1	<27	50	150	110	<100	<2	8.00			1410
352-5	9196	Casey Glacier Sphalerite	Rep		469	7.5	163	472	998	14	33	23	390	67	<100	<1	7.60			28
352-5	9237	Casey Glacier Sphalerite	C	0.2	125	**300.3** *	3162	**6.83** *	**18.98** *	<2	<45	33	180	<54	<390	<3	6.40			>2000
352-5	9238	Casey Glacier Sphalerite	Rep		93	3.7	108	2282	2052	3	<10	21	520	140	<100	<1	6.80			28
352-5	9475	Casey Glacier Sphalerite	C	0.3	62	**680.6** *	203	**15.95** *	**2.64** *	6	<42	<12	880	160	<520	11	6.80			390
352-6	9193	Casey Glacier Sphalerite	S		10	0.8	197	52	882	<1	49	120	300	96	<100	<1	>10			19
352-6	9239	Casey Glacier Sphalerite	S		517	17.8	169	4446	8911	2	49	18	620	110	<250	4	3.80			170
352-6	9240	Casey Glacier Sphalerite	C	1.3	15	2.8	194	269	732	38	<10	29	990	84	<100	2	7.10			<5
352-6	9476	Casey Glacier Sphalerite	SC	1.2@0.1	31	2.5	135	374	300	17	35	26	1200	81	<100	3	6.50			14
352-7	9197	Casey Glacier Sphalerite	S		149	28.5	215	6890	**15.74** *	<1	<26	65	200	130	<100	<1	3.00			>2000
352-7	9198	Casey Glacier Sphalerite	Rep		59	5.0	168	1248	**4.39** *	2	<10	34	360	110	<100	3	8.40			796
352-7	9440	Casey Glacier Sphalerite	Rep		124	7.0	98	1374	**5.74** *	2	<22	32	200	200	<100	<3	5.80			1030
352-8	9241	Casey Glacier Sphalerite	S		93	29.6	2023	1180	**13.50** *	2	<31	66	<50	160	<100	<2	5.90			>2000
352-8	9242	Casey Glacier Sphalerite	S		106	14.4	1628	518	5587	15	24	22	300	79	<100	2	8.80			88
352-8	9243	Casey Glacier Sphalerite	S		26	36.8	2607	650	5646	<1	17	40	270	200	<100	2	6.30			76
352-8	9244	Casey Glacier Sphalerite	S		46	35.5	241	**2.87** *	**9.58** *	<1	<10	74	85	100	<100	<1	>10			1650
352-8	9245	Casey Glacier Sphalerite	S		31	3.8	555	5543	3200	5	14	6	410	290	<100	<1	1.00			37
352-8	9478	Casey Glacier Sphalerite	S		64	29.9	3157	740	12580	4	<10	41	<50	350	<100	<1	4.10			230
352-8	9479	Casey Glacier Sphalerite	Rep		24	4.3	193	501	175	1	<10	12	2100	120	<100	<1	3.50			<5
352-9	9480	Casey Glacier Sphalerite	S		53	15.0	94	4771	**6.00** *	9	<10	41	<50	300	<100	<1	3.40			1190
353-1		Jumbo (Texas Creek)		No Samples Taken																
354-1		Nothiger		No Samples Taken																

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
6014		7.3	21.3		<10	2.1	23	43		<0.5	3	<0.2	0.8	7.1	3.5	260			OC, alt gd w/qz stringer
6015		7.9	6.5		<10	<0.5	11	18		0.6	<2	<0.2	<0.5	1.5	2.3	35			OC, qz vein w/20-30% sulf
6016		324	315		<45	<0.5	3	<23.0		<0.5	<3	0.5	<0.5	<0.7	<1.3	<14			OC, msv fg steel gn w/cp
6019		8	32.9		<10	1.1	11	17		<0.5	<2	<0.2	<0.5	2.8	2.2	100			OC, alt gd w/qz veins
6020		4.3	4.3		<10	<0.5	4	12		<0.5	<2	<0.2	<0.5	0.9	0.7	39			OC, qz vein w/py, cp
6618		8.6	20.9		<10	<0.5	3	<10.0		<0.5	<2	<0.2	<0.5	0.6	2	14			UW, qz vein w/7% sulf
6619		232	805		<110	<1.0	5	<50.0		<0.5	<16	0.8	0.8	<2.2	<1.1	69			OC, steel gn w/cp
6620		2650	>3000		<680	<5.8	9	<310		<2.7	<110	<4.5	<3.7	<11.0	<7.0	220			OC, qz vein w/gn and cp
6621		10	44		<10	0.6	8	<5.0		<0.5	<2	<0.2	<0.5	2	4.6	45			OC, qz sulf vein
9190		4.6	2.4		<24	2.3	3	14		<0.5	<2	<0.2	<0.5	<0.5	<0.2	22			RC, msv sulf band w/sl 60% + po,py,cp,gn(?)
9191		0.5	0.9		<10	0.8	3	<5		<0.5	<2	<0.2	<0.5	0.5	<0.2	37			RC, sil br w/po 3%,sl 1%
9438		4.6	2		<10	1.8	4	11		<0.5	<2	<0.2	<0.5	0.7	<0.2	43			RC, sil calcareous br w/sl 20%,py 5%
9442		1.8	0.8		<10	<0.5	3	5.8		<0.5	<2	<0.2	<0.5	1	1.6	23			OC, copper-stained qz vein w/cp 15%
9443		1.3	0.4		<10	<0.5	12	21		<0.5	<2	<0.2	0.6	4.4	2.2	63			OC, sil gd w/cp
9200		231	2.9		<22	<1	5	<13		<0.5	<2	<0.2	<0.5	<0.5	<0.2	<12			RC, msv sl w/qz in gossan
9201		37	1		<10	1.4	4	5.8		<0.5	<2	<0.2	<0.5	0.7	0.6	65			OC, sil & calcareous shear br in gs w/cp,sl,py
9202		65.4	3.3		<10	1.2	4	<5		<0.5	<2	<0.2	<0.5	<0.2	0.5	59			OC, sulf-rich part of shear in gs
9444		9	0.7		<10	0.7	15	27		<0.5	2	0.2	0.7	2.9	1.7	56			OC, meta-ar w/cp(?)
9445		62	1		<10	2.5	8	7.3		<0.5	<2	0.2	<0.5	1.2	0.7	95			OC, sheared meta-ar w/qz and cp
9439		2.5	12.5		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	77			RC, sil calcareous br, w/ msv sl
9194		3	6.6		<24	<0.5	4	<14		0.9	<2	<0.2	<0.5	<0.2	<0.2	84			RC, banded sl in alt metavolc
9195		1.7	0.7		<10	2.5	10	17		0.6	2	<0.2	0.6	1.4	0.5	72			OC, alt metavolc w/sl,py,po
9235		>10000	<585		<740	<8.5	<6	<300		<4.4	<143	<4.9	<4.9	<13	<8.8	<160			OC, 50% calc w/sulfs & 50% alt metavolc
9236		>10000	<54		<300	<3.5	<7	<120		<1.8	<49	<2.5	<2	<5.2	<3.5	<69			OC, sl,gn,aspy,py in calc vein & alt metavolc
9192		7.7	1.9		<10	0.8	4	<5		<0.5	<2	<0.2	<0.5	0.8	<0.2	48			RC, banded sulf in alt metavolc
9196		220	1.7		<10	1	9	13		<0.5	<2	<2	<0.5	0.8	0.5	32			OC, calc & qz alt metavolc rock w/py,po,minor sl
9237		228	274		<43	<1.2	7	<18		<0.5	<5	0.4	<0.5	<0.8	<0.5	68			OC, sulf vein of sl,gn.cp w/qz & calc in metavolc
9238		593	5.2		<10	1	4	<5		<0.5	<2	<0.2	<0.5	1	<0.2	47			RC, alt, br an w/po,py
9475		152	539		<72	2	12	<29		<0.5		<0.9	1.1	<1.3	<0.7	77			OC, qz-calc shear br w/gn 30%,sl 15%
9193		30	5.8		<10	0.8	14	21		0.8	2	0.4	0.9	1.2	0.7	<5			OC, pockets of sulf in lithic lapilli tuff
9239		2700	7.5		<31	2	5	<14		<0.5	<4	<0.2	<0.5	0.7	<0.2	100			RC, alt, br an w/banded gn 3%,sl 2%,po 5%
9240		89.6	3.2		<10	0.8	10	13		<0.5	2	0.3	0.7	1.7	1.2	41			OC, py-bearing calcareous ar lens in metavolc
9476		51.6	2.4		<10	0.7	14	18		0.7	<2	0.3	0.7	2.3	1.5	58			OC, meta-ar w/py 5%
9197		9.4	10		<20	<0.5	3	11		<0.5	<2	<0.2	<0.5	<0.2	<0.2	39			RC, msv sl in alt metavolcs
9198		1.6	1.8		<10	1.1	3	<5		<0.5	<2	<0.2	<0.5	0.5	0.5	62			RC, msv sl in alt mafic metavolc
9440		3.8	2.5		<10	1.4	4	<5		<0.5	<2	<0.2	<0.5	0.6	<0.2	31			RC, sil calcareous br w/sl 10%,po 5%
9241		50	1.2		<10	1.1	<2	<5		<0.5	<2	<0.2	<0.5	<0.4	<0.2	22			FL, msv & banded sl + cp,gn in sil br
9242		60.3	6.7		<10	0.7	6	10		<0.5	<2	<0.2	<0.5	1.2	0.6	31			FL, br metavolc w/cp 1%,sl 1%,py<<1%
9243		41	0.8		<10	0.5	5	<5		<0.5	<2	<0.2	<0.5	0.7	0.4	38			FL, sil metavolc w/sl,cp,po,minor gn
9244		13	18.9		<10	1.7	4	<5		<0.5	<2	<0.2	<0.5	0.6	<0.2	42			FL, alt metavolc w/banded sl,gn,minor cp,po
9245		57.1	0.8		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.8	0.5	17			FL, qz-rich band in alt metavolc w/gn,cp,mo?
9478		89.9	1.2		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	0.3	<0.2	17			FL, sil br w/cp,sl 10%
9479		4.4	1.7		<10	1.4	13	21		<0.5	<2	<0.2	<0.5	5.2	3.3	120			FL, alt metadi w/py 8%,cp(?)<1%
9480		7.2	3		<10	<0.5	5	13		<0.5	<2	<0.2	<0.5	1.7	1	14			FL, sil br w/sl 20%,py 10%,gn 3%
No Samples Taken																			
No Samples Taken																			

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
355-1		Glacier		No Samples Taken																
356-1		Metcalf & Findley		No Samples Taken																
357-1	9210	Goat	C	0.1	110	0.8	53	10	8	4	<10	5	83	380	<100	13	1.40			<5
357-1	9211	Goat	C	0.1	19	<0.1	67	3	9	3	15	7	130	360	<100	2	2.00			<5
357-1	9450	Goat	SC	4.6@0.2	9	0.5	83	97	360	5	<10	14	1900	120	<100	8	5.00			<5
357-1	9451	Goat	C	0.1	76	2.3	109	39	99	4	<10	10	<50	270	<100	2	1.60			<5
358-1	9219	Galena	C	0.9	<5	0.5	83	27	114	8	<10	14	2200	250	<100	1	4.40			<5
358-1	9220	Galena	G		17	5.2	1049	128	105	31	<10	77	1700	230	<100	84	8.60			<5
358-1	9221	Galena	C	0.2	<5	0.3	88	14	25	6	<10	11	1800	360	<100	<1	2.00			<5
358-1	9222	Galena	SC	2.1@0.2	359	41.6	140	5013	233	56	<10	24	1600	320	<100	<1	5.90			<5
358-1	9223	Galena	S		180	**165.3** *	213	**2.69** *	820	117	13	22	260	360	<100	<1	4.60			36
358-1	9457	Galena	C	1.1	<5	0.8	174	34	48	6	59	29	5340	370	<100	<1	3.70			<5
358-1	9458	Galena	S		108	45.4	613	1524	32	791	<10	34	<50	250	<100	2	7.50			<5
358-2	9459	Galena	Rep	30.5	<5	1.1	68	82	66	14	11	10	280	210	<100	<1	1.70			<5
358-2	9460	Galena	S		77	26.2	393	2197	419	219	<10	11	200	290	<100	<1	7.00			<5
358-2	9461	Galena	C	0.3	15	45.0	168	6939	1033	1500	<10	11	250	300	<100	3	3.30			29
358-2	9462	Galena	SC	9.1@0.3	<5	2.5	99	367	122	121	17	23	1200	110	<100	<1	5.20			<5
359-1	9212	Edelweiss	C	0.2	35	30.8	95	3885	118	144	<10	11	350	320	<100	1	3.00			<5
359-1	9213	Edelweiss	C	0.3	62	4.6	263	250	23	959	20	25	90	290	<100	<1	3.60			<5
359-1	9214	Edelweiss	S		140	**65.83** *	65	5813	121	149	30	62	260	120	<100	<1	8.50			<5
359-1	9215	Edelweiss	S		654	**739.9** *	685	**7.75** *	13650	77	47	51	<50	130	<100	<1	>10			270
359-1	9216	Edelweiss	C	0.2	79	**152.6** *	94	5860	5000	41	<10	<5	<50	450	<100	<1	3.30			100
359-1	9452	Edelweiss	C	0.5	29	36.9	34	1287	91	24	<10	<5	720	390	<100	<1	1.60			<5
359-1	9453	Edelweiss	S		134	**247.5** *	108	**1.65** *	140	187	16	6	73	440	<100	<1	2.50			9
359-1	9454	Edelweiss	C	0.3	15	21.2	69	875	48	11	<10	<5	94	380	<100	<1	1.30			<5
359-1	9455	Edelweiss	C	0.3	11	15.7	35	199	67	5	<10	<5	<50	420	<100	2	0.70			<5
359-1	9456	Edelweiss	C	0.6	12	**70.63** *	64	5725	336	90	29	29	2800	100	<100	<1	7.40			<5
360-1	8557	Upper Marmot Basin	C	0.3	7	40.4	34	2381	220	1050	<10	<5	60	300	<100	4	6.9			<5
360-1	8558	Upper Marmot Basin	C	0.4	153	**116.9** *	17	7305	<100	2500	13	<5	<50	330	<100	3	7.3			<5
360-1	8559	Upper Marmot Basin	C	0.2	6	**54.51** *	32	1723	100	749	<10	<5	500	360	<100	<1	3.4			<5
360-1	8560	Upper Marmot Basin	C	0.5	9	16.4	110	452	<100	244	<10	<5	<50	390	<100	<1	3.6			<5
360-1	8561	Upper Marmot Basin	C	0.4	19	18.1	16	1394	<100	593	<10	<5	110	330	<100	<1	3.3			<5
360-1	8562	Upper Marmot Basin	S		98	49.1	19	2980	<100	695	<10	27	82	280	<100	<1	>10			<5
360-1	8611	Upper Marmot Basin	C	0.4	89	**65.5** *	17	1839	<100	265	11	<5	<50	430	<100	<1	3.5			<5
360-1	8612	Upper Marmot Basin	C	0.4	8	7.1	9	275	<100	85	13	<5	88	390	<100	<1	1.2			<5
360-1	8613	Upper Marmot Basin	C	0.6	38	18.9	9	483	<100	266	<10	<5	92	350	<100	<1	1.7			<5
360-1	8614	Upper Marmot Basin	C	0.5	48	27.1	11	1432	<100	335	<10	<5	<50	380	<100	<1	1.8			<5
360-1	8615	Upper Marmot Basin	C	0.7	122	**118.6** *	24	1345	<100	140	24	<5	54	360	<100	<1	8.20			<5
360-2	8273	Upper Marmot Basin	C	0.8	<5	5.1	47	240	<100	84	<10	<5	<50	470	<100	1	3.8			<5
360-2	8274	Upper Marmot Basin	C	0.5	7	4.3	22	327	<100	95	<10	6	120	390	<100	2	2.2			<5
360-2	8284	Upper Marmot Basin	C	1.0	<5	3.0	32	92	<100	211	<10	7	250	510	<100	1	4.7			<5
360-2	8285	Upper Marmot Basin	Rep	0.9	<5	2.1	79	90	<100	125	<10	23	1300	53	<100	3	6.7			<5
360-2	8286	Upper Marmot Basin	C	0.6	33	5.6	55	223	<100	162	<10	19	<50	380	<100	<1	5.0			<5
360-2	8287	Upper Marmot Basin	C	0.5	<5	10.3	61	957	<100	44	<10	<5	170	370	<100	<1	2.0			<5
360-2	8288	Upper Marmot Basin	C	0.3	<5	11.4	72	697	<100	597	<10	12	220	290	<100	<1	7.1			<5
360-2	8289	Upper Marmot Basin	C	0.5	6	1.6	17	64	<100	38	<10	<5	360	410	<100	<1	1.4			<5

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
	No Samples Taken																			
	No Samples Taken																			
9210		1.5	1.7		<10	<0.5	3	7.1		<0.5	<2	<0.2	<0.5	0.3	0.4	<5			OC,	qz-calc vein w/minor po
9211		0.5	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	9			OC,	qz-calc vein w/minor po
9450		8.8	0.3		<10	1.7	21	37		0.7	2	0.4	0.5	5.9	2.6	140			OC,	gw w/po 5%,py 1%
9451		12	0.5		81	<0.5	<2	6.1		<0.5	<2	0.2	<0.5	<0.2	0.5	<5			OC,	qz-calc vein w/po 5%
9219		1.6	0.3		<10	1.4	17	33		<0.5	2	0.3	0.8	4.1	1.5	54			OC,	fault zone in ar w/qz & calc, minor py
9220		2.7	0.4		<10	1.5	16	25		<0.5	<2	<0.2	0.6	2.1	1.7	37			OC,	fest, sil gw w/cp 1%
9221		1.7	0.2		<10	<0.5	6	7.8		<0.5	<2	<0.2	<0.5	1.3	0.7	10			OC,	qz vein w/minor py, po
9222		0.5	0.7		<10	2.8	13	18		<0.5	<2	0.2	<0.5	0.9	0.6	59			OC,	qz veins w/ gn,po,py in po-bearing metased
9223		1.1	0.5		<10	<0.5	8	13		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC,	qz w/gn 4%,cp<1%,py+po 5%
9457		1.2	0.2		<10	<0.5	3	5.7		<0.5	<2	<0.2	<0.5	0.6	0.4	24			OC,	qz vein w/po 4%,py 1%,cp(?)<1%
9458		1.3	0.3		<10	<0.5	36	46		<0.5	<2	<0.2	<0.5	0.4	2.7	<5			FL,	qz w/po 10%,cp 1%,mo
9459		2.8	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	12			OC,	calc-qz vein in metagw, minor sulf
9460		9.4	1.1		<10	<0.5	63	74		<0.5	<2	<0.2	<0.5	1.4	10	7			FL,	qz vein w/po 15%,py 2%,mo 1%
9461		19	0.4		<10	<0.5	47	57		0.8	3	<0.2	<0.5	3.3	22.8	9			OC,	qz vein w/po 10%,mo 5%, gn 5%, py 2%
9462		4.2	0.4		<10	1.4	15	19		0.5	2	<0.2	<0.5	1.5	2.3	60			OC,	metagw, hosts qz & qz-calc veins w/ sulf
9212		2.9	0.7		<10	<0.5	4	6.6		<0.5	<2	<0.2	<0.5	0.3	2.4	11			OC,	qz-calc vein w/po, minor gn
9213		0.5	0.3		<10	0.5	5	8.8		<0.5	<2	<0.2	<0.5	0.5	34.4	6			OC,	qz-calc vein w/py 3%, minor gn
9214		4.1	0.5		<10	1.2	46	60		<0.5	<2	<0.2	0.5	1.5	24.1	24			OC,	calc + qz veinlets w/py + minor gn
9215		8.2	2.6		<10	<0.5	5	<5		<0.5	<2	0.2	<0.5	<0.2	1	11			OC,	sulf-rich parts of qz-calc vein
9216		1.6	1.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.4	5			TP,	qz vein w/minor gn,py
9452		2.9	0.2		<10	<0.5	6	8.5		<0.5	<2	<0.2	<0.5	<0.2	0.4	15			TP,	qz vein w/py 5%
9453		6.9	0.8		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	1.2	<5			MD,	qz w/py 5%,gn 15%
9454		1.5	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			TP,	qz vein w/py 10%,gn 2%
9455		2.3	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			TP,	qz vein w/py 5%
9456		7.8	0.4		<10	2.8	11	19		<0.5	<2	0.3	<0.5	1.7	2.8	88			OC,	metavolc w/qz veins w/py 5%,gn 5%
8557		16	0.8		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	16	<5			OC,	qz vein w/minor py
8558		0.5	1.1		<10	<0.5	2	<5		<0.5	<2	<0.2	<0.5	0.2	9.3	<5			OC,	qz vein, limonite common
8559		1.8	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.8	<5			OC,	qz vein w/minor gn
8560		0.5	0.8		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	11	<5			OC,	qz vein w/minor py, po, gn, mo
8561		1.3	1.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	2.2	<5			OC,	qz vein w/minor gn, py
8562		2.8	1.6		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.9	<5			FL,	py hosted by qz, limonite common
8611		0.5	0.6		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	2.7	<5			OC,	qz w/minor gn, py
8612		0.5	0.4		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.2	<5			OC,	qz w/minor py
8613		0.5	0.7		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	1.3	<5			OC,	qz w/py, very minor mo
8614		<0.5	0.6		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.4	<5			OC,	qz w/minor py
8615		8.5	3.1		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	<0.2	2.3	<5			OC,	qz w/py
8273		0.5	0.1		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	2	<5			OC,	qz vein w/po, py
8274		1.4	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.7	<5			OC,	qz vein w/minor py
8284		4.6	0.3		<10	<0.5	2	<5		<0.5	<2	<0.2	<0.5	<0.2	2.4	<5			OC,	qz vein w/py
8285		1.4	0.2		<10	3.0	11	10		<0.5	<2	<0.2	<0.5	1.7	1.5	110			OC,	hn w/py
8286		1	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	1	<5			OC,	qz vein w/py, minor mo
8287		1.7	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.3	0.9	7			OC,	qz vein w/py, very minor mo
8288		1.4	0.2		<10	<0.5	5	<5		<0.5	<2	<0.2	<0.5	0.4	13	<5			OC,	qz vein w/py
8289		1.3	0.2		<10	0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.3	0.6	15			OC,	qz vein w/minor py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
360-2	8290	Upper Marmot Basin	C	0.2	11	**64.11** *	12	3285	<100	402	<10	13	3200	260	<100	<1	>10			<5
360-2	8291	Upper Marmot Basin	C	0.5	14	47.5	36	2516	<100	277	<10	<5	210	430	<100	1	1.4			<5
360-2	8292	Upper Marmot Basin	C	1.4	<5	15.7	29	737	<100	183	<10	<5	260	360	<100	1	1.4			<5
360-2	8293	Upper Marmot Basin	C	1.2	6	14.7	82	664	<100	99	16	28	280	310	<100	<1	4.7			<5
360-2	8294	Upper Marmot Basin	C	1.5	39	18.3	12	622	<100	54	<10	<5	60	350	<100	<1	0.8			<5
360-2	8295	Upper Marmot Basin	C	2.0	<5	31.1	61	2057	<100	782	<10	15	360	330	<100	1	4.3			<5
360-2	8296	Upper Marmot Basin	S		43	**480.3** *	62	**3.25** *	<100	8360	<30	<5	<970	<230	<320	<13	5.8			<23
360-2	8297	Upper Marmot Basin	C	0.7	<5	1.3	15	69	<100	42	<10	<5	210	380	<100	1	1.0			<5
360-2	8298	Upper Marmot Basin	C	0.5	15	13.0	51	823	100	298	22	19	1500	290	<100	<1	10.0			<5
360-2	8299	Upper Marmot Basin	C	0.5	<5	6.2	38	421	230	236	<10	11	4600	330	<100	<1	4.0			<5
360-2	8300	Upper Marmot Basin	C	0.5	<5	9.6	9	463	<100	105	<10	<5	480	340	<100	<1	1.3			<5
360-2	8521	Upper Marmot Basin	C	0.4	<5	5.1	6	373	<100	61	<10	<5	63	560	<100	<1	1.8			<5
360-2	8522	Upper Marmot Basin	C	0.5	<5	4.6	47	320	<100	324	<10	<5	540	470	<100	<1	4.4			<5
360-2	8523	Upper Marmot Basin	C	0.7	<5	4.9	10	234	<100	85	<10	<5	<50	520	<100	<1	0.8			<5
360-2	8524	Upper Marmot Basin	C	0.4	<5	6.3	13	659	<100	611	14	<5	360	510	<100	<1	10.0			<5
360-2	8532	Upper Marmot Basin	C	0.6	<5	4.4	10	267	<100	199	18	<5	520	350	<100	2	1.6			<5
360-2	8533	Upper Marmot Basin	C	0.2	15	44.6	7	3738	280	541	<10	<5	1700	330	<100	<1	1.1			<5
360-2	8534	Upper Marmot Basin	C	0.4	<5	1.5	43	119	<100	115	<10	<5	150	330	<100	<1	6.8			<5
360-2	8535	Upper Marmot Basin	C	0.2	28	50.0	21	9177	440	370	13	<5	1000	380	<100	2	4.6			<5
360-2	8536	Upper Marmot Basin	C	0.6	<5	1.3	10	75	<100	60	<10	<5	<50	400	<100	<1	2.5			<5
360-2	8537	Upper Marmot Basin	C	0.4	<5	6.4	10	166	<100	53	<10	<5	74	390	<100	<1	1.5			<5
360-2	8538	Upper Marmot Basin	C	0.6	<5	7.5	15	271	<100	52	<10	<5	210	320	<100	<1	1.5			<5
360-2	8539	Upper Marmot Basin	C	0.4	8	4.0	37	178	<100	545	<10	<5	1400	360	<100	1	6.6			<5
360-2	8540	Upper Marmot Basin	C	0.4	30	16.7	27	1280	<100	131	<10	<5	480	350	<100	<1	2.2			<5
360-2	8541	Upper Marmot Basin	C	0.6	19	**270.9** *	726	**1.89** *	<100	281	19	20	470	270	<100	3	7.0			<5
360-2	8542	Upper Marmot Basin	C	0.5	172	**338.1** *	24	**1.69** *	<100	301	<10	<5	<50	370	<100	4	4.1			<5
360-2	8543	Upper Marmot Basin	C	0.2	<5	12.3	30	779	<100	70	<10	<5	290	340	<100	2	2.1			<5
360-2	8544	Upper Marmot Basin	C	0.2	<5	3.8	11	234	<100	34	<10	<5	160	350	<100	<1	0.8			<5
360-2	8545	Upper Marmot Basin	C	0.2	<5	2.2	8	262	<100	47	<10	<5	<50	400	<100	<1	0.8			<5
360-2	8546	Upper Marmot Basin	C	0.2	28	**103.2** *	32	**1.16** *	<100	204	<10	<5	620	380	<100	2	2.2			<5
360-2	8547	Upper Marmot Basin	C	0.3	16	7.6	28	535	<100	47	<10	<5	3100	280	<100	2	3.1			<5
361-1	8265	Lower Marmot Basin	C		21	12.6	106	871	<100	618	<10	7	140	290	<100	<1	3.5			<5
361-1	8266	Lower Marmot Basin	C	0.4	12	0.6	38	48	<100	685	22	13	710	430	<100	2	3.1			<5
361-1	8267	Lower Marmot Basin	C	0.3	17	9.2	63	407	<100	413	13	7	1000	320	<100	<1	1.1			<5
361-1	8268	Lower Marmot Basin	C	0.3	423	**208.6** *	3400	**1.74** *	370	351	160	490	1100	270	<100	3	>10			20
361-1	8269	Lower Marmot Basin	S		579	**262.0** *	3476	**6.11** *	86600	2870	150	180	1400	270	<160	5	>10			1410
361-1	8270	Lower Marmot Basin	C	0.4	<5	5.5	239	527	180	1030	29	12	1300	350	<100	2	3.2			<5
361-1	8271	Lower Marmot Basin	C	0.6	24	14.7	261	1623	290	181	31	16	1900	480	<100	2	4.8			<5
361-1	8272	Lower Marmot Basin	SC	6.7@0.3	<5	0.4	150	106	260	6	71	43	1300	350	<100	<1	8.1			<5
361-1	8514	Lower Marmot Basin	C	1.7	<5	2.1	36	128	<100	96	<10	<5	140	480	<100	<1	0.7			<5
361-1	8515	Lower Marmot Basin	C	0.3	<5	2.7	62	140	<100	245	<10	<5	<50	390	<100	<1	1.3			<5
361-1	8516	Lower Marmot Basin	C	0.2	<5	1.3	133	54	<100	19	10	<5	<50	510	<100	<1	1.0			<5
361-1	8517	Lower Marmot Basin	SC	2.4@0.2	10	0.4	244	16	180	8	<10	31	2600	120	<100	<1	7.8			<5
361-1	8518	Lower Marmot Basin	C	0.2	<5	5.1	22	278	<100	75	22	15	410	420	<100	<1	3.5			<5
361-1	8519	Lower Marmot Basin	C	0.5	<5	4.5	120	245	<100	200	<10	11	440	310	<100	<1	1.4			<5
361-1	8520	Lower Marmot Basin	C	0.9	<5	0.2	150	18	<100	8	19	24	530	440	<100	1	2.7			<5

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
8290		1.5	0.4		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	1.3	20			OC, qz vein w/py
8291		1.4	0.5		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	<0.2	1.7	<5			OC, qz vein w/gn, py
8292		3.8	0.3		<10	<0.5	2	<5		<0.5	<2	<0.2	<0.5	0.3	2.3	12			OC, qz vein w/py, mo
8293		1.9	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.2	4.8	9			OC, qz vein w/py, po, cp
8294		5.7	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.6	7			OC, qz vein w/minor py, gn
8295		5.3	0.3		<10	<0.5	8	17		<0.5	<2	<0.2	<0.5	0.6	21.1	29			OC, qz vein w/mo, py, hn inclusion
8296		<0.5	1.6		<35	<0.5	<9	<27		<0.5	<2	<0.2	<0.5	2.3	159	<23			OC, sulf lens in qz-calc vein
8297		1.7	0.2		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	0.2	1.2	12			OC, qz vein w/minor py
8298		3.3	0.6		<10	0.7	5	<5		<0.5	<2	<0.2	<0.5	0.4	5	27			OC, qz vein w/py
8299		1.5	0.2		<10	0.6	7	<5		<0.5	<2	<0.2	<0.5	0.4	3.3	47			OC, qz vein w/py, very minor mo
8300		1.3	0.1		<10	<0.5	4	<5		<0.5	<2	<0.2	<0.5	0.3	2.8	24			OC, qz vein w/minor py
8521		1	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	2.1	<5			OC, qz vein
8522		0.5	0.3		<10	<0.5	8	15		<0.5	<2	<0.2	<0.5	<0.2	12	9			OC, qz vein w/py
8523		0.5	0.1		<10	<0.5	2	<5		<0.5	<2	<0.2	<0.5	<0.2	2.4	<5			OC, qz vein w/minor py, po
8524		1.6	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.2	7.7	<5			OC, qz vein w/py
8532		1.3	0.2		<10	0.9	7	10		<0.5	<2	<0.2	<0.5	0.4	1.8	34			OC, qz vein w/minor py
8533		1	0.3		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	<0.2	0.7	27			OC, qz vein w/py, gn
8534		1.3	0.7		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.4	0.3	<5			OC, qz vein w/minor py
8535		2.9	0.6		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.7	20			OC, qz vein w/py, gn
8536		2.4	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.5	<5			OC, qz vein w/py
8537		0.5	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.3	<5			OC, qz vein w/py
8538		1.4	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.4	<5			OC, qz vein w/py
8539		2.1	0.2		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	0.3	13	<5			OC, qz vein
8540		1	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	4.4	<5			OC, qz vein w/minor py, gn
8541		5.7	1		<10	<0.5	4	<5		<0.5	<2	<0.2	<0.5	0.6	17	<5			OC, qz vein w/py, gn, po, minor mo
8542		1.8	1.5		<10	<0.5	2	<5		<0.5	<2	<0.2	<0.5	<0.2	5.1	<5			OC, qz vein w/py, gn
8543		4.6	0.3		<10	<0.5	4	6.4		<0.5	<2	<0.2	<0.5	0.2	16	<5			OC, qz vein w/py, minor gn
8544		9	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	9.2	<5			OC, qz vein w/minor py
8545		6.4	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	3.1	<5			OC, qz vein w/minor py
8546		11	0.5		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.3	11	7			OC, qz vein w/py, gn
8547		16	0.5		<10	<0.5	8	12		<0.5	<2	<0.2	<0.5	0.4	1.6	24			OC, qz vein w/py, minor gn
8265		1.7	0.1		<10	<0.5	49	58		0.7	3	<0.2	<0.5	3.1	41.1	19			OC, qz-ca vein w/minor py, gneiss
8266		1.1	<0.1		<10	<0.5	8	8		<0.5	<2	<0.2	<0.5	0.3	2.7	19			OC, qz vein w/minor py
8267		1.3	0.3		<10	<0.5	7	8.2		<0.5	<2	<0.2	<0.5	0.7	1.7	9			OC, qz vein w/py, mo
8268		2.8	0.3		<10	<0.5	16	10		<0.5	<2	<0.2	<0.5	0.8	13	15			OC, qz vein w/py, po, mo
8269		1.3	0.9		<10	<0.5	16	<5		<0.5	<2	0.5	<0.5	0.7	32.7	43			OC, sulf-rich part of qz vein
8270		1	0.2		<10	0.7	41	49		0.9	4	<0.2	0.5	5.4	80.3	46			OC, qz vein w/py, minor mo
8271		1.3	0.2		<10	3.6	75	97		<0.5	<2	<0.2	<0.5	3.7	62	73			OC, qz vein w/py, po, minor mo + chl-rich metasediment
8272		0.5	0.3		<10	1.0	10	17		0.7	<2	0.3	0.6	1.5	1	34			OC, metasediment
8514		0.5	<0.1		<10	<0.5	9	12		<0.5	<2	<0.2	<0.5	0.4	3	<5			OC, qz vein
8515		0.5	<0.1		<10	<0.5	6	7.3		<0.5	<2	<0.2	<0.5	<0.2	0.3	<5			OC, qz vein w/py
8516		0.5	<0.1		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	0.3	4.3	<5			OC, qz vein
8517		1.3	0.4		<10	<0.5	12	18		0.6	2	0.4	0.5	1.5	1.2	76			OC, metasediment w/po
8518		1.2	0.2		<10	1.2	150	200		<0.5	<2	<0.2	<0.5	3	32.9	19			OC, qz vein w/py
8519		0.5	0.1		<10	<0.5	2	<5		<0.5	<2	<0.2	<0.5	<0.2	4.4	13			OC, qz vein w/py
8520		0.5	0.2		<10	<0.5	4	5.6		<0.5	<2	<0.2	<0.5	0.6	0.4	8			OC, qz vein w/py + gs inclusion

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
362-1	8555	Jumbo (Banded Mtn)	C	0.5	12	**70.97** *	52	2700	120	386	<10	<5	<50	390	<100	2	2.2			<5
362-1	8556	Jumbo (Banded Mtn)	C	0.2	71	**284.2** *	130	**4.79** *	4000	1370	<10	11	<50	400	<100	5	2.7			<50
362-1	8607	Jumbo (Banded Mtn)	C	0.7	15	43.9	131	3410	1500	611	<10	25	300	270	<100	<1	5.6			24
362-1	8608	Jumbo (Banded Mtn)	C	0.5	34	**84.68** *	46	8843	<100	499	<10	7	160	380	<100	2	2.8			<5
362-1	8609	Jumbo (Banded Mtn)	S		72	**549.6** *	24	**6.69** *	340	244	<10	18	<50	360	<100	9	6.5			<5
362-1	8610	Jumbo (Banded Mtn)	Rep		<5	1.5	99	206	290	12	<10	24	2100	92	<100	<1	7.0			<5
362-1	9232	Jumbo (Banded Mtn)	S		**45.81** *	**239.0** *	767	**5.25** *	**2.65** *	841	<53	30	<220	160	<810	<4	>10			400
362-1	9233	Jumbo (Banded Mtn)	C	0.7	115	13.5	188	4471	277	990	85	32	700	240	<100	<1	6.30			<5
362-1	9234	Jumbo (Banded Mtn)	Rep		27	10.4	26	1230	34	358	12	6	330	310	<100	4	1.00			<5
362-1	9474	Jumbo (Banded Mtn)	S		**31.44** *	**81.60** *	3058	**2.00** *	**2.54** *	297	<53	<13	<230	<190	<760	<5	>10			340
363-1	9224	Banded Mountain, E	Rep		11	4.1	221	360	76	1488	17	30	440	280	<100	<1	4.30			<5
363-1	9463	Banded Mountain, E	Rep		81	0.6	201	50	48	1258	<10	21	1500	210	<100	5	3.40			<5
363-2	9225	Banded Mountain, E	C	0.2	<5	2.0	124	209	14	293	<10	22	180	440	<100	<1	2.40			<5
363-2	9226	Banded Mountain, E	Rep		12	16.7	121	2700	50	5526	30	20	2300	310	<100	<1	3.50			<5
363-2	9227	Banded Mountain, E	Rep		<5	3.2	201	428	121	414	10	8	170	350	<100	<1	1.90			<5
363-2	9464	Banded Mountain, E	C	0.03	14	23.1	127	4950	538	1500	<10	17	640	240	<100	2	2.30			28
363-2	9465	Banded Mountain, E	C	0.1	<5	1.0	171	237	165	833	<10	32	1600	45	<100	<1	5.70			<5
363-2	9466	Banded Mountain, E	Rep		12	18.3	139	3790	293	3352	<10	14	860	230	<100	2	3.40			15
363-2	9467	Banded Mountain, E	Rep	22.9	<5	0.6	98	115	126	72	<10	27	1700	39	<100	2	6.60			<5
363-3	9468	Banded Mountain, E	Rep	15.2	<5	10.6	84	2797	49	457	<10	8	750	240	<100	<1	2.10			<5
363-4	9228	Banded Mountain, E	Rep		93	44.1	149	6106	110	555	<10	17	1200	360	<100	<1	5.10			<5
363-4	9229	Banded Mountain, E	G		<5	0.4	225	49	45	24	<10	29	2100	61	<100	<1	6.20			<5
363-4	9469	Banded Mountain, E	C	0.2	<5	0.3	163	43	35	22	<10	22	1200	96	<100	<1	5.60			<5
364-1	8275	Greenpoint	Rep		12	14.7	91	2440	110	505	<10	13	1700	300	<100	2	3.2			<5
364-1	8276	Greenpoint	C	0.3	<5	0.4	49	38	<100	3	<10	6	300	310	<100	2	1.5			<5
364-1	8277	Greenpoint	S		6	2.6	2895	26	<100	7	380	1030	240	73	<100	3	>10			<5
364-1	8525	Greenpoint	C	0.2	23	8.4	45	702	<100	55	<10	<5	120	400	<100	<1	1.1			<5
364-1	8526	Greenpoint	C	0.1	<5	0.3	30	30	<100	38	<10	<5	120	600	<100	<1	1.1			<5
365-1	8259	Heckla	C	0.4	90	**150.9** *	146	**2.25** *	<100	620	<10	7	<50	540	<100	2	4.3			9
365-1	8260	Heckla	CH	.1x.1x.1	34	45.0	135	6740	<100	1980	<10	10	170	380	<100	2	3.1			<5
365-1	8261	Heckla	CH	.1x.05x.2	66	**254.1** *	278	**5.23** *	<100	1980	<10	15	240	430	<100	<1	4.7			15
365-1	8262	Heckla	C	0.8	95	22.3	113	1328	<100	136	<10	<5	150	440	<100	1	2.5			<5
365-1	8263	Heckla	C	0.7	37	18.9	22	1300	<100	35	<10	<5	<140	440	<100	2	0.6			<5
365-1	8264	Heckla	C	0.2	9	1.2	128	109	<100	102	15	8	250	410	<100	1	2.1			<5
365-1	8507	Heckla	C	0.2	195	**634.9** *	9465	**8.41** *	>90000	24	96	170	<100	46	<220	8	>10			>2000
365-1	8508	Heckla	SC	1.8@0.1	17	6.1	326	884	3200	38	<10	16	1500	140	<100	6	6.4			46
365-1	8509	Heckla	C	0.3	15	23.8	98	3480	110	59	<10	8	56	430	<100	<1	2.5			<5
365-1	8510	Heckla	C	0.1	7005	**400.5** *	14438	5695	>90000	3	<29	85	670	110	<100	10	>10			1340
365-1	8511	Heckla	C	0.4	36	13.5	553	932	170	272	<10	7	89	350	<100	3	7.5			<5
365-1	8512	Heckla	C	0.6	54	26.7	62	1400	140	252	<10	<5	<50	440	<100	<1	1.5			<5
365-1	8513	Heckla	C	0.3	<5	1.0	59	109	<100	34	<10	<5	<50	500	<100	<1	1.0			<5
366-1		Hummel Canyon		No Samples Taken																
367-1	8280	Hyder Lead (Fortuna)	C	0.8	26	0.5	36	16	<100	3	<10	42	610	430	<100	2	>10			<5
367-1	8281	Hyder Lead (Fortuna)	C	0.3	<5	0.2	10	13	<100	<1	<10	6	220	430	<100	1	1.9			<5
367-1	8529	Hyder Lead (Fortuna)	C	0.3	802	0.9	10	19	<100	2	<10	16	810	320	<100	<1	4.6			<5
367-1	8530	Hyder Lead (Fortuna)	C	0.6	25	0.2	4	4	<100	2	<10	13	88	520	<100	1	3.8			<5

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
8555		8.5	0.7		<10	0.5	5	<5		<0.5	<2	<0.2	<0.5	<0.2	1.3	15			OC, qz vein
8556		1.4	0.6		<10	<0.5	5	<5		<0.5	<2	<0.2	<0.5	0.4	18	8			OC, qz vein w/gn, py
8607		3.5	0.2		<10	<0.5	79	150		<0.5	<2	<0.2	<0.5	2.8	0.9	13			OC, qz w/minor gn, py
8608		9.5	0.6		<10	0.7	13	19		<0.5	<2	<0.2	<0.5	0.4	1.6	20			OC, qz w/minor sulf
8609		22	1.1		<10	<0.5	11	<5		<0.5	<2	<0.2	<0.5	<0.2	3.1	9			OC, sulf-rich bands in qz
8610		0.5	0.3		<10	<0.5	15	23		<0.5	2	<0.2	0.6	2.3	1.3	100			RC, metasediment/metavolc, w/py
9232		8260	19.2		5	1.9	8	<43		<0.5	<5	<0.7	<0.5	3.9	10	33			MD, qz-calc-chl vein w/gn,mo,sl,aspy,py
9233		14	0.3		<10	1.4	59	88		0.8	2	<0.2	<0.5	2.8	12	91			OC, sheared, alt intrusive w/qz stringers
9234		10	0.2		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	0.3	2.9	17			OC, qz veins & stringers w/minor mo,py
9474		>10000	<12.3		<140	<1.3	<2	<39		<0.5	<10	<1.3	<0.5	<1.6	<1.4	<26			MD, qz-calc w/py 10%,gn 5%,aspy 3%,mo<1%,sl 3%
9224		<0.5	0.3		<10	0.7	13	15		0.6	<2	<0.2	<0.5	1.3	28.8	10			OC, narrow qz vein w/mo,py,po,cp?
9463		2.9	0.4		<10	0.8	13	24		1	<2	<0.2	<0.5	1.2	1.2	28			OC, qz-calc veins w/mo 3%,po 5%,cp 2%
9225		0.5	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.3	2.9	5			OC, qz-calc vein + metased, w/mo 1%,py+po 4%
9226		1.2	0.3		<10	0.6	9	<5		2.1	3	<0.2	<0.5	0.6	11	38			OC, calc + chl veins w/mo 3%,py 3%
9227		0.5	0.2		<10	<0.5	5	5.2		<0.5	<2	<0.2	<0.5	0.2	11	<5			OC, qz-calc vein w/mo 1%,py+po 3%
9464		3.3	0.2		<10	<0.5	9	17		0.8	<2	<0.2	<0.5	0.5	8.1	15			OC, qz-calc vein w/mo 3%,py 5%,po 3%,gn 2%
9465		1.4	0.3		<10	2.4	16	26		0.5	3	<0.2	0.6	2.1	5.1	74			OC, metagw w/py 10%,mo 3%
9466		4.7	0.3		<10	<0.5	13	11		1.4	5	0.4	<0.5	1.4	15	24			OC, qz-calc veins w/mo 3%,po 5%,py 10%
9467		2.4	0.3		<10	2.8	13	26		0.6	3	0.3	0.8	2.1	1.3	68			OC, gs/metatuff w/minor py+mo
9468		2	0.3		<10	<0.5	23	34		<0.5	<2	<0.2	<0.5	0.6	1.8	7			OC, qz-calc veins w/po 5%,mo<1%
9228		1.3	0.4		<10	<0.5	7	<5		<0.5	<2	<0.2	<0.5	1.1	6	47			OC, 50% qz-calc vein w/mo,gn,py,po, 50% metased
9229		0.5	0.3		<10	1	11	16		0.6	<2	0.3	0.6	1.5	1	60			OC, metased w/seams & dissem sulf,po,cp?
9469		1.2	0.4		<10	0.9	16	25		0.6	<2	0.3	0.6	2.7	1.4	62			OC, sil metased w/py 3%,po 3%, cp 1%
8275		1.1	0.2		<10	<0.5	16	21		<0.5	<2	<0.2	<0.5	0.6	2.2	27			TP, qz & qz-calc veinlets w/minor mo, py
8276		3.2	0.1		<10	<0.5	23	28		<0.5	<2	<0.2	<0.5	0.5	0.3	8			OC, qz vein w/minor py
8277		2	0.2		<10	<0.5	<2	<5		<0.5	<2	0.2	<0.5	<0.2	<0.2	11			OC, qz-calc vein w/po, cp
8525		0.5	0.1		<10	<0.5	39	44		<0.5	<2	<0.2	<0.5	0.5	2	<5			TP, qz vein w/minor gn
8526		1	0.1		<10	<0.5	10	11		<0.5	<2	<0.2	<0.5	0.5	0.3	5			OC, qz w/minor py
8259		1.5	0.4		<10	<0.5	81	110		<0.5	<2	<0.2	<0.5	0.7	2.2	<5			OC, qz vein w/gn, py,
8260		34	0.6		<10	0.5	4	<5		0.8	<2	<0.2	<0.5	0.8	16	12			OC, qz vein w/minor sulfs, py
8261		201	1.4		<10	<0.5	4	<5		<0.5	<2	<0.2	<0.5	<0.2	9.3	<5			OC, qz vein w/gn, py
8262		4.5	0.3		<10	<0.5	4	<5		<0.5	<2	<0.2	<0.5	0.5	0.9	<5			OC, qz vein w/minor gn, py
8263		1.6	0.1		<10	<0.5	5	8.4		<0.5	<2	<0.2	<0.5	2.2	46.1	<5			OC, qz vein w/minor gn, py
8264		1.7	0.2		<10	<0.5	21	26		<0.5	<2	<0.2	<0.5	1	2.7	19			OC, qz vein w/minor py
8507		899	37.6		<27	<0.5	<2	<12		<0.5	<2	<0.2	<0.5	<0.5	<0.2	<17			TP, qz vein w/sulfs
8508		613	1.3		<10	3.9	14	20		<0.5	3	0.3	0.7	2.6	3	160			TP, metasediment (graywacke)
8509		31	0.5		<10	<0.5	12	17		<0.5	<2	<0.2	<0.5	0.4	2.9	15			OC, qz vein w/py, gn
8510		149	3.9		25	2.5	11	<5		<0.5	<2	<0.2	0.6	1.1	4.1	120			OC, qz vein w/sulfs + metasediment
8511		245	1.8		<10	0.8	20	19		<0.5	<2	<0.2	<0.5	0.7	5.2	17			OC, qz lens w/py
8512		4.9	0.4		<10	<0.5	9	11		<0.5	<2	<0.2	<0.5	0.2	1.8	<5			OC, qz vein w/minor gn
8513		4.4	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.2	1	<5			OC, qz vein
No Samples Taken																			
8280		17	0.4		<10	<0.5	5	<5		<0.5	<2	0.3	<0.5	1.2	0.4	30			OC, qz-calc vein w/py
8281		1.8	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.5	<0.2	22			OC, qz vein w/minor py
8529		5.2	0.5		<10	<0.5	7	11		<0.5	<2	<0.2	<0.5	0.7	0.7	17			OC, qz vein w/minor py
8530		8.2	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC, qz vein w/py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
367-1	8531	Hyder Lead (Fortuna)	C	0.3	6	0.1	11	8	<100	3	<10	6	110	640	<100	1	1.8			<5
367-2	8223	Hyder Lead (Philips)	C	0.6	33	1.3	553	200	100	1	<10	9	120	330	<100	3	1.8			<5
367-2	8224	Hyder Lead (Philips)	C	0.2	171	2.9	30	2990	140	6	<10	21	2600	270	<100	4	4.2			<5
367-2	8225	Hyder Lead (Philips)	C	1.2	18	0.8	170	318	170	2	<10	11	980	220	<100	2	2.6			<5
367-2	8226	Hyder Lead (Philips)	C	1.1	28	0.4	26	164	100	16	12	9	950	330	<100	4	2.0			<5
367-2	8227	Hyder Lead (Philips)	C	0.6	104	14.1	810	5676	2900	10	39	35	300	310	<100	5	6.0			26
367-2	8462	Hyder Lead (Philips)	C	0.8	14	0.7	95	218	550	<1	<10	28	1500	100	<100	5	6.7			<5
367-2	8463	Hyder Lead (Philips)	C	1.2	<5	0.6	51	249	<1	4	<10	<5	1700	240	<100	1	0.6			<5
367-2	8464	Hyder Lead (Philips)	C	0.2	63	2.6	58	1652	140	10	<10	13	780	240	<100	<1	2.8			<5
367-2	8465	Hyder Lead (Philips)	C	0.3	23	0.6	29	37	<1	<1	<10	<5	120	340	<100	<1	0.8			<5
367-2	8466	Hyder Lead (Philips)	C	0.8	199	2.6	119	353	<1	15	<10	<5	3900	400	<100	<1	2.2			<5
367-2	8467	Hyder Lead (Philips)	C	1.1	125	21.1	1200	7219	2000	2	14	18	250	290	<100	<1	1.9			28
367-2	8468	Hyder Lead (Philips)	C	0.4	97	26.3	658	6010	340	74	18	12	250	420	<100	<1	2.2			<5
367-2	8469	Hyder Lead (Philips)	C	0.2	37	0.5	23	67	<1	9	<10	<5	52	450	<100	<1	1.9			<5
367-2	8470	Hyder Lead (Philips)	C	0.6	501	1.6	75	262	<1	10	18	11	62	540	<100	1	2.7			<5
367-2	8471	Hyder Lead (Philips)	S		1890	**266.1** *	6180	**8.85** *	7100	4	52	100	<50	310	<100	<1	10.0			90
367-2	8472	Hyder Lead (Philips)	C	0.5	1320	12.9	197	560	<1	27	<10	<5	180	430	<100	2	4.1			<5
367-2	8473	Hyder Lead (Philips)	S		4356	**620.6** *	2000	**72.50** *	<1	5	<10	<5	<50	88	<270	<12	2.9			<59
367-2	8474	Hyder Lead (Philips)	C	0.2	31	1.7	59	1838	330	6	<10	9	2600	230	<100	5	3.2			<5
367-2	8475	Hyder Lead (Philips)	C	0.5	42	1.8	185	1030	760	8	<10	9	140	390	<100	<1	2.4			<5
367-2	8476	Hyder Lead (Philips)	C	0.8	10	1.5	38	1113	110	6	<10	8	640	240	<100	4	1.9			<5
367-2	8477	Hyder Lead (Philips)	C	0.8	2728	**30.51** *	1220	**1.24** *	2200	5	47	60	150	310	<100	<1	8.7			20
367-2	8478	Hyder Lead (Philips)	C	0.8	125	**72.34** *	2603	**2.79** *	5100	12	26	41	150	310	<100	<1	5.5			69
367-2	8550	Hyder Lead (Philips)	G		877	**146.7** *	11952	**6.32** *	390	2	<10	23	<50	320	<100	2	3.10			<5
367-2	8603	Hyder Lead (Philips)	C	0.3	47	0.5	17	37	<100	7	18	6	270	400	<100	2	1.9			<5
367-3	8254	Hyder Lead (Joe-Joe)	C	0.6	5	0.5	28	47	<100	5	<10	<5	64	450	<100	<1	0.8			<5
367-3	8255	Hyder Lead (Joe-Joe)	C	1.0	2142	**84.34** *	889	**5.57** *	<100	3	<10	10	130	460	<100	<1	3.2			7
367-3	8256	Hyder Lead (Joe-Joe)	S		824	**222.9** *	877	**18.34** *	1000	2	<10	9	<50	430	<100	<1	1.8			25
367-3	8503	Hyder Lead (Joe-Joe)	SC	3.7@0.1	19	3.3	683	207	230	<1	29	17	1500	260	<100	11	5.0			<5
367-3	8504	Hyder Lead (Joe-Joe)	SC	2.3@0.1	486	**122.7** *	6152	**7.09** *	320	2	26	25	230	370	<100	2	4.5			11
367-3	8505	Hyder Lead (Joe-Joe)	G		180	21.7	143	**1.96** *	2900	4	11	20	69	460	<100	40	3.1			25
367-3	8548	Hyder Lead (Joe-Joe)	C	0.2	<5	6.0	68	389	<100	29	<10	<5	110	390	<100	<1	1.7			<5
367-3	8549	Hyder Lead (Joe-Joe)	C	0.8	<5	0.4	18	51	<100	9	<10	6	200	360	<100	6	1.3			<5
367-3	8601	Hyder Lead (Joe-Joe)	C	0.2	25	1.3	15	380	120	16	<10	20	530	360	<100	8	3.6			<5
367-3	8602	Hyder Lead (Joe-Joe)	C	0.6	222	2.6	103	521	640	10	<10	23	440	320	<100	6	4.1			<5
367-4	8253	Hyder Lead (Joe-Joe)	C	0.9	808	33.2	457	385	<100	3	<10	13	66	360	<100	2	4.1			<5
367-5	8494	Hyder Lead (Joe-Joe)	C	0.8	405	33.3	1422	8220	720	4	<10	15	200	370	<100	3	3.4			10
367-6	8495	Hyder Lead (Joe-Joe)	C	0.7	197	1.2	63	238	1100	2	17	16	190	370	<100	3	2.2			16
367-7	8496	Hyder Lead (Joe-Joe)	C	0.6	37	1.4	165	172	460	1	<10	10	180	360	<100	3	2.0			6
367-8	8497	Hyder Lead (Joe-Joe)	C	0.6	16	4.2	572	121	740	<1	<10	14	59	410	<100	2	1.9			11
367-9	8498	Hyder Lead (Joe-Joe)	C	1.2	166	2.7	431	224	210	1	<10	12	<50	410	<100	<1	1.3			<5
367-10	8499	Hyder Lead (Joe-Joe)	C	1.6	251	25.2	4870	6780	960	2	14	18	370	470	<100	4	3.3			9
367-11	8500	Hyder Lead (Joe-Joe)	C	0.7	67	26.8	200	**2.11** *	580	8	<10	15	310	390	<100	<1	2.5			7
367-12	8501	Hyder Lead (Joe-Joe)	C	1.0	566	22.0	756	9059	110	4	13	20	150	410	<100	3	2.4			<5
367-13	8502	Hyder Lead (Joe-Joe)	C	0.3	17	1.0	16	638	<100	2	<10	6	350	460	<100	2	1.0			<5
367-14	8252	Hyder Lead (Joe-Joe)	C	1.2	26	0.4	70	61	210	3	<10	25	4900	110	<100	11	5.5			<5

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
8531		2.2	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.3	0.8	8			OC, qz w/minor py
8223		7.3	0.7		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.6	0.4	12			OC, qz vein w/very minor cp
8224		3.3	1.1		<10	1.2	4	<5		<0.5	<2	<0.2	<0.5	0.7	0.6	95			UW, qz vein w/minor gn, py in metasediment
8225		3.5	0.4		<10	1.2	14	28		<0.5	<2	<0.2	<0.5	10	2.8	130			UW, sheared dike and metasediment w/qz lenses
8226		2.3	0.6		<10	0.5	4	5.6		<0.5	<2	<0.2	<0.5	1.9	0.5	41			UW, qz vein w/minor py + clasts of metasediment and dike
8227		35	10.4		<10	0.7	4	11		<0.5	<2	<0.2	<0.5	0.6	0.4	49			TP, qz vein w/gn, cp, py
8462		4.3	1.4		<10	3.1	13	25		<0.5	2	0.2	0.6	4.9	1.8	160			UW, metasediment w/qz stringers
8463		1.6	1		<10	0.8	19	32		<0.5	<2	<0.2	<0.5	20.9	4.8	150			UW, gray qz
8464		15	1.2		<10	<0.5	7	11		<0.5	<2	<0.2	<0.5	0.7	1.2	11			UW, sheared qz
8465		1.6	0.4		<10	<0.5	5	9.3		<0.5	<2	<0.2	<0.5	0.8	<0.2	<5			UW, qz vein
8466		73.3	2.4		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC, qz w/py
8467		40	5.7		<10	<0.5	3	5.7		<0.5	<2	<0.2	<0.5	2.5	0.7	21			UW, qz w/gn, cp
8468		44	1.7		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.5	17			OC, qz w/py, gn, cp
8469		2	0.6		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.4	<5			OC, qz w/py
8470		2.9	1.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.5	0.4	6			OC, qz w/py
8471		451	31.5		120	<0.5	<2	<5		<0.5	<2	0.4	<0.5	<0.2	<0.2	<5			TP, qz w/gn, cp
8472		25	2.5		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.5	0.5	20			OC, qz w/py, minor gn
8473		79.4	204		1630	<0.5	<2	<19		<0.5	<2	0.4	<0.5	<0.5	<0.5	<10			MD, qz w/msv gn + cp
8474		4.1	0.9		<10	1.1	12	25		<0.5	<2	<0.2	<0.5	3.3	1.8	97			UW, qz, gd & fault gouge w/gn
8475		5.2	0.6		<10	<0.5	2	<5		<0.5	<2	<0.2	<0.5	0.3	0.7	6			UW, qz vein
8476		1.5	0.8		<10	0.6	9	20		<0.5	2	0.3	<0.5	3.7	1.1	53			UW, qz & gs
8477		72.7	35.2		<10	0.7	3	<5		<0.5	2	0.5	<0.5	<0.2	0.3	17			TP, sheared qz w/gn, cp
8478		94.5	42.4		<10	0.8	3	<5		<0.5	<2	<0.2	<0.5	0.4	0.3	18			TP, qz vein w/gn, cp
8550		16	62		42	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			FL, qz blocks w/sulf, gn, cp
8603		3.2	0.5		<10	<0.5	4	8.1		<0.5	<2	<0.2	<0.5	2.7	1	43			OC, qz vein w/minor py
8254		2.8	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC, qz vein w/minor py
8255		67	40.9		63	<0.5	6	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC, qz vein w/gn, py, cp
8256		22	149		160	<0.5	13	19		<0.5	3	0.2	<0.5	<0.2	<0.2	<5			RC, qz vein w/gn, cp, py
8503		2.4	1.3		<10	1.0	8	8.8		<0.5	<2	0.3	<0.5	1.2	1.2	150			OC, metasediment w/qz stringers
8504		59.9	64		67	<0.5	3	<5		<0.5	<2	<0.2	<0.5	0.4	<0.2	9			OC, qz vein w/gn, cp
8505		4.6	18		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			RC, qz w/py, gn
8548		0.5	0.3		<10	<0.5	6	12		<0.5	<2	<0.2	<0.5	0.2	12	<5			OC, qz vein w/minor py
8549		4.6	0.5		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.2	<0.2	28			OC, qz vein w/minor py
8601		15	1.7		<10	0.8	3	<5		<0.5	<2	<0.2	<0.5	0.5	<0.2	53			OC, qz vein w/py, gn
8602		58.1	1.4		<10	0.9	4	<5		<0.5	<2	<0.2	<0.5	0.5	0.4	61			UW, qz vein w/py
8253		92.6	1.9		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	7			OC, qz vein w/minor py
8494		43	8.7		<10	<0.5	4	7.2		<0.5	<2	<0.2	<0.5	<0.2	<0.2	12			UW, qz vein w/cp, gn, py
8495		17	0.7		<10	<0.5	12	20		<0.5	<2	0.2	<0.5	0.6	<0.2	25			UW, qz vein
8496		5.2	1.1		<10	<0.5	8	12		<0.5	<2	<0.2	<0.5	0.4	0.3	14			UW, qz vein
8497		32	1.3		<10	<0.5	3	5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	6			UW, qz vein w/minor fest & copper stain
8498		82.6	1.4		<10	<0.5	6	9.2		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			UW, qz vein
8499		13	5		<10	<0.5	8	12		<0.5	<2	<0.2	<0.5	0.3	<0.2	35			UW, qz vein w/gn, cp
8500		13	16.6		<10	<0.5	2	<5		<0.5	<2	<0.2	<0.5	0.2	<0.2	14			UW, qz vein w/gn
8501		31	6.4		<10	<0.5	3	6.7		<0.5	<2	<0.2	<0.5	<0.2	<0.2	12			UW, qz vein w/py, gn
8502		3	0.8		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	15			UW, qz vein
8252		3.5	0.7		<10	1.4	9	13		<0.5	2	0.3	0.6	1.2	0.8	140			UW, gs w/qz stringers

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
368-1	8191	Engineer	C	0.3	68	0.2	5	12	170	2	29	17	720	220	<100	16	4.2			<5
368-1	8192	Engineer	C	1.2	6268	25.9	202	**1.48** *	170	15	11	21	270	250	<100	5	4.6			<5
368-1	8193	Engineer	S		**14.54** *	**366.9** *	174	**21.48** *	180	5	38	120	<50	190	<380	6	>10			<5
368-1	8196	Engineer	S		2818	**178.3** *	**7.25** *	**1.00** *	300	5	17	28	<50	230	<100	2	>10			<5
368-1	8197	Engineer	C	0.1	<5	0.6	80	95	<1	4	<10	6	660	180	<100	4	5.3			<5
368-1	8241	Engineer	RC		132	0.7	221	150	230	<1	<10	17	1700	160	<100	23	4.2			<5
368-1	8242	Engineer	C	0.8	2867	47.5	**1.97** *	2940	1000	11	<10	7	100	470	<100	16	4.5			<5
368-1	8243	Engineer	S		2253	**120.3** *	**8.19** *	254	190	12	41	19	<50	360	<100	17	>10			<5
368-1	8440	Engineer	C	0.4	**26.30** *	**63.42** *	4219	7543	380	101	<10	<5	180	280	<290	4400	>10			<15
368-1	8441	Engineer	C	1.3	**12.62** *	**47.31** *	438	**1.28** *	<1	14	<10	12	110	290	<100	280	6.2			<5
368-1	8442	Engineer	C	0.6	**14.74** *	**168.0** *	269	**7.52** *	<1	18	<10	12	<50	400	<100	15	4.7			<5
368-1	8443	Engineer	C	0.7	1901	2.7	383	821	<1	5	<10	8	69	390	<100	30	2.8			<5
368-1	8444	Engineer	C	0.7	2665	28.2	2690	7539	<1	11	12	6	180	480	<100	4	3.1			<5
368-1	8445	Engineer	Rep		318	3.8	9470	3400	170	19	<10	5	>20000	430	<100	2340	1.4			<5
368-1	8449	Engineer	C	0.5	585	15.0	3242	1955	150	7	22	13	130	380	<100	4	2.5			<5
368-1	8485	Engineer	C	0.9	143	7.2	3374	1279	990	3	<10	11	100	500	<100	3	1.5			<5
368-1	8486	Engineer	C	1.0	932	45.5	3670	8770	100	5	11	6	100	540	<100	2	2.3			<5
368-1	8487	Engineer	C	0.2	183	5.0	1472	300	<100	<40	<10	7	800	390	<400	8710	1.8			26
368-1	8488	Engineer	C	0.7	465	1.8	926	2190	210	13	<10	9	760	430	<100	56	4.5			<5
368-1	8489	Engineer	C	0.4	1912	3.0	370	784	230	4	32	17	480	680	<100	839	2.7			<5
369-1	9181	Juneau	C	0.6	98	24.9	1708	864	828	2	11	35	<50	600	<100	<1	1.90			15
369-2	9177	Juneau	Rep		5207	**152.6** *	708	**16.49** *	3019	14	<10	<5	220	450	<100	4	3.00			30
369-2	9178	Juneau	G		112	11.2	47	347	30	3	<10	<5	1600	240	<100	2	1.00			<5
369-2	9179	Juneau	SC	2.9@0.2	88	4.8	616	69	167	4	26	76	1300	71	<100	3	>10			7
369-2	9180	Juneau	S		29	5.8	2400	412	106	<1	220	450	420	<20	<100	<1	>10			<5
369-2	9430	Juneau	C	0.6	<5	0.2	53	24	39	<1	<10	<5	670	210	<100	<1	0.50			<5
369-2	9431	Juneau	C	1.5	27	2.5	628	9	153	2	<10	48	1200	64	<100	5	>10			<5
369-3	9182	Juneau	Rep	0.6	6	0.4	175	50	65	24	74	43	1800	200	<100	<1	9.00			<5
369-3	9184	Juneau	S		4242	32.2	3974	171	569	<8	160	380	360	<120	<350	<1	>10			<12
369-4	9183	Juneau	C	0.3	319	**74.40** *	15748	123	410	<1	<10	41	<50	48	<100	<1	>10			<5
370-1	8231	Keno	C	1.7	344	2.3	180	951	270	10	12	9	1400	310	<100	2	5.6			<5
370-1	8232	Keno	C	0.3	33	0.4	125	236	180	2	<10	<5	440	330	<100	2	1.1			<5
370-1	8233	Keno	C	0.8	162	5.1	670	7190	920	37	<10	<5	590	340	<100	5	2.4			<5
370-1	8234	Keno	Rep		28	0.2	217	597	1700	2	<10	12	2100	120	<100	17	4.2			<5
370-1	8235	Keno	C	1.3	38	0.8	784	650	670	1	<10	9	2100	270	<100	12	4.4			<5
370-1	8236	Keno	C	1.3	970	13.8	184	120	<100	10	<10	<5	170	440	<100	1	1.9			<5
370-1	8237	Keno	C	1.6	1576	35.5	839	9430	210	14	<10	<5	3100	460	<100	2	4.0			<5
370-1	8238	Keno	S		4212	**330.9** *	3200	**54.39** *	930	4	<10	<5	85	160	<100	2	1.8			81
370-1	8239	Keno	C	0.8	1284	**52.45** *	766	**2.79** *	1200	5	<10	<5	180	470	<100	5	3.1			11
370-1	8240	Keno	C	0.5	1770	25.0	346	**2.58** *	170	6	<10	<5	2800	550	<100	2	1.9			7
370-1	8479	Keno	C	0.7	30	3.3	112	301	<100	7	<10	<5	610	470	<100	1	1.3			<5
370-1	8480	Keno	C	0.5	13	0.4	38	66	<100	9	<10	<5	100	580	<100	1	1.1			<5
370-1	8481	Keno	C	1.0	2353	**48.65** *	3000	8666	110	9	10	<5	<50	530	<100	2	2.9			<5
370-1	8482	Keno	S	0.1	**10.73** *	**270.9** *	19470	**15.78** *	1800	8	23	<5	130	360	<100	4	>10			17
370-1	8483	Keno	C	0.6	904	21.2	560	**3.46** *	4400	28	<10	<5	8280	390	<100	3	2.8			41
370-1	8484	Keno	C	0.3	3598	**212.6** *	1097	**19.89** *	2400	20	31	<5	6250	390	<100	3	5.2			46

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
8191		15	1		<10	0.7	12	25		<0.5	<2	<0.2	<0.5	2.9	2	110			OC, qz veins in metasediment
8192		52	15.6		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	0.7	1.6	35			OC, qz vein in sheared gd
8193		129	243		71	<0.5	<2	<25		<0.5	<2	0.4	<0.5	<0.7	<0.5	<14			MD, qz w/gn & py
8196		26	9.2		27	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.6	<5			FL, qz vein w/cp, py, gn
8197		10	2.1		<10	0.6	7	13		<0.5	<2	<0.2	<0.5	1.6	3.9	55			UW, qz vein in gd
8241		7.2	1.6		<10	1.2	27	41.0		<0.5	3	0.3	0.7	8.4	3.3	210			UW, alt gd, py 3%
8242		38.0	5.3		<10	<0.5	3	<5.0		<0.5	<2	<0.2	<0.5	0.7	12.0	19			UW, qz vein w/cp in alt gd
8243		14.0	2.7		17	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	5.8	<5			UW, qz w/cp, sulf-rich part of vein
8440		36	10		<31	<0.5	<2	<17		<0.5	<2	0.6	<0.5	<0.6	3.7	<5			OC, qz vein w/py
8441		394	42.9		<10	<0.5	3	<5		<0.5	<2	0.3	<0.5	0.6	1.4	12			OC, qz w/gn, py
8442		111	91.6		43	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.6	<5			TP, qz vein w/py, gn
8443		40	2.6		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.3	0.9	11			UW, qz
8444		14	8.4		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.3	1.4	5			UW, qz w/gn, cp
8445		24	1		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	4.7	<5			UW, qz w/cp, gn
8449		34	2.8		<10	<0.5	2	<5		<0.5	<2	<0.2	<0.5	0.6	3.5	15			UW, qz w/cp, py
8485		19.0	1.6		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.3	2.6	8			UW, qz vein, no visible sulf
8486		20.0	21.6		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.3	0.7	9			OC, qz vein w/ minor gn, cp
8487		<2.1	0.8		<46	<0.5	6	<17.0		1.0	<3	1.6	<0.5	<1.0	<0.6	51			OC, qz vein w/minor cp, py
8488		29.0	4.0		<10	0.8	8	10.0		<0.5	<2	<0.2	<0.5	2.5	2.9	69			UW, qz vein w/cp, gn
8489		9.1	2.2		16	1.0	4	<5.0		<0.5	<2	<0.2	<0.5	0.6	1.6	46			UW, qz vein, no visible sulf
9181		123	0.7		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			FL, .61m x .9m block of qz w/minor cp + py
9177		61.7	89.5		160	<0.5	2	<5		<0.5	<2	<0.2	<0.5	<0.2	5.3	15			TP, qz vein w/gn 5%,py 5%
9178		9	1.3		<10	1.2	6	13		<0.5	<2	<0.2	0.5	0.8	1.1	91			TP, alt sil ar w/limonite, minor gn(?)
9179		108	0.8		<10	2.4	11	14		<0.5	<2	<0.2	<0.5	1.8	3	87			TP, alt ar to sil ar w/minor cp,po,py
9180		93.3	0.6		<25	1	5	11		0.6	<2	0.4	<0.5	<0.2	0.9	19			MD, ar w/msv & dissem po, py, cp
9430		5.4	0.4		<10	1.3	15	23		<0.5	<2	<0.2	1.4	24.5	7.7	190			OC, calc-qz syenite vein
9431		59.5	0.7		<10	2	11	13		0.7	<2	<0.2	<0.5	1.6	2	89			OC, fest metased w/cp 2%,py<1%
9182		5.1	1.1		<10	0.6	12	20		0.8	2	0.3	<0.5	1.6	1.3	67			OC, banded metased w/dissem po
9184		5770	<2.7		<42	<0.5	4	<21		<0.5	<4	<0.2	<0.5	0.8	<0.5	<14			FL, msv po w/cp in metased
9183		8	2.1		<10	<0.5	7	<5		<0.5	<2	0.3	<0.5	0.7	0.6	<5			OC, sheared, alt metased w/cp,po,py
8231		4.3	0.8		<10	<0.5	2	<5		<0.5	<2	<0.2	<0.5	0.9	4.4	27			UW, qz vein w/minor sulf in gd
8232		5.1	0.6		<10	<0.5	4	7.6		<0.5	<2	<0.2	<0.5	1.1	0.9	31			UW, qz vein in gd
8233		3.1	0.9		<10	<0.5	7	11		<0.5	<2	<0.2	<0.5	2.2	4.6	38			UW, qz vein w/py, gn, + sheared gd
8234		2.2	1.2		<10	2.0	21	35		0.5	2	0.3	0.6	7	3.6	210			UW, alt gd w/dissem sulfs
8235		1.6	1.2		<10	0.8	13	19		<0.5	<2	<0.2	0.7	4.3	2.3	110			UW, qz veins/lenses in alt gd
8236		5.4	0.8		36	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.5	0.7	10			OC, qz vein w/minor sulfs in gd
8237		8.2	3.5		130	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.8	2.1	8			OC, qz vein w/py, gn
8238		13	144		1380	<0.5	<2	12		<0.5	<2	0.3	<0.5	<0.2	<0.2	<5			OC, sulf lens in qz vein
8239		5.9	38.1		150	<0.5	3	<5		<0.5	<2	<0.2	<0.5	0.6	0.9	17			OC, qz vein w/gn, py, cp
8240		2.7	6.8		99	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.5	0.7	7			OC, qz vein w/py,
8479		2.6	0.7		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.3	0.5	9			UW, qz vein w/minor py
8480		1.5	0.8		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.2	0.4	<5			OC, qz vein w/minor py
8481		2.2	1.8		160	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	1.1	<5			OC, qz vein w/sulf
8482		3.4	31.3		920	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	1.1	<5			OC, qz vein w/gn, cp
8483		1	2		110	0.6	4	7		<0.5	<2	<0.2	<0.5	1.5	12	47			OC, qz vein w/sulf
8484		17	137		590	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	11			OC, qz vein w/gn, cp, tetrahedrite

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
371-1	9437	Sunset	C	0.3	456	41.3	147	**2.09** *	320	10	<10	<5	400	540	<100	19	2.10			<5
371-2	9434	Sunset	C	0.2	511	6.3	49	8143	23	11	12	<5	180	620	<100	3	1.90			<5
371-2	9435	Sunset	C	0.6	401	17.2	81	**1.57** *	83	5	13	<5	6200	630	<100	<1	1.70			<5
371-2	9436	Sunset	S	0.1	**46.97** *	**906.2** *	2105	**37.03** *	1544	7	<21	<5	>20000	220	<370	11	6.70			100
371-3	9185	Sunset	C	1.0	82	4.4	169	1829	63	7	<10	7	470	540	<100	6	2.30			<5
371-3	9186	Sunset	C	0.1	900	**195.4** *	294	**50.87** *	1928	11	<10	10	340	110	<100	2	4.30			120
371-3	9187	Sunset	S		33	2.1	154	3030	47	8	18	44	490	550	<100	2	6.20			<5
371-3	9188	Sunset	C	0.8	554	18.0	185	9181	93	13	14	<5	550	600	<100	1	3.10			<5
371-3	9189	Sunset	C	0.2	916	21.1	61	6377	22	42	14	<5	230	440	<100	1	2.30			<5
371-3	9433	Sunset	C	0.4	34	0.2	11	34	34	3	<10	6	710	410	<100	6	2.00			<5
372-1	8551	Swennings Greenpoint	C	0.9	<5	1.5	36	167	<100	26	<10	<5	1100	370	<100	<1	1.8			<5
372-1	8552	Swennings Greenpoint	C	0.7	<5	**109.0** *	55	**2.04** *	<100	12	<10	19	79	380	<100	2	2.0			<5
372-1	8553	Swennings Greenpoint	C	0.4	<5	2.0	18	326	<100	19	<10	<5	120	390	<100	<1	0.7			<5
372-1	8554	Swennings Greenpoint	C	0.4	<5	36.6	23	9310	600	10	<10	6	6800	310	<100	6	2.9			<5
372-1	8604	Swennings Greenpoint	C	0.7	45	47.2	86	4674	180	332	<10	<5	10300	310	<100	3	4.8			<5
372-1	8605	Swennings Greenpoint	C	0.5	<5	39.6	63	3677	<100	18	<10	6	210	410	<100	<1	1.3			<5
372-1	8606	Swennings Greenpoint	C	0.3	14	**47.99** *	12	9384	<100	26	<10	<5	3400	380	<100	<1	1.4			<5
East Hyder Area																				
373-1	8216	Cantu	C	0.9	4140	**312.0** *	6370	6680	23100	<23	<130	<15	17500	<350	<2800	<71	0.9			93
373-1	8217	Cantu	C	0.7	**4.56** *	**256.8** *	3374	**27.20** *	>90000	10	<34	10	>20000	120	<390	9	0.6			1040
373-1	8456	Cantu	C	0.2	**18.48** *	**1206** *	**2.48** *	**6.61** *	>90000	<539	<330	<45	>20000	<780	<6400	<160	<2.2			789
373-1	8457	Cantu	C	0.1	9240	**1173** *	19810	**42.52** *	22100	<272	<320	<46	>20000	<800	<6600	<160	<2.3			<370
373-1	8458	Cantu	C	0.9	587	**140.2** *	2056	**3.55** *	21300	31	<50	<5	>20000	<110	<1000	31	1.7			130
373-1	8459	Cantu	C	0.2	517	**99.77** *	361	**10.65** *	2800	121	12	<5	>20000	330	<100	38	1.0			31
373-2	8221	Cantu	Rep		<5	0.2	29	94	<1	1	<10	<5	900	340	<100	3	0.9			<5
373-2	8222	Cantu	Rep		**27.74** *	13.5	18	94	<1	6	<10	43	780	180	<100	3	>10			<5
373-2	8461	Cantu	Rep		<5	0.3	48	59	<1	5	<10	8	380	330	<100	1	2.1			<5
373-3	8218	Cantu	S		1018	5.4	6423	170	1600	38	270	390	1000	<130	<1200	<12	>10			<36
373-4	8219	Cantu	S		658	4.9	3803	559	840	11	270	589	870	<20	<880	30	>10			<41
373-4	8220	Cantu	Rep		77	0.3	279	70	200	<1	<10	22	6070	28	<100	3	8.4			<5
373-4	8460	Cantu	SC	3.4@0.2	<5	1.3	162	225	190	2	<10	21	4900	67	<100	3	5.4			<5
373-5	9230	Cantu	SC	12.2@0.6	20	0.6	307	13	102	11	60	40	4400	120	<100	1	9.10			<5
373-5	9231	Cantu	S		58	2.7	1084	11	44	6	780	430	730	<20	<100	2	>10			<5
373-5	9470	Cantu	C	1.5	19	0.5	78	44	109	52	<10	21	5170	100	<100	5	4.10			<5
373-5	9471	Cantu	C	1.8	121	0.3	117	22	62	12	<31	43	4800	85	<100	<1	5.20			<5
373-5	9472	Cantu	C	1.1	23	0.8	275	23	79	33	50	36	4700	130	<100	3	7.30			<5
373-5	9473	Cantu	S		13	<0.1	22	16	43	9	<10	<5	1000	130	<100	<1	2.40			<5
374-1		Velikanje Placer		See Table A-4																
375-1		Charles Nelson and Pitcher		No Samples Taken																
376-1	6085	West Baseline	C	1.1	38	3.6	1705	74	390	3	<10	160	300	76	<100	2	>10			6
376-1	6697	West Baseline	C	1.1	8	0.8	746	97	700	<1	18	46	1800	120	<100	6	>10			8
376-1	6698	West Baseline	C	0.2	40	3.6	5090	64	230	4	<10	66	830	83	<100	5	>10			<5
376-1	8450	West Baseline	SC	1.8@0.1	<5	0.5	467	90	550	<1	<10	46	2500	89	<100	4	>10			<5
376-1	8452	West Baseline	S		14	1.4	1761	58	350	<1	<10	220	68	<20	<100	<1	>10			<5
376-1	8450	West Baseline	SC	1.8@0.1	<5	0.5	467	90	550	<1	<10	46	2500	89	<100	4	>10			<5
376-1	8452	West Baseline	S		14	1.4	1761	58	350	<1	<10	220	68	<20	<100	<1	>10			<5

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
9437		4.9	8.5		82	<0.5	3	<5		<0.5	<2	<0.2	<0.5	0.9	0.5	41			OC, qz w/gn 10%,py 5%
9434		3.3	1.9		31	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.6	2.3	<5			OC, qz vein w/gn 5%,py 5%
9435		29	12.8		83	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC, qz vein w/py 10%,gn 5%
9436		39	240		1630	<0.5	7	<21		<0.5	<3	<0.2	<0.5	<0.8	<0.8	<11			OC, qz vein w/msv gn 50% + py 20%
9185		14	2		<10	<0.5	4	<5		<0.5	<2	<0.2	<0.5	1.1	1.1	42			OC, qz vein w/minor gn,py, in gd
9186		26	177		630	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.6	<5			OC, ore shoot in qz vein w/gn 60%,minor cp,py
9187		99.3	2.4		<10	<0.5	5	5.4		<0.5	<2	<0.2	0.5	4.2	2.4	29			OC, qz lenses w/py along fractures in gd
9188		5.3	8.2		36	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.4	<5			OC, qz vein w/gn,py,cp
9189		12	3.8		29	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.3	3.2	9			OC, qz vein w/minor gn,py
9433		2.2	0.4		<10	<0.5	24	33		<0.5	<2	<0.2	<0.5	6.3	1	36			OC, qz vein w/py 3%
8551		5	0.3		<10	<0.5	4	<5		<0.5	<2	<0.2	<0.5	2.3	17	5			OC, qz vein w/minor sulf
8552		2.5	0.5		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.5	4.5	<5			OC, qz vein
8553		1.5	0.2		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	1.7	15	13			OC, qz vein
8554		0.5	0.1		<10	<0.5	9	16		<0.5	<2	<0.2	<0.5	0.9	11	7			OC, qz vein w/gn, minor py
8604		2.9	0.5		<10	<0.5	6	<5		<0.5	<2	<0.2	<0.5	2.4	20.9	32			OC, qz w/gn, py
8605		16	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	2.8	33.3	10			OC, qz vein w/minor gn, py
8606		1.2	0.2		<10	<0.5	7	13		<0.5	<2	<0.2	<0.5	1.6	24.8	6			OC, qz w/gn, py
East Hyder Area																			
8216		2310	>3000		<330	<3.0	18	<140		<1.4	<89	<2.5	<1.9	<5.3	<3.6	95			OC, qz stringers w/sulf in gs
8217		89.6	296		<45	1.2	5	<23		<0.5	5	<0.2	<0.5	<1	0.6	23			OC, qz vein w/msv sulfs, gn, sl, cp, barite, tetrahedrite (?)
8456		3290	>3000		<930	<9.1	<34	<290		<4.1	<209	<7.8	<5.5	<14	<16	<190			UW, qz w/gn, cp, sl
8457		2700	>3000		<950	<8.8	<21	<300		<3.9	<171	<6.8	<5.7	<15	<17	<200			UW, qz w/gn,
8458		694	1440		<130	1.7	21	<63		<0.5	29	<0.8	<0.5	7.1	6.2	160			OC, qz stringers in gs w/gn, tetrahedrite, cp, py, sl
8459		29	114		<22	0.5	3	<12		<0.5	<2	<0.2	<0.5	0.9	1.4	22			OC, qz w/gn
8221		34	1.8		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.4	0.3	<5			MD, qz vein w/seams of gs, no visible sulf
8222		8.5	1.7		<10	1.6	5	12		<0.5	<2	<0.2	<0.5	1.1	1.1	130			MD, qz vein w/py
8461		2.4	1.9		<10	<0.5	5	11		<0.5	2	0.4	<0.5	0.8	0.3	13			MD, qz w/gs inclusions, py
8218		>10000	14.7		<150	<1.9	5	<86		<0.5	<26	<1.0	<1.3	<2.4	3.1	<51			RC, gs w/sulf-rich layer
8219		>10000	10.8		<110	<1.5	3	<54		<0.5	<19	0.9	<0.5	<1.8	<1.3	<41			RC, msv sulf in gs
8220		76.2	3.4		<10	3.1	28	53		0.7	3	0.2	1.2	6.4	3.7	250			OC, fest gs adjacent to gd body
8460		16	11.1		<10	2.1	22	45		0.5	3	<0.2	0.9	5.6	3.7	220			UW, msv gs w/po
9230		18	3.3		<10	3.7	31	53		<0.5	<2	0.2	1.1	4.7	2.5	110			UW, gs w/minor py,po
9231		63.5	0.9		<10	<0.5	4	14		<0.5	<2	0.2	<0.5	1.6	<0.2	<5			UW, msv po + py in gs
9470		50.1	1.7		<10	2	14	20		<0.5	2	<0.2	<0.5	3.8	2.8	130			UW, qz-calc lenses in pl gs
9471		1610	3.2		<23	1.4	22	18		<0.5	<3	0.3	0.8	4.4	3.3	100			UW, qz-calc lenses in sheared pl gs
9472		77.3	10		<10	<0.5	36	51		0.5	<2	0.4	1.2	7.1	4.8	110			UW, sc (gs) w/thin calc veinlets, py 5%
9473		11	0.9		<10	0.8	8	15		<0.5	<2	<0.2	<0.5	1.3	0.8	22			UW, qz-calc veins w/minor py
See Table A-4																			
No Samples Taken																			
6085		136	4.6		<10	<0.5	8	12		<0.5	<2	<0.2	<0.5	0.4	0.4	17			UW, min shear zone in gs
6697		72	5.6		<10	<0.5	7	<5.0		<0.5	2	0.3	<0.5	1.6	0.9	37			UW, fest gs w/20% sulf
6698		22	2.1		<10	<0.5	7	13		<0.5	<2	<0.2	<0.5	<0.2	<0.2	11			OC, sil zone w/50% po,py
8450		36	5.3		<10	1.5	8	<5		<0.5	3	0.2	0.5	1.8	1.4	140			UW, metagw w/po
8452		119	3.6		<10	<0.5	7	<5		<0.5	<2	0.2	<0.5	<0.2	<0.2	<5			UW, metagw w/py, po
8450		36	5.3		<10	1.5	8	<5		<0.5	3	0.2	0.5	1.8	1.4	140			UW, metagw w/po
8452		119	3.6		<10	<0.5	7	<5		<0.5	<2	0.2	<0.5	<0.2	<0.2	<5			UW, metagw w/py, po

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
377-1	6887	Derby	C	1.3	2436	**72.00** *	892	4752	**2.86** *	<1	<10	89	610	<20	<100	<1	>10			532
377-1	6888	Derby	C	0.7	878	17	1584	1438	12105	<1	<10	84	570	<20	<100	<1	>10			220
377-1	6889	Derby	C	1.1	63	1.1	146	46	266	<1	<10	24	2300	43	<100	<1	6.8			<5
378-1	6242	Top, G trench	C	0.8	149	3.6	126	120	184	13	15	29	3200	190	<100	<1	7.6			<5
378-1	6243	Top, Old Shovel trench	C	0.6	415	1.3	225	21	5305	<1	<10	22	900	310	<100	<1	9.1			86
378-1	6244	Top, Old Shovel trench	C	0.1	**48.03** *	41.6	1314	172	**10.30** *	<2	<34	130	<50	<20	<260	<1	>10			1450
378-1	6245	Top, Simpson trench	C	0.7	60	0.4	31	16	279	2	<10	8	480	600	<100	<1	5.2			<5
378-1	6246	Top, the TS trench	C	1.7	127	1.1	199	28	1034	<1	<10	18	2700	31	<100	<1	8.2			17
378-1	6247	Top, the TS trench	Rep		3744	12.8	1414	114	**3.80** *	4	<10	24	1100	59	<100	<1	>10			603
378-1	6248	Top, TN trench	C	1.1	1118	5.1	493	15	9790	4	<10	10	1800	46	<100	1	8.5			150
378-1	6249	Top, TN trench	C	1.0	274	1.3	322	14	182	3	16	26	660	130	<100	1	>10			<5
378-1	6877	Top	C	0.3	1854	14.2	755	208	8695	5	<10	35	590	280	<100	<1	6.9			150
378-1	6878	Top	Rep	0.8	717	2.6	45	119	2290	<1	<10	22	2400	120	<100	2	5.6			32
378-1	6879	Top	C	0.8	154	4.7	756	115	3848	2	<10	11	110	500	<100	<1	3.7			66
378-1	6880	Top	C	0.6	179	2	298	25	1681	<1	<10	10	3600	33	<100	4	>10			43
378-1	6881	Top	C	0.6	4531	27	768	127	7819	<4	52	<93	<140	<250	<350	<3	3.9			150
378-1	6882	Top	C	0.6	6007	**92.57** *	13626	165	**5.76** *	<2	<27	80	210	82	<260	<4	>10			932
378-1	6883	Top	S		**14.67** *	**100.8** *	15400	259	**7.80** *	<1	<25	85	190	96	<100	<3	>10			1160
378-1	6884	Top	C	0.5	2292	9.6	1163	54	13377	<1	<10	16	840	300	<100	<1	7.4			180
378-1	6885	Top	C	0.2	1327	9	872	54	10533	<2	<21	42	1000	130	<250	<2	>10			180
378-1	6886	Top	S		**19.75** *	**84.34** *	7810	232	**7.90** *	<2	<27	93	480	150	<230	<3	>10			1230
379-1	6263	The 96 adit	C	0.6	47	35.9	498	**3.73** *	17870	7	31	19	1700	160	<100	11	4.2			230
379-1	6264	The 96 adit	C	1.3	27	4.7	344	1314	500	<1	17	12	1200	88	<100	4	4.6			<5
379-1	6909	The 96 adit	C	0.8	17	9	255	6174	4810	2	<10	10	1600	110	<100	18	3.8			90
379-1	6910	The 96 adit	C	0.5	124	**152.9** *	1367	**11.39** *	**17.60** *	<4	<45	13	<170	250	<540		0.8			2000
380-1	5491	Border, below road	G		<5	0.3	104	20	68	3						<2				
380-1	5915	Border, below road	G	0.2	62	0.6	25	101	1490	7						<2				
381-1	6001	Border, above road	SC	10.37@0.3	36	5.1	51	84	1500	2	<10	15	1500	43	<100	5	7.4			17
381-1	6002	Border, above road	SC	10.37@0.3	8	1.2	40	31	200	3	<10	12	2400	47	<100	4	4.8			<5
381-1	6607	Border, above road	C	1.1	11	0.5	61	20	<100	3	<10	16	1800	29	<100	2	4.6			<5
382-1		Virginia		No Samples Taken																
383-1	6274	E Stoner prospect, main trench	C	1.2	7	<0.1	10	21	53	2	<10	8	140	280	<100	2	2.3			<5
383-1	6918	E Stoner prospect, adit	G		508	**66.17** *	1064	450	**2.32** *	5	<10	19	<50	330	<100	<1	>10			656
383-1	6919	E Stoner prospect	Rep	0.6	<5	<0.1	10	11	162	2	<10	12	58	400	<100	<1	7.4			<5
384-1	5494	Stoner, upper adit	CC	0.1	<5	<0.1	10	12	96	<1	<10	<5	210	180	<100	<1	0.9			<5
384-1	5495	Stoner, upper adit	CC	0.1	<5	1	9	197	112	2	<10	<5	590	270	<100	<1	1.4			<5
384-1	5496	Stoner, upper adit	G	0.1	1355	23.1	148	**1.18** *	5152	5	<28	27	850	30	<270	<3	>10			77
384-1	5497	Stoner, upper adit	S		929	14.7	525	7306	**2.08** *	<4	79	20	1400	75	<410	<4	9.1			290
384-1	5498	Stoner, lower trench	C	0.1	744	42.3	4684	4074	**6.59** *	11	19	44	420	110	<100	<1	>10			1050
384-1	5919	Stoner, lower adit	C	0.8	100	3.5	83	242		12	30	16	2200	160	<100	2	5.3			9
384-1	5920	Stoner, shaft	G	0.2	9212	16.2	130	7640		6	<27	16	1700	95	<260	<3	>10			500
384-1	6066	Stoner, upper trench	C	1.5	34	0.3	29	232	490	2	<10	20	3500	25	<100	2	7.5			<5
384-1	6067	Stoner, upper trench	C	0.9	40	0.2	19	75	400	2	<10	17	3500	<20	<100	2	8.3			<5
384-1	6068	Stoner, upper trench	C	0.7	155	1.6	53	742	1500	9	<56	<5	2100	120	<450	<2	7.1			22
384-1	6069	Stoner, upper trench	C	0.9	37	<0.1	16	61	170	<1	<10	16	3000	42	<100	3	6.6			<5
384-1	6070	Stoner, upper trench	G	0.1	3643	23.6	205	6403	19000	<23	<260	<23	<1100	<540	<2400	<11	8.8			220

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
6887		162	15.8		74	1.5	5	11		<0.5	<2	<0.2	<0.5	<0.2	<0.2	44			TP	sil an w/ po,py,sl,cp
6888		231	8.4		<10	1.2	3	5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	26			TP	sil an w/ py,po,cp,sl
6889		25	3.1		<10	4	13	16		0.5	<2	0.3	<0.5	2.4	1.2	140			TP	sil an 10% sulf
6242		17	6.8		<10	1.1	12	18		0.6	<2	0.3	<0.5	2	1.2	77			TP	alt fest Hazelton an
6243		92.6	6.4		<10	1	7	10		0.5	<2	<0.2	<0.5	1.3	0.7	33			TP	alt fest an
6244		63.6	4.4		<25	0.8	<2	<18		<0.5	<2	0.3	<0.5	<0.5	<0.5	13			TP	msv sulf band in sil an
6245		30	1.7		<10	<0.5	4	<5		<0.5	<2	<0.2	<0.5	0.8	0.3	15			TP	alt an w/ barren qz lens
6246		39	2.2		<10	1.4	12	12		<0.5	<2	0.3	<0.5	2.1	1	85			TP	fest alt an w/ minor sulf
6247		351	9		<10	2.2	10	19		<0.5	<2	0.3	<0.5	2.1	1.2	65			TP	an float w/ gn,sl,cp,py
6248		488	3		<10	2.6	8	15		<0.5	<2	0.3	0.5	1.9	0.9	84			TP	fest brittle alt an w/ sulf
6249		111	1.9		<10	1.3	10	7		<0.5	<2	<0.2	<0.5	1.2	0.9	27			TP	brittle fest alt an
6877		1360	7.8		<10	0.9	4	14		<0.5	<2	<0.2	<0.5	0.9	<0.2	24			TP	qz sulf vein w/ py,gn,sl,cp
6878		351	4.4		<10	1.8	52	100		0.6	<2	<0.2	1.5	12	5	82			TP	sil an w/ 5% sulf
6879		163	6.4		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	10			TP	qz vein w/ 5% sulf
6880		699	11.3		<10	3.1	10	16		<0.5	<2	<0.2	<0.5	2.5	1.2	130			TP	sil an w/ 7% sulf
6881		9480	11.2		<45	<0.5	<2	<16		<0.5	<5	<0.7	<0.5	<0.7	<0.6	<12			TP	fest qz vein w/ 7% sulf
6882		3600	44.2		<32	1.2	5	<14		<0.5	<2	<0.4	<0.5	1	<0.5	24			TP	sil an w/ cp,sl,gn,py
6883		576	27.8		<21	0.8	3	<12		<0.5	<2	<0.2	<0.5	<0.5	<0.4	24			TP	sil an w/ 60% sulf
6884		417	9.3		<10	1.7	7	7.7		<0.5	<2	<0.2	<0.5	1.3	0.8	62			TP	qz sil an band w/ sl,cp,py
6885		4000	40.5		<32	2.3	10	<14		<0.5	<4	<0.6	<0.5	1.6	1.3	93			TP	qz sil anw/ 10% sulf
6886		1530	37.5		<27	0.9	4	<14		<0.5	<2	<0.2	<0.5	<0.5	<0.5	30			MD	an w/ 50% sulf
6263		38	71.6		<10	2.6	15	25		<0.5	3	0.2	<0.5	3.2	2.1	100			UW	shear zone w/ qz vein in alt gd
6264		28	37.3		<10	3	16	30		<0.5	3	0.4	<0.5	3.5	1.8	110			UW	shear w/ qz vein in hangingwall
6909		18	28.5		<10	2.3	18	29		0.6	2	<0.2	<0.5	4.5	2.8	120			UW	shear zone in gd w/ py,po,gn,sl
6910		231	1050		<68	<1.2	5	<23		<0.5	<18	<0.7	<0.5	2.3	<1	35			UW	shear zone w/ qz,gn,sl,py
5491																			MD,	sil gs w/dissem po
5915																			MD,	qz rubble
6001		86.1	4.4		<10	3	16	27		0.5	<2	0.4	0.8	2.9	1.6	98			UW,	gs w/qz veins and sulf
6002		112	4		<10	3.1	18	38		<0.5	<2	0.3	0.5	4.2	2.4	93			UW,	gs w/qz veins and sulf
6607		23	3		<10	2.7	16	35		0.6	<2	0.3	<0.5	3.8	1.9	85			UW,	sil gs w/5% sulf
	No Samples Taken																			
6274		17	0.8		<10	<0.5	4	5.3		<0.5	<2	<0.2	0.6	2	0.8	17			TP	qz vein hosted in an
6918		372	2.4		<10	<0.5	9	12		<0.5	3	0.5	<0.5	<0.2	<0.2	<5			MD	qz vein w/ py,sl,gn
6919		4.9	0.9		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	7			RC	qz vein
5494		5.9	0.5		<10	<0.5	5	7.6		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<200			UW,	qz vein
5495		27	1.9		<10	1.2	8	17		<0.5	<2	<0.2	<0.5	0.9	0.6	<200			UW,	qz vein
5496		8830	32.8		<36	1.7	11	30		<0.5	<11	<0.2	<0.5	1.7	<0.6	<200			UW,	sil gs w/sl, gn, aspy
5497		>10000	44.3		<54	2.5	10	<21.0		<0.5	<15	0.5	<0.5	2.9	<0.8	<200			MD,	sil gs w/aspy, py, sl, gn
5498		565	17.3		<10	1	10	28		<0.5	<2	0.3	<0.5	<0.2	<0.2	<200			TP,	sil shear w/aspy, py, sl, gn
5919		366	6.4		<10	3.8	13	29		0.5	5	0.6	<0.5	3.1	2.5	300			UW,	alt gs w/dissem py, po, aspy
5920		5820	27.8		<34	5.2	9	26		<0.5	7	0.4	<0.5	2.8	2	<200			TP,	ore in gs w/sl, gn, aspy, py, po
6066		46	4.4		<10	5.3	24	53		0.5	4	0.3	0.7	4.8	2.4	210			TP,	gs w/rare dissem py
6067		63.1	3.4		<10	4.4	22	43		0.7	5	0.4	<0.5	4.9	2.8	220			TP,	gs w/dissem py
6068		5410	38.1		<53	1.9	18	<37.0		<0.5	<15	1	<0.5	3.9	1.8	65			TP,	gs and fault gouge
6069		220	3.9		<10	4.4	20	36		0.6	3	0.2	<0.5	4.5	2.5	170			TP,	gs w/sparse dissem py and qz vein
6070		>10000	131		<290	<5.9	<6	<220		<2.9	<64	<5.3	<4.7	<9.0	<4.6	<150			TP,	gs w/20% sulf, 10% qz

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
384-1	6669	Stoner, shaft	C	0.6	870	6	50	3260	5000	3	<25	9	2200	58	<100	<1	6.4			63
384-1	6670	Stoner, shaft	C	0.6	571	1.1	36	551	2000	7	31	6	2100	<53	<200	3	6.2			<11
384-1	6671	Stoner, shaft	C	0.1	581	8.2	162	2400	1600	<6	<33	<5	1900	<88	<280	<2	5.8			<15
384-1	6672	Stoner, shaft	C	1.0	398	3.2	90	1519	4000	<2	<30	<5	1500	<62	<230	<2	5			33
384-1	6673	Stoner, shaft	G		2731	10.8	77	5177	9500	<6	<48	<5	1300	<72	<370	<3	7.7			98
384-1	6674	Stoner, lower trench	SC	1.83@0.3	39	1.4	52	141	460	3	<10	8	2100	130	<100	<1	5.5			<5
384-1	6675	Stoner, lower trench	Rep	1.5	60	2.3	109	518	1400	5	<10	14	1800	68	<100	2	6.9			12
384-1	6676	Stoner, lower trench	C	0.2	59	6.6	281	1560	870	3	<10	20	1700	70	<100	4	7.4			10
384-1	6677	Stoner, lower trench	C	0.1	547	28.3	1640	3590	36800	6	<31	20	620	83	<100	3	>10			450
384-1	6678	Stoner, lower trench	SC	3.05@0.3	16	3.9	111	1400	600	<1	<10	15	1900	57	<100	3	6.3			<5
384-1	6679	Stoner, upper adit	C	0.2	126	1.3	80	434	2000	<3	<35	<5	1400	<60	<260	<3	6.2			22
384-1	6680	Stoner, upper adit	C	0.6	79	0.1	15	58	290	3	<10	8	2800	<20	<100	<1	4.8			<5
384-1	6681	Stoner, upper adit	C	1.2	10	<0.1	30	48	240	<1	<10	9	2700	<20	<100	<1	5.8			<5
385-1	6207	Stoner Clegg O'Roark	Rep	0.9	34	1.7	84	415	98	3	<10	31	2500	90	<100	4	6.7			<5
385-1	6836	Stoner Clegg O'Roark adit	C	1.5	672	6.3	212	646	110	1	<10	31	3300	80	<100	2	7.5			<5
385-1	6837	Stoner Clegg O'Roark adit	Rep	0.3	11	1.5	129	109	119	2	<10	33	2400	84	<100	2	7.2			9
386-1	6208	Cliff zone	Rep	0.6	52	1.8	41	163	116	1	<10	18	2900	65	<100	3	5.4			<5
386-1	6838	Cliff zone	S		10	1	166	251	74	6	<10	15	2100	95	<100	8	6.4			<5
387-1	6209	Stoner, lower	Rep	0.6	408	4.2	106	353	1575	3	57	<5	670	170	<290	2	5.1			55
388-1	5492	Iron Ridge	C	0.6	86	1.8	1994	24	174	2						49				
388-1	5916	Iron Ridge	Rep	0.7	12	0.9	279	65	80	6						<2		1		
389-1	6829	Lowest Daly-Alaska	S	0.1	39	3.7	454	79	125	3	<10	61	1400	35	<100	2	>10			<5
389-1	6830	Lowest Daly-Alaska	SC	4.6@0.3	26	1.2	157	28	292	3	<10	23	1400	36	<100	3	6.9			<5
389-1	6831	Lowest Daly-Alaska	C	0.2	159	3.4	671	23	76	128	<10	120	290	45	<100	3	>10			<5
389-1	6832	Lowest Daly-Alaska	C	0.4	8720	15.1	1372	115	1017	145	47	260	<50	<56	<100	<1	>10			17
389-1	6833	Lowest Daly-Alaska	C	0.1	605	13.8	627	72	1004	2	22	60	270	36	<100	<1	>10			25
390-1	5493	Lower Daly Alaska, roadcut	G	0.0	100	8.7	407	323	10000	6	<10	38	2600	43	<100	<2	9.3			170
390-1	5917	Lower Daly Alaska, roadcut	Rep	0.1	2106	34.7	463	1524	17903	3						<2				
390-1	5918	Lower Daly Alaska, roadcut	Rep	0.2	96	12.1	236	259	2410	4						7				
390-1	5998	Lower Daly Alaska, adit	C	1.4	90	21.7	211	891	5400	3	<10	31	1400	38	<100	6	7.2			72
390-1	5999	Lower Daly Alaska, adit	Rep	0.7	1535	25	507	468	1600	2	27	40	440	87	<100	7	>10			17
390-1	6000	Lower Daly Alaska, shaft	S		77	12.9	122	331	4500	<1	<10	18	870	21	<100	11	9.4			65
390-1	6201	Lower Daly- Alaska	C	0.6	113	21.4	230	2587	6689	<1	<10	33	490	90	<100	6	>10			110
390-1	6202	Lower Daly- Alaska	C	0.5	91	6.1	156	451	491	2	<10	23	950	55	<100	4	8.8			<5
390-1	6203	Lower Daly- Alaska	Rep	2.4	509	11.4	83	265	1265	2	<10	6	700	140	<100	6	9.1			21
390-1	6604	Lower Daly Alaska, adit	SC	14.63@0.3	119	4.7	142	126	1900	5	<10	30	820	59	<100	5	>10			24
390-1	6605	Lower Daly Alaska, adit	SC	15.24@0.3	287	5.9	208	168	4200	3	<10	32	480	59	<100	6	>10			59
390-1	6606	Lower Daly Alaska, adit	SC	15.24@0.3	959	14	442	523	5900	26	<10	46	570	39	<100	9	>10			81
391-1	6047	Upper Daly Alaska, upper adit	SC	6.10@0.3	52	10.5	287	543	190	8	<10	15	1900	49	<100	3	3.8			<5
391-1	6048	Upper Daly Alaska, upper adit	SC	6.10@0.3	65	9	139	408	230	7	<10	12	2000	74	<100	2	4.5			<5
391-1	6049	Upper Daly Alaska, upper adit	SC	6.10@0.3	152	8	272	221	1900	19	<10	19	1700	45	<100	4	6.5			18
391-1	6050	Upper Daly Alaska, upper adit	SC	18.90@0.15	286	23.8	198	310	570	4	<10	20	2000	47	<210	2	7.4			<5
391-1	6051	Upper Daly Alaska, upper adit	SC	3.66@0.15	349	25.9	221	1268	1600	7	<10	14	2000	35	<100	2	5.6			9
391-1	6052	Upper Daly Alaska, upper adit	C	0.2	185	31.4	238	1703	730	5	10	9	960	160	<100	2	2.8			<5
391-1	6053	Upper Daly Alaska, trenches	C	1.2	1081	12.8	88	909	7800	5	130	<5	630	160	<880	3	5.3			85
391-1	6054	Upper Daly Alaska, trenches	S		3236	**305.1** *	577	**4.53** *	34500	16	300	<18	960	<300	<2600	<9	>10			370

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
6669		1090	15.4		<21	3.3	14	42		<0.5	<3	0.3	<0.5	4	2.6	97			TP,	sil gs w/sulf
6670		1820	18		<29	2.4	12	42		<0.5	<6	0.7	<0.5	2.7	2.3	89			TP,	sil gs w/py, cp, aspy
6671		3330	34.2		<49	<1.7	<11	<31.0		<0.5	<9	<0.6	<0.5	<3.2	2.3	81			TP,	gossan zone w/20% sulf
6672		2970	17		<34	<1.7	<11	<29.0		<0.5	<6	<0.4	<0.5	<2.4	<2.1	<20			TP,	sil gs w/sulf
6673		5440	22.5		<49	<1.2	<9	<35.0		<0.5	<13	<0.6	<1.0	<2.6	<1.0	<30			MD,	sil gs w/gn, py, sl, cp
6674		249	5		<10	2.7	13	28		<0.5	3	0.3	<0.5	3.7	2.4	82			TP,	sil gs w/2% dissem py
6675		108	4		<10	4	11	24		<0.5	4	0.4	<0.5	2.5	1.4	100			TP,	sil gs w/6% sulf
6676		82.3	6.4		<10	4.1	12	26		0.8	2	0.4	<0.5	2.2	1.2	110			TP,	shear zone w/gossan fault gouge
6677		373	14.7		<10	<0.5	10	17		<0.5	<2	0.2	<0.5	1.2	0.5	43			TP,	sil zone w/py, sl, gn
6678		63.2	6.4		<10	3.2	10	<5.0		<0.5	<2	0.3	<0.5	2	1.1	100			TP,	gray metavolc w/3% dissem sulf
6679		3850	13.2		<32	<1.4	<13	<22.0		<0.8	<8	<0.5	<0.5	<0.9	<0.6	61			UW,	shear zone w/gossan & fault gouge
6680		250	3.5		<10	3.7	15	45		<0.5	3	0.4	<0.5	4	2.3	130			UW,	shear in sil gs w/7% sulf
6681		40	3.9		<10	3.6	17	37		<0.5	4	0.3	<0.5	4.5	2.4	120			UW,	shear zone w/sil gs
6207		29	10		<10	3.4	8	21		0.6	<2	0.2	0.6	2	0.9	100			RC	gray an w/ dissem py
6836		53	11.3		<10	3.3	8	17		0.5	3	0.2	<0.5	1.7	0.9	94			UW	sil an w/ qz stringer and py
6837		35	8.2		<10	4.3	9	14		<0.5	3	0.2	<0.5	1.5	1	98			UW	sil an w/ py, aspy
6208		45	4.7		<10	6.3	19	35		0.6	3	0.3	<0.5	5.1	2.3	190			OC	gray an w/ dissem py
6838		5.4	1.8		<10	1.9	21	32		0.7	2	<0.2	1	6.6	3	110			MD	sil zone w/ dissem py,gn,sl
6209		4270	30.6		<34	1.5	9	<17		<0.5	<7	0.5	<0.5	<0.8	<0.5	99			RC	greenish gray an w/ py,gn,sl
5492																			OC,	msv po w/less than 1% cp
5916																			OC,	sil gs w/dissem po
6829		50.8	7.4		<10	3.2	16	16		0.5	2	0.3	0.7	1.5	1.8	110			OC	an
6830		84.8	4.9		<10	3	13	23		0.6	2	0.2	0.7	1.9	1.1	88			OC	an w/ py,po,cp
6831		50.4	5.2		<10	<0.5	5	<5		0.5	<2	0.2	<0.5	3.2	2	19			OC	an w/ dissem sulf
6832		795	4		<10	<0.5	140	120		<0.5	<2	<0.2	<0.5	0.6	2.9	<12			OC	msv po lens w/ py, cp
6833		340	3.5		<10	0.6	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	8			OC	po vein w/ cp
5493		885	17.9		<29	1.9	10	<16.0		<0.5	5	0.4	<0.5	1.8	1.2	<200			OC,	sil gs w/po and sl
5917																			OC,	msv sulf hosted in gs
5918																			RC,	gs w/dissem py, po, cp and sl
5998		317	14.3		<10	2.9	14	26		0.5	<2	0.6	0.6	1.9	1	97			UW,	gs w/dissem sulf
5999		149	10		<10	1.2	15	18		<0.5	<2	0.3	<0.5	1.4	1.4	74			UW,	msv gs w/sulf
6000		163	10		<10	2.7	19	28		<0.5	2	0.4	0.7	2.1	1.1	110			MD,	gs w/py, gn and some sl
6201		129	21.9		<10	2.1	10	24		0.6	4	0.3	<0.5	2	1	87			OC	dissem sulf in alt an @ shear
6202		61.8	9		<10	2.4	17	24		0.9	3	0.4	0.7	1.5	1.2	150			OC	an w/ dissem py
6203		47	7.6		<10	2.8	10	18		<0.5	<2	<0.2	0.6	1.8	0.9	120			OC	an w/ minor dissem sulf
6604		77	7.4		<10	2.1	16	25		<0.5	2	0.3	0.9	2.2	1.4	74			UW,	sil gs w/7% sulf
6605		104	7		<10	1.3	12	21		<0.5	<2	<0.2	0.7	1.9	0.8	81			UW,	sil gs w/7% sulf
6606		106	8.7		<10	2.6	13	14		<0.5	<2	0.4	<0.5	1.5	1.3	81			UW,	sil gs w/7% sulf
6047		23	19.1		<10	4.1	14	34		<0.5	4	0.4	0.6	4.9	2.5	190			UW,	gs w/dissem py & qz stringer
6048		23	22.5		<10	3.7	16	35		0.5	3	0.3	0.7	4.5	2.4	180			UW,	gs w/dissem py
6049		380	11.1		<10	3.1	10	15		<0.5	3	0.4	<0.5	2.1	1.1	130			UW,	gs w/dissem py & rare qz seam
6050		648	39.1		<26	2.6	7	<12.0		<0.5	4	0.4	<0.5	2.1	0.9	180			UW,	gs w/1% dissem sulf
6051		627	35.5		<10	3.4	12	24		<0.5	4	0.3	<0.5	2.8	1.4	160			UW,	gs w/3% sulf (gn, py, aspy)
6052		134	33.4		<10	1.1	2	<5.0		<0.5	<2	<0.2	<0.5	1	0.5	70			UW,	qz vein/stringers in gs
6053		7360	123		<120	<1.3	4	<52.0		<0.5	15	<0.8	<0.5	<1.7	<1.0	<35			TP,	gs w/10% sulf and qz vein
6054		>10000	627		<330	<3.6	<2	<150		<1.8	<32	<2.2	<2.3	<5.1	<3.0	<95			TP,	sil gs w/10-30% sulf

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
391-1	6055	Upper Daly Alaska, trenches	C	0.7	455	**50.06** *	119	1362	8300	4	21	<5	890	220	<270	<1	3.9			67
391-1	6268	Upper Daly Alaska, top trench	C	1.1	2025	15.1	115	1068	10407	<6	<37	<5	<350	130	<560	<3	8.5			120
391-1	6646	Upper Daly Alaska, upper adit	SC	6.10@0.3	20	3.3	83	138	370	3	<10	16	1800	37	<100	10	5			<5
391-1	6647	Upper Daly Alaska, upper adit	C	0.5	261	7.4	78	439	1300	5	<10	9	1600	94	<100	2	5			<5
391-1	6648	Upper Daly Alaska, upper adit	SC	8.54@0.3	41	2.9	112	78	430	9	<10	14	1400	41	<100	3	5.7			<5
391-1	6649	Upper Daly Alaska, upper adit	S		3374	**225.3** *	438	**1.16** *	31300	12	<88	<12	740	190	<1500	<7	8.9			260
391-1	6650	Upper Daly Alaska, trenches	Rep	0.9	53	4.7	98	278	1000	10	<10	13	2200	63	<100	4	5.6			13
391-1	6651	Upper Daly Alaska, trenches	S	0.2	**12.03** *	**193.7** *	1319	**2.15** *	35500	<25	<220	<24	<930	<460	<3700	<14	>10			210
391-1	6652	Upper Daly Alaska, trenches	C	0.9	2562	**292.1** *	476	6423	17200	<16	120	<5	1500	<170	<1500	14	8.5			95
391-1	6653	Upper Daly Alaska, trenches	Rep	1.2	2694	**903.4** *	1047	**1.10** *	24900	<18	260	<19	1600	<310	<2800	<37	>10			250
391-1	6654	Upper Daly Alaska, trenches	C	0.6	229	8.2	79	127	260	7	<10	18	2300	49	<100	3	7			<5
392-1	6265	Mill Rock adit	SC	1.5@0.1	64	1.5	162	85	139	10	<10	23	1800	59	<100	2	6.2			<5
392-1	6266	Mill Rock adit	SC	1.2@0.1	52	1	181	94	86	36	<10	10	2000	57	<100	2	3.9			<5
392-1	6267	Mill Rock , in Daly Cr	C	0.3	1070	22.4	174	1810	8467	<10	<28	13	1200	79	<410	5	5.7			130
392-1	6911	Mill Rock adit	SC	1.5@0.1	34	1.7	129	443	899	12	<10	7	2200	130	<100	<1	3.6			14
392-1	6912	Mill Rock adit	SC	1.5@0.1	18	0.3	34	93	143	5	<10	5	2000	35	<100	<1	2.4			<5
392-1	6913	Mill Rock, surface	C	1.2	47	2	166	412	819	9	<10	18	2000	180	<100	<1	5.1			9
392-1	6914	Mill Rock , surface	G	1.4	4532	**281.8** *	1435	**1.85** *	**2.67** *	<20	<71	<13	690	<200	<930	<13	>10			370
393-1	6056	Alaska Premier	SC	5.49@0.3	35	2.5	127	216	710	12	<10	37	1300	66	<100	4	8.6			5
393-1	6057	Alaska Premier	SC	4.27@0.3	19	2.3	126	139	950	3	<10	29	1400	39	<100	4	8.5			5
393-1	6058	Alaska Premier	SC	10.67@0.3	32	2.8	194	145	3500	3	<10	22	1400	43	<100	4	7.3			34
393-1	6059	Alaska Premier	S		18	2.6	159	91	4500	10	<10	22	1600	24	<100	4	>10			45
393-1	6269	Alaska Premier gulch pit	RC		600	**73.71** *	231	4035	15503	<5	<28	11	500	100	<310	<2	6.8			200
393-1	6270	Alaska Premier gulch pit	C	1.9	31	1.6	75	253	134	5	24	20	1400	34	<100	4	7.2			<5
393-1	6655	Alaska Premier	SC	6.10@0.3	16	2.9	197	56	430	3	<10	36	1000	60	<100	4	8			<5
393-1	6656	Alaska Premier	C	0.1	11	1.6	104	52	110	2	<10	15	390	150	<100	<1	3.7			<5
393-1	6657	Alaska Premier	SC	6.40@0.3	28	3.3	228	164	500	3	36	32	3000	37	<100	2	8.7			<5
393-1	6658	Alaska Premier	SC	5.79@0.3	14	1.5	188	71	330	5	<10	26	1500	46	<100	2	6.5			<5
393-1	6659	Alaska Premier	G	0.1	32	2.4	375	62	280	7	<10	44	3200	25	<100	<1	>10			<5
393-1	6660	Alaska Premier	SC	3.66@0.3	12	1.1	144	40	540	3	<10	26	1300	22	<100	<1	6.9			<5
393-1	6661	Alaska Premier	G		8	1.3	170	25	380	3	<10	27	2300	47	<100	1	6.9			<5
393-1	6662	Alaska Premier	G		33	2.7	224	36	230	3	<10	29	1100	32	<100	2	6.8			<5
393-1	6915	Alaska Premier trail pit	C		488	38.5	237	3484	**2.69** *	<1	21	27	720	27	<210	<4	>10			410
394-1		Cripple Creek		No Samples Taken																
395-1	6089	Eureka, lower adit	C	0.3	<5	<0.1	21	16	230	2	<10	11	360	120	<100	<1	1.5			<5
395-1	6090	Eureka, lower adit	C	0.1	<5	5.3	407	49	550	<1	<10	12	78	89	<100	<1	3			10
395-1	6091	Eureka, lower adit	C	0.5	98	3.8	80	243	670	41	<10	10	13500	130	<100	3	3.5			<5
395-1	6092	Eureka, lower adit	C	1.2	187	2.8	144	62	360	26	<10	35	1200	65	<100	6	>10			<5
395-1	6093	Eureka, upper adit	C	1.6	56	2.1	246	50	740	4	<10	22	1700	45	<100	3	7.2			<5
395-1	6094	Eureka, E trench	C	0.8	970	37.6	418	3649	35800	2	39	15	110	79	<100	5	>10			420
395-1	6095	Eureka, E trench	C	0.4	42	3.2	96	123	2300	<1	<25	28	540	<20	<100	4	>10			18
395-1	6096	Eureka, E trench	C	1.3	36	1.1	111	89	890	<1	<10	16	1600	37	<100	3	8.6			10
395-1	6701	Eureka, lower adit	C	0.8	16	0.8	134	54	710	14	<10	10	2100	57	<100	114	4.3			<5
395-1	6702	Eureka, lower adit	C	0.6	1579	30.1	138	200	3800	<28	<200	<42	<800	<320	<1700	<36	>10			180
395-1	6703	Eureka, E trench	C	1.2	**11.21** *	17	210	381	17700	<3	<35	<17	370	54	<210	20	>10			200
395-1	6704	Eureka, E trench	C	0.1	**68.33** *	**89.83** *	476	1780	>90000	<7	<85	<15	<200	<83	<470	<7	>10			1270

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
6055		1660	71.3		<32	<0.5	<2	<14.0		<0.5	<4	0.2	<0.5	1	<0.2	13			TP,	gs w/dissem & msv sulf
6268		>10000	219		<69	<0.5	4	<24		<0.5	<14	<1	<0.5	<1.2	<0.8	<19			TP	<15% sulf
6646		61.7	11.5		<10	2.8	14	26		<0.5	2	0.4	<0.5	2.7	1.4	160			UW,	sil gs w/3% sulf
6647		957	30.2		<10	2.5	10	22		<0.5	3	0.4	<0.5	1.8	0.9	150			UW,	sil gs w/15% sulf
6648		56.8	7.8		<10	1.9	14	27		<0.5	2	0.4	0.6	2.7	1.7	96			UW,	sil gs w/5% sulf
6649		>10000	362		<260	2.4	4	<100		<1.1	<36	<1.7	<1.5	<2.8	<1.9	<56			MD,	sil gs w/15% sulf
6650		194	10.7		<10	3.1	13	24		<0.5	3	0.3	<0.5	3.5	2	200			TP,	sil gs w/3% sulf
6651		>10000	635		<500	<4.9	<2	<230		<2.5	<74	<3.5	<3.5	<7.5	<5.2	<130			RC,	sil gs w/py, sl, gn
6652		>10000	500		<190	<2.2	8	<81		<1.1	<26	<1.2	<1.5	<3.0	<2.1	<60			TP,	sil gs w/py, sl, gn
6653		>10000	1250		<350	<3.6	8	<150		<1.9	<59	<2.3	<2.4	<5.6	<3.8	<99			TP,	sil gs w/py, sl, gn
6654		245	13		<10	3.7	9	25		<0.5	3	0.3	<0.5	2.1	1.1	230			TP,	sil gs w/10% sulf
6265		36	6.5		<10	3.2	13	25		<0.5	2	0.3	<0.5	3.5	1.8	120			UW	sil pyritiferous an
6266		11	3.9		<10	3.1	16	30		0.6	3	0.4	<0.5	3.6	2	140			UW	sil pyritiferous an
6267		7190	166		<51	1.5	7	<18		<0.5	<7	<0.2	<0.5	1.1	<0.6	86			OC	fest sil pyritiferous an
6911		41	8.6		<10	4	15	35		0.6	2	0.4	<0.5	4.8	2.1	150			UW	sil an w/ 4% sulf
6912		11	4.4		<10	3.4	16	33		0.6	3	0.4	<0.5	5.3	2.2	140			UW	sil an w/ 2% sulf
6913		52.2	9.4		<10	3.6	14	26		<0.5	2	0.4	<0.5	3.8	1.3	120			OC	sil an w/ 7% sulf
6914		>10000	732		<150	<1.4	<5	<60		<0.5	<20	<2.2	<0.5	<2	<1.9	<30			MD	sil an w/ sl,gn,py,cp
6056		105	4.9		<10	2.2	14	17		<0.5	3	0.3	0.7	1.6	1.3	120			UW,	gs w/1-2% dissem sulf
6057		52.4	3.9		<10	2.8	11	17		<0.5	2	0.3	0.6	1.4	1.4	130			UW,	gs w/1% dissem sulf
6058		91.1	3.3		<10	1.6	13	27		<0.5	<2	0.3	<0.5	2.7	1.4	130			UW,	gs w/2% dissem sulf
6059		27	3.1		<10	5.6	14	19		<0.5	3	0.3	0.7	1.4	0.9	170			UW,	high grade of sulf in gs
6269		3770	163		<38	1.2	9	24		<0.5	<7	<0.2	<0.5	<0.6	<0.5	59			MD	sil carb alt an w/ gn,sl,py
6270		68.1	3.8		<10	2.9	14	19		<0.5	2	0.2	0.7	2.1	1.2	100			TP	gossanous an
6655		50.2	5.4		<10	2.8	16	25		<0.5	2	0.4	0.7	2.2	1.3	120			UW,	sil gs w/2% sulf
6656		16	1.6		<10	<0.5	8	12		<0.5	<2	<0.2	0.5	1.2	0.5	32			UW,	qz vein
6657		40	5		<10	2.8	16	29		<0.5	2	0.4	0.7	2	1.4	160			UW,	sil gs w/2% sulf
6658		27	2.1		<10	1.9	16	29		<0.5	2	0.4	0.8	1.6	1.1	94			UW,	sil gs w/2% sulf
6659		36	8		<10	2.9	11	23		<0.5	<2	0.4	0.7	1.8	1.1	200			UW,	sil gs w/2% sulf
6660		54.7	2.3		<10	1.8	21	41		0.5	3	0.4	0.8	3.6	2	110			UW,	sil gs w/3% sulf
6661		45	2.6		<10	1.6	17	32		0.6	3	0.3	0.8	2.3	1.4	110			UW,	gs inclusion w/az stain
6662		81.1	3.7		<10	0.8	11	24		<0.5	<2	0.4	<0.5	1.9	1.1	65			UW,	sil gs w/10% sulf
6915		1820	74.2		<38	0.9	6	<14		<0.5	<2	<0.5	<0.5	0.8	<0.4	52			TP	sil an w/ py,sl,gn,cp
No Samples Taken																				
6089		7.8	3		<10	0.5	4	<5.0		<0.5	<2	0.2	<0.5	0.5	0.4	31			UW,	barren qz vein hosted in gs
6090		21	11		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			UW,	barren qz vein hosted in gs
6091		47	4.8		<10	1.9	12	28		<0.5	<2	<0.2	<0.5	3.1	1.3	110			UW,	sil zone in gs
6092		195	5.2		<10	2.9	12	12		<0.5	<2	0.2	<0.5	0.8	0.9	100			UW,	fest fractured zone in gs
6093		42	2.8		<10	2.9	14	28		0.5	3	0.3	0.8	1.5	0.8	120			UW,	sil gs w/5% sulf, 10% qz
6094		709	44.9		<10	<0.5	5	<15.0		<0.5	<3	0.4	<0.5	0.7	<0.2	18			OC,	sil br w/gn, sl, cp, py
6095		404	5.3		<10	1.1	28	31		<0.5	2	0.2	<0.5	1.7	1.4	75			TP,	fest fractured zone in gs
6096		79.6	3.6		<10	2	13	15		0.6	3	0.2	<0.5	1.7	1.2	130			TP,	fest gs w/sparse sulf
6701		62.6	1.6		<10	1.1	11	23		<0.5	3	0.4	0.8	5.2	1.9	84			UW,	sil gs w/7% py
6702		>10000	<258		<220	<4.5	<14	<160		<2.2	<48	<3.0	<4.7	<5.8	<4.3	<130			UW,	fest sil gs w/10% py
6703		1870	16.9		<24	<0.5	25	45		<0.5	<2	<0.4	<0.5	<0.7	0.9	<20			TP,	sil gs w/po, py, sl, cp
6704		1970	34.2		<52	<1.9	<6	<56.0		<1.1	<5	<0.9	<0.5	<1.5	<1.5	<38			TP,	sulf band w/py,sl,gn,cp

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
395-1	6705	Eureka, E trench	C	2.1	164	3.7	107	121	900	2	<10	10	920	48	<100	8	>10			13
395-1	6706	Eureka, E trench	C	0.1	114	1.1	59	26	820	2	<10	8	540	280	<100	3	4.7			9
395-1	6707	Eureka, E trench	C	1.3	878	3.2	207	129	1100	5	<10	13	1500	46	<100	5	>10			17
396-1	6276	Marmot Gossan	G		18	1	111	108	1365	<1	<10	6	4400	44	<100	1	4.1			16
397-1		Blue Bird		No Samples Taken																
398-1		Crest		No Samples Taken																
399-1	6185	Brigadier 5 ft adit	C	0.1	31	0.5	21	107	25	2	<10	<5	300	430	<100	11	1.2			<5
399-1	6803	Brigadier Adit lower	C	0.9	107	11.6	149	7810	46	22	<10	6	1400	470	<100	160	3.1			6
399-1	6804	Brigadier Adit lower	C	0.5	105	10.5	111	5876	24	229	<10	<5	1800	380	<100	19	1.3			<5
399-1	6183	Brigadier Adit, upper	C	0.3	**23.07** *	**78.17** *	532	9167	57	103	<10	30	540	400	<100	9	9.4			<5
399-1	6184	Brigadier Adit, upper	C	1.6	1048	2.2	76	449	92	5	23	9	1100	200	<100	61	3.1			7
399-1	6799	Brigadier Adit, upper	C	0.2	5326	**88.46** *	11292	**6.55** *	260	72	<10	58	1800	220	<100	15	>10			17
399-1	6800	Brigadier Adit, upper	Rep	0.1	**12.45** *	**89.49** *	262	**9.66** *	120	<11	<10	47	640	350	<100	8	>10			<10
399-1	6801	Brigadier Adit, upper	CC	0.2	**15.26** *	20	2768	1616	135	<5	<10	50	360	340	<100	22	>10			<5
399-1	6802	Brigadier Adit, upper dump	S		**42.96** *	**192.0** *	192	**9.63** *	49	<20	31	67	310	410	<220	5	>10			<13
399-1	6186	Brigadier trench	RC		**32.74** *	**247.2** *	2790	**30.04** *	939	100	<10	31	1100	340	<240	15200	9.4			87
400-1	6713	Blacksmith	Rep	1.2	<5	0.3	90	29	260	<1	<10	19	910	41	<100	<1	6.9			<5
401-1	6216	Zebra vein	C	1.1	<5	<0.1	17	22	14	2	<10	<5	93	500	<100	<1	0.8			<5
401-1	6847	Zebra vein	C	1.1	<5	0.8	9	3	9	6	15	<5	140	430	<100	<1	0.8			<5
401-1	6848	Zebra vein	C	0.7	<5	0.5	15	11	18	2	<10	<5	250	480	<100	<1	1.2			<5
401-1	6849A	Zebra vein	C	0.5	<5	0.2	23	9	45	4	<10	10	500	460	<100	<1	2			<5
401-1	6849B	Zebra vein	C	0.5	<5	<0.1	13	4	26	8	19	6	350	520	<100	<1	2.7			<5
401-1	6851	Zebra vein, E	C	0.4	<5	<0.1	6	6	13	2	20	<5	110	460	<100	<1	1			<5
401-1	6112	Zebra vicinity	C	0.1	6	<0.1	22	8	<100	3	12	5	140	570	<100	<1	1.9			<5
401-1	6723	Zebra vicinity	C	0.3	14	1.4	40	28	140	3	<10	7	1200	200	<100	<1	5.4			<5
401-1	6724	Zebra vicinity	G		74	0.7	77	18	160	2	22	17	1400	120	<100	3	8.6			<5
401-1	6846	Zebra vicinity	C	0.1	7	33.8	3000	59	2323	<1	50	8	170	380	<100	<1	2.5			31
402-1	6193	MV5 vein	C	1.6	15	1	29	335	26	2	<10	<5	160	590	<100	2	0.6			<5
402-1	6194	MV5 vein	C	1.4	8	0.3	20	45	11	<1	<10	<5	170	520	<100	<1	0.6			<5
402-1	6195	MV5 vein	C	0.6	11	0.2	26	140	23	2	<10	<5	840	580	<100	8	1.8			<5
402-1	6814	MV5 vein	G		97	2.1	44	157	130	13	<10	8	1200	570	<100	1	2.6			<5
402-1	6815	MV5 vein	C	1.5	22	0.7	22	24	9	4	<10	<5	>20000	600	<100	<1	0.5			31
402-1	6816	MV5 vein	C	0.9	112	7.3	37	166	170	4	<10	<5	610	510	<100	<1	0.8			<5
402-1	6817	MV5 vein	Rep	1.2	13	0.7	23	41	43	1	<10	<5	7650	580	<100	<1	0.9			6
402-1	6818	MV5 vein	G		121	8.2	215	72	172	12	22	98	300	220	<100	<1	>10			<5
402-1	6819	MV5 vein	Rep	0.9	<5	0.3	21	19	6	<1	<10	<5	210	520	<100	<1	0.4			<5
402-1	6820	MV5 vein	SC	2.4@0.1	9	1.6	42	67	48	5	12	<5	1900	520	<100	1	0.9			<5
403-1	6024	Titan, adit	C	0.2	19	0.7	62	175	120	2	17	7	2500	410	<100	3	1.7			<5
403-1	6025	Titan, adit	C	0.2	17	0.9	47	104	<100	2	13	<5	4800	370	<100	1	0.7			<5
403-1	6026	Titan, adit	C	1.2	48	0.9	48	40	330	<1	<22	21	10100	76	<100	6	5.7			<5
403-1	6027	Titan, adit	C	0.1	18	0.3	4	26	<100	2	<10	<5	1000	250	<100	3	1.8			<5
403-1	6028	Titan, adit	G		84	1.1	9	58	230	2	<10	16	1900	77	<100	5	6.3			<5
403-1	6119	Titan, adit	SC	2.74@0.1	<5	<0.1	7	28	190	<1	<10	6	3300	80	<100	<1	3.9			<5
403-1	6624	Titan, adit	C	0.4	65	1.7	72	729	820	4	<10	16	>20000	210	<100	7	4.2			<5
403-1	6625	Titan, adit	C	0.1	17	1.2	47	277	370	6	<10	<5	>20000	240	<100	2	1.3			<5
403-1	6626	Titan, adit	S		18	0.8	18	107	170	5	<10	7	1600	290	<100	1	1.8			<5

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
6705		135	4.2		<10	1.7	10	22		<0.5	3	0.3	<0.5	1.7	1.6	94			TP,	sil gs w/7% sulf
6706		68.2	19.5		<10	<0.5	6	12		<0.5	2	<0.2	<0.5	0.9	0.6	19			TP,	qz vein w/calc and py
6707		317	7.6		<10	1.4	23	38		<0.5	3	0.5	<0.5	1.5	1.4	94			TP,	sil gs w/5% sulf
6276		18	1		<10	1.6	15	25		<0.5	2	<0.2	1	5	2.6	290			RC	sil an w/ minor py,sl
No Samples Taken																				
No Samples Taken																				
6185		7.8	3.6		<10	<0.5	4	6.2		<0.5	2	0.2	<0.5	1	1.7	26			UW	qz vein
6803		8.5	12.8		<10	<0.5	7	15		<0.5	<2	<0.2	<0.5	2.2	1.9	42			UW	qz vein w/ gn,py
6804		6.6	3.6		<10	0.6	7	11		<0.5	<2	<0.2	<0.5	3.4	2.4	54			UW	qz vein w/ gn,py
6183		13	18.2		<10	<0.5	4	<5		<0.5	<2	<0.2	<0.5	1.9	3.2	40			UW	shear w/ qz vein and sulf
6184		5.6	2.6		<10	0.6	21	37		<0.5	<2	<0.2	<0.5	4.3	3.4	94			UW	sheared gd w/ qz stringers
6799		45	40.1		<10	0.6	14	13		<0.5	<2	<0.2	<0.5	2.8	5.8	82			UW	qz vein w/gn,sl,py,cp
6800		23	41.6		<10	<0.5	6	11		<0.5	<2	<0.2	<0.5	1.5	5.5	57			UW	qz vein w/ gn,sl,py,cp
6801		13	4.7		<10	0.7	7	11		<0.5	<2	<0.2	<0.5	2	1.3	49			UW	qz vein w/ gn,sl,cp,py
6802		19	125		<32	<0.5	2	<16		<0.5	<2	0.4	<0.5	<0.6	1	<12			MD	qz vein w/ gn,sl,cp,py
6186		<6.1	185		<33	<0.5	4	<13		<0.5	<3	0.8	<0.5	<0.7	<1.1	15			MD	qz w/ gn,cp,py
6713		29	1.3		<10	2	7	13		<0.5	3	<0.2	<0.5	1.4	0.8	51			UW,	chl gs w/1% sulf
6216		6.2	1.1		<10	<0.5	<2	6.3		<0.5	<2	<0.2	<0.5	0.2	<0.2	8			OC	qz vein hosted in ar
6847		5.5	0.7		<10	<0.5	2	6.9		<0.5	<2	<0.2	<0.5	0.6	<0.2	9			OC	qz vein
6848		5.8	0.9		<10	0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.5	0.2	16			OC	qz vein
6849A		23	2.9		<10	1.5	<2	5.3		<0.5	<2	<0.2	<0.5	0.6	1.1	33			TP	qz vein
6849B		12	2.2		<10	1.1	3	6.4		<0.5	<2	<0.2	<0.5	0.6	0.7	24			TP	qz vein
6851		8.9	1.1		<10	<0.5	<2	5.6		<0.5	<2	<0.2	<0.5	0.4	0.2	10			TP	qz vein/lens
6112		20	0.8		<10	<0.5	4	15		<0.5	<2	<0.2	<0.5	0.8	0.4	9			TP,	barren qz vein
6723		61.6	4.5		<10	1.3	17	42		<0.5	3	0.3	0.6	4.6	2.3	31			TP,	sil lens in fest gs
6724		243	1.8		<10	2	14	30		<0.5	3	0.3	<0.5	3.7	1.7	45			MD,	qz & fest sil gs
6846		52.7	4		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.7	0.5	11			TP	qz vein w/ blebs of cp
6193		1.8	1.9		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	11			TP	qz vein w/ inclusions of gs
6194		2.2	2.1		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.3	<0.2	6			TP	qz vein w/ inclusions of gs
6195		4.4	1.8		<10	<0.5	4	9		<0.5	<2	<0.2	<0.5	0.8	0.3	36			OC	qz vein w/ gs inclusions
6814		11	3.3		<10	0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.5	0.4	34			MD	qz gs contact
6815		1.9	1.8		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	9			OC	qz vein
6816		4.1	1.8		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	18			TP	qz vein
6817		3.4	1.8		<10	<0.5	5	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	11			TP	qz vein
6818		352	14		<10	<0.5	10	10		<0.5	<2	<0.2	<0.5	0.6	0.3	17			MD	qz gs contact zone w/ po,py
6819		2.5	2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	9			OC	qz vein
6820		8.2	1.7		<10	0.8	3	5.4		<0.5	<2	<0.2	<0.5	0.9	0.5	40			TP	qz vein w/ gs br inclusions
6024		31	2		<10	1.4	3	8.2		<0.5	<2	<0.2	<0.5	0.4	<0.2	39			UW,	qz vein in greenish-gray sc
6025		11	1.7		<10	0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.3	<0.2	16			UW,	qz vein in greenish-gray sc
6026		69.4	2		<10	2.8	13	23		0.9	3	0.4	0.6	1.8	1.1	130			UW,	greenish-gray sc w/qz stringer
6027		20	1.4		<10	1.8	4	12		<0.5	<2	<0.2	<0.5	2	1.2	72			UW,	qz vein hosted in gs
6028		118	2.4		<10	2.2	13	30		<0.5	3	0.2	<0.5	1.9	0.7	120			MD,	gs w/dissem py cubes
6119		289	1.7		<10	2.5	20	33		<0.5	4	0.3	<0.5	6.5	3.2	120			UW,	Premier porph
6624		72.3	22.8		<10	2.9	4	<5.0		<0.5	<2	<0.2	<0.5	1.1	0.5	100			UW,	qz vein along shear in gs
6625		19	2.9		<23	1.7	2	<17.0		<0.5	<2	<0.2	<0.5	1.3	<0.2	71			UW,	qz vein
6626		48	5.7		<10	1.6	2	6		<0.5	<2	<0.2	<0.5	1.3	0.7	76			MD,	qz w/gs wall rock

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
403-1	6729	Titan, adit	CC	0.3	69	<0.1	7	10	<100	<1	<10	<5	1400	200	<100	3	2.6			<5
403-1	6113	Titan, surface	C	0.5	15	0.4	9	25	<100	1	<10	<5	290	410	<100	<1	0.4			<5
403-1	6114	Titan, surface	C	0.2	46	1.7	9	278	120	3	<10	<5	8470	420	<100	<1	0.7			<5
403-1	6115	Titan, surface	C	0.6	333	1.3	44	118	260	2	95	<5	9780	320	<100	1	4.6			<5
403-1	6116	Titan, surface	C	0.2	**30.17** *	**63.09** *	118	5975	1700	12	<10	<5	12800	280	<200	4	1			13
403-1	6117	Titan, surface	C	0.4	5074	5.6	33	253	260	4	60	<5	>20000	290	<100	5	3.8			<5
403-1	6118	Titan, surface	S		3766	15.1	419	5700	5800	4	<10	<5	5570	240	<100	3	1			65
403-1	6725	Titan, surface	CC	0.2	18	0.7	57	120	140	2	13	<5	13200	500	<100	<1	0.7			<5
403-1	6726	Titan, surface	C	0.2	30	0.9	38	46	260	2	140	11	12900	510	<100	5	5.7			<5
403-1	6727	Titan, surface	C	1.2	1245	15.9	83	802	2600	8	<10	<5	>20000	160	<100	6	2.6			25
403-1	6728	Titan, surface	C	1.8	750	3.6	45	640	1400	3	<10	5	12100	160	<100	2	2.9			<5
404-1	6187	Iron #3	C	0.1	**13.47** *	9.6	1088	1400	46	161	82	100	110	43	<100	85	>10			<5
404-1	6188	Iron #3	C	0.7	834	0.9	224	122	59	11	<10	24	4100	68	<100	11	7.2			<5
404-1	6189	Iron #3	C	0.8	2052	3.1	190	2857	65	8	23	40	3700	98	<100	154	8.2			<5
404-1	6190	Iron #3	C	0.5	402	0.6	137	93	38	5	<10	21	4300	110	<100	6	7.5			<5
404-1	6191	Iron #3	Rep	3.4	129	0.3	84	29	49	<1	<10	19	3700	71	<100	2	7.7			<5
404-1	6192	Iron #3	C	0.5	84	0.8	135	256	38	<1	<10	22	2700	150	<100	13	8.7			<5
404-1	6805	Iron #3	C	0.9	128	1.8	237	490	67	2	<10	19	2100	110	<100	7	8.1			<5
404-1	6806	Iron #3	C	0.1	1077	33.1	10180	116	234	<14	66	62	1800	97	<590	<6	>10			<38
404-1	6807	Iron #3	C	1.1	32	0.9	183	46	91	2	<10	16	2200	85	<100	5	7.4			<5
404-1	6808	Iron #3	C	0.1	10	0.6	84	129	47	1	<10	5	560	460	<100	<1	3			<5
404-1	6809	Iron #3	C	2.1	88	1.3	134	39	66	<1	<10	13	2200	100	<100	3	5.3			<5
404-1	6810	iron #3	C	2.1	31	0.9	179	62	87	<1	<10	19	2600	100	<100	<1	6.2			<5
404-1	6811	Iron #3	G		310	4	270	76	78	<1	<10	29	1200	120	<100	3	6.2			<5
404-1	6812	Iron #3	G		296	2.3	560	22	65	<1	17	70	1500	100	<100	3	>10			<5
404-1	6813	Iron #3	G		65	1.2	348	84	49	<1	<10	14	2000	140	<100	3	6			<5
405-1	6108	Iron No. 2	G		5560	15	3900	165	<1500	<30	<210	<17	<530	<220	<1200	<8	>10			<56
405-1	6196	Iron No. 2	C	0.3	**14.74** *	23.3	4394	74	393		63	130	<120	98	<310	<3	>10			<18
405-1	6197	Iron No. 2	C	0.5	73	0.3	119	15	100	<1	26	22	1700	160	<100	10	7.7			<5
405-1	6198	Iron No. 2	C	0.4	37	0.4	134	16	102	<1	<10	25	1400	83	<100	4	6.3			<5
405-1	6199	Iron No. 2	C	0.2	8433	12.3	1756	42	65	<5	50	63	<50	<49	<100	<1	>10			<12
405-1	6200	Iron No. 2	C	0.3	4499	8.6	532	221	204	<18	<67	250	1100	<48	<610	<5	>10			<35
405-1	6720	Iron No. 2	S		9607	24.5	4900	95	<1800	<17	<140	<21	<580	<230	<1200	<15	<9.9			<77
405-1	6821	Iron No. 2	C	0.4	4399	8.4	1888	94	136	<8	<34	69	490	100	<290	7	>10			<21
405-1	6822	Iron No. 2	C	0.2	2326	10.2	3108	153	739		80	80	220	330	<270	<10	7.5			42
405-1	6823	Iron No. 2	C	0.2	118	2.4	608	38	264	<1	<10	19	2500	93	<100	6	>10			<10
405-1	6824	Iron No. 2	G		5592	12.5	3639	188	196		73	130	440	250	<380	5	>10			<27
405-1	6825	Iron No. 2	C	0.7	**11.97** *	20.1	3981	172	302	<10	<58	260	410	120	<560	<7	>10			<45
405-1	6826	Iron No. 2	C	0.6	161	1.3	391	20	104	<2	<29	21	1900	76	<240	4	>10			<21
405-1	6827	Iron No. 2	C	0.5	1140	10.5	751	67	69	<5	46	56	680	190	<380	<5	>10			<27
405-1	6828	Iron No. 2	Rep	0.5	164	8.6	1719	21	92	<2	<23	10	2500	98	<100	<1	>10			<13
406-1	6210	Iron No. 4	C	0.9	1171	6	411	164	1019	<1	<25	35	1100	130	<240	2	>10			<17
406-1	6211	Iron No. 4	C	0.4	206	5.7	1147	119	96	7	<31	170	640	120	<300	5	>10			<12
406-1	6212	Iron No. 4	C	1.4	65	4.1	316	25	73	<1	<10	22	5100	76	<100	4	>10			<5
406-1	6213	Iron No. 4	C	0.4	17	3	447	29	48	2	<10	26	4100	96	<100	3	>10			<5
406-1	6214	Iron No. 4	C	0.4	107	4	866	64	122	1	19	38	1100	140	<100	2	>10			<5

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
6729		15	1.3		<10	1.8	12	24		<0.5	2	<0.2	<0.5	4.5	2	57			UW, shear zone w/qz stringer
6113		5.4	2.9		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC, barren qz vein
6114		36	2.8		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	0.3	8			OC, barren qz vein
6115		183	6		<10	2.9	6	11		<0.5	2	0.3	<0.5	2	1.9	94			OC, ar w/10% qz, 2% py
6116		25	25		<10	1	4	<22.0		<0.5	<2	<0.2	<0.5	<0.6	0.8	35			TP, qz vein, min inclusions, sl
6117		36	3.8		<10	2.4	10	16		<0.5	<2	<0.2	<0.5	3.3	2.3	110			TP, min ar
6118		27	14.2		<10	0.7	4	<5.0		<0.5	<2	<0.2	<0.5	1.7	0.8	51			MD, high-grade of sl, gn, cp, in qz vein
6725		57.7	1.5		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.6	<0.2	8			OC, qz vein
6726		67.1	4.2		<10	3	9	24		<0.5	<2	<0.2	<0.5	2	0.9	86			OC, sil wall rock w/py and sulf
6727		59.2	4.2		<10	2.2	8	22		<0.5	<2	0.2	<0.5	3.3	1.6	84			TP, qz stringer w/10% sulf
6728		28	4		<10	2.7	11	28		<0.5	<2	<0.2	<0.5	4.2	2.2	95			TP, qz stringer zone w/5% sulf
6187		28	3.3		<10	<0.5	5	11		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			TP msv sulf lens
6188		19	2.2		<10	1.2	11	12		<0.5	<2	<0.2	<0.5	1.5	1.4	110			TP fg sil gs w/ trace sulf
6189		47	4.2		<10	1.3	10	14		0.6	<2	0.3	<0.5	1.7	1.1	130			TP sil gs w/ some py
6190		6.3	3.5		<10	1.6	9	12		0.7	<2	0.4	<0.5	1.2	0.5	98			TP alt Tx Cr gd w/ minor dissem sulf
6191		30	6		<10	0.8	10	18		0.8	2	0.2	0.5	1.2	0.7	79			TP alt Tx Cr gd w/ minor dissem sulf
6192		11	6.5		<10	1	14	19		<0.5	3	0.4	<0.5	1.5	0.9	86			OC pyritiferous zone of alt Tx Cr gd
6805		170	3.9		<10	1.1	22	38		0.6	3	0.3	0.9	4.8	2.4	110			TP sil gs w/ dissem & blebs po
6806		>10000	55.7		<80	<1.4	16	42		<0.5	<20	<1	<1.1	4.5	<1.2	63			TP sil zone in gs w/ cp,po
6807		238	3		<10	1.8	22	41		0.8	3	0.3	0.7	4.7	2.5	130			TP sil gs w/ po,cp
6808		63	1.6		<10	<0.5	5	9.3		<0.5	<2	<0.2	<0.5	1	0.6	28			TP qz lens w/ po
6809		65.2	2.7		<10	2	11	14		<0.5	2	0.3	<0.5	2.4	1.2	160			TP sil gs w/ po
6810		24	2.6		<10	1.6	12	16		<0.5	2	0.3	0.6	2.4	1.4	150			TP sil gs w/ dissem po
6811		32	2.9		<10	2.1	8	9.3		<0.5	<2	<0.2	<0.5	1.9	1.1	160			MD sil gs w/ dissem po,cp
6812		100	5.8		<10	0.8	8	8.1		<0.5	<2	<0.2	<0.5	1.8	1.1	98			TP fest sil gs w/ dissem po,cp
6813		31	2.7		<10	0.9	10	18		<0.5	<2	0.3	<0.5	2.1	1	160			TP fest sil gs w/ dissem po,cp
6108		>10000	<23.9		<140	<3.0	<3	<110		<1.5	<33	<2.0	<2.9	<3.9	<2.6	<79			MD, fest gs w/po,cp
6196		5330	13.9		<44	<0.5	<2	<17		<0.5	<6	<0.5	<0.5	<0.8	<0.7	<21			TP msv sulf band along shear
6197		44	2		<10	1	9	12		0.6	2	0.2	<0.5	2.6	1.6	75			TP chl (talc?) gs w/ rare dissem sulf
6198		38	1.8		<10	1.3	10	17		<0.5	2	0.3	<0.5	1.9	1.2	98			TP chl gs w/ qz stringer
6199		1740	4.2		<23	<0.5	<2	<12		<0.5	<2	<0.2	<0.5	<0.5	<0.4	<15			TP msv sulf band along shear
6200		>10000	<39		<81	<1.4	7	<25		<0.5	<17	<0.5	<1.1	3.6	<1.2	75			TP sheared gs w/ dissem & banded sulf
6720		>10000	<51.8		<160	<3.1	<5	<120		<1.6	<27	<2.6	<3.3	<4.2	<3.5	<87			MD, po w/gray sulf and 1% cp
6821		7260	17.2		<41	1.9	4	<14		<0.5	<7	<0.3	<0.5	1.5	<0.7	77			TP gs w/ sulf
6822		>10000	53.9		<47	<0.5	<2	<12		<0.5	<11	<0.5	<0.5	<0.7	<1	<18			TP qz zone w/ 30% sulf
6823		803	4.9		<10	1.1	9	15		<0.5	2	0.3	<0.5	1.7	1.1	130			TP gs w/ sulf
6824		>10000	27.8		<77	<0.5	<2	<22		<0.5	<13	0.6	<0.5	<1	<0.9	51			MD gs w/ sulf
6825		>10000	51.3		<91	<1.3	<2	<29		<0.5	<18	0.6	<0.5	<1.5	<1.3	<37			TP qz zone w/ sulf
6826		4920	10.2		<36	1.6	9	<11		<0.5	<7	0.6	<0.5	1.4	<0.6	80			TP gs & qz w/ sulf
6827		>10000	34.3		<58	<0.5	2	<17		<0.5	<10	<0.2	<0.5	1.6	<0.9	110			TP sil gs w/ sulf
6828		1780	6.6		<25	<0.5	4	<5		<0.5	<3	0.2	<0.5	1.3	0.7	130			TP fest gs w/ sulf
6210		3220	21.1		<28	1.8	5	<15		<0.5	<5	0.4	<0.5	1.7	0.9	76			TP an porphyry w/ sulf in shear
6211		4850	24.7		<36	<0.5	4	<24		<0.5	<8	0.4	<0.5	1.2	<0.5	33			TP msv sulf lens along shear
6212		662	7.1		<10	2	9	<5		<0.5	<2	0.3	0.6	2.8	1.6	170			TP sheared sil chl an w/ sulf
6213		60.9	6.8		<10	1.2	8	<5		0.5	<2	0.3	0.6	1.7	1.2	140			OC sulf lens in sil an
6214		229	4.7		<10	1.3	7	<5		<0.5	<2	0.3	<0.5	1.1	0.6	47			OC sulf lens in shear in sil an

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
406-1	6215	Iron No. 4	C	0.3	260	1.8	228	20	68	<1	<10	36	850	200	<100	2	>10			<5
406-1	6839	Iron No. 4	C	0.5	169	**64.11** *	524	6370	2233	<1	<21	57	1600	83	<100	<1	>10			44
406-1	6840	Iron No. 4	C	0.4	498	28.4	505	3668	2710	<1	23	77	910	24	<100	<1	>10			51
406-1	6841	Iron No. 4	Rep	1.2	346	7.2	3914	53	185	<3	<31	85	960	44	<300	<2	>10			<14
406-1	6842	Iron No. 4	G		22	3.9	890	97	4387	<1	35	61	<50	<20	<100	<1	>10			77
406-1	6843	Iron No. 4	C	0.5	859	3	317	75	77	<3	<36	59	1500	220	<390	<3	>10			<18
406-1	6844	Iron No. 4	C	0.6	2958	7.6	897	42	60	<10	<110	<220	<1200	<220	<1200	<7	>10			<52
406-1	6845	Iron No. 4	C	1.3	998	6.5	381	315	6840	6	49	54	910	140	<290	3	>10			110
407-1	6716	Shaft Creek Copper	G		3718	7.9	5420	18	300	<3	85	120	400	44	<100	54	>10			<13
407-2	6103	Shaft Creek Copper	SC	1.59@0.1	418	2.1	718	18	2400	<5	<64	<5	2400	95	<490	<4	>10			38
407-3	6100	Shaft Creek Copper	SC	8.38@0.3	5915	7.6	2175	96	2700	<14	<140	<24	<1800	<350	<1300	<31	>10			<63
407-4	6715	Shaft Creek Copper	S	0.2	**22.86** *	**105.9** *	**4.69** *	24	<1200	<59	<440	<52	<2000	<990	<4400	<43	<9.9			<250
407-5	6101	Shaft Creek Copper	C	1.5	**10.56** *	45.6	17295	67	<8600	<73	<850	<100	<2800	<1500	<6600	<37	<9.9			<290
407-6	6102	Shaft Creek Copper	C	1.5	6431	**58.29** *	18900	109	<5800	<64	<320	<44	<1400	<620	<3100	<19	<9.9			<140
407-7	6714	Shaft Creek Copper	C	1.1	5876	35.8	14676	14	<1800	<17	<250	<44	<620	<270	<1300	<106	<9.9			<78
408-1	6104	Iron 1	C	1.0	1973	0.9	288	24	440	<1	<10	24	4900	120	<100	<1	>10			<5
408-1	6105	Iron 1	C	0.1	374	1.3	1187	22	<100	<1	210	350	930	<20	<100	<1	>10			<5
408-1	6106	Iron 1	C	0.2	64	0.8	110	34	140	<1	<10	9	9740	<20	<100	2	>10			<5
408-1	6107	Iron 1	G	0.1	1185	14.2	1730	58	380	<1	<36	150	980	<20	<100	27	>10			<5
408-1	6717	Iron 1	C	1.4	99	1.5	743	24	180	<1	<10	35	4700	120	<100	4	>10			<5
408-1	6718	Iron 1	C	1.2	157	2	357	30	180	<1	<10	47	4600	25	<100	<1	>10			<5
408-1	6719	Iron 1	C	0.1	96	1	791	15	<100	<1	18	180	2600	<20	<100	<1	>10			<5
409-1	6227	Ronan Copper	C	0.2	<5	1.2	409	7	23	1	<10	<5	460	350	<100	2	1.2			<5
409-2	6226	Ronan Copper	C	0.2	119	20.4	6971	64	59	2	<10	120	1200	270	<100	6	>10			<5
409-3	6860	Ronan Copper	C	0.7	48	2	624	10	73	<1	<10	23	1500	130	<100	4	8			<5
409-4	6858	Ronan Copper	C	0.5	41	2.4	227	24	50	<1	14	56	2000	180	<100	4	>10			<5
409-5	6857	Ronan Copper	S		164	21.5	7652	29	87	3	<10	90	590	220	<100	3	>10			<5
409-6	6859	Ronan Copper	C	0.2	169	6.5	905	60	67	5	<10	150	2000	180	<100	5	>10			<5
409-7	6861	Ronan Copper	C	0.2	145	34.6	11158	95	105	29	22	110	720	110	<100	7	>10			7
409-8	6862	Ronan Copper	C	0.7	158	30.5	19858	92	112	3	<10	120	630	170	<100	11	>10			<5
409-9	6222	Ronan Copper	C	1.5	9	2.8	1289	23	81	<1	<10	27	1700	92	<100	15	>10			<5
409-10	6223	Ronan Copper	C	0.6	33	15.2	9716	16	75	3	<10	22	440	150	<100	4	>10			<5
409-11	6224	Ronan Copper	C	0.9	50	15.1	4387	36	77	2	24	42	1000	97	<100	40	>10			<5
409-12	6225	Ronan Copper	C	0.3	165	**66.51** *	**2.50** *	110	108	3	<10	87	480	140	<100	6	>10			<5
410-1	6029	Ronan surface	C	0.9	8136	22.2	344	8600	580	95	15	<5	>20000	290	<250	20	2.4			<5
410-2	6628	Ronan surface	S		**41.79** *	**416.6** *	781	**18.6** *	2800	<10	<60	15	>20000	<190	<1400	<131	6.3			43
410-3	6627	Ronan surface	C	0.9	1460	**99.09** *	460	**2.13** *	380	10	<10	11	>20000	150	<290	17	4.2			<5
410-4	6030	Ronan surface	C	0.8	415	**56.57** *	3354	3482	280	36	<10	<5	>20000	210	<270	10	2.7			<5
410-5	6031	Ronan surface	C	0.4	804	**281.1** *	1324	**2.89** *	230	13	<67	<11	>20000	<210	<1700	27	2.8			<33
410-6	6629	Ronan surface	C	0.6	1263	39.2	292	1190	330	18	<10	<5	2900	420	<100	10	3			<5
410-7	6032	Ronan surface	C	0.7	1196	16.7	585	7848	240	24	<10	10	1100	290	<100	37	3.5			<5
410-8	6033	Ronan surface	G		32	8.1	39	2520	100	5	<10	<5	1500	420	<100	4	0.8			<5
410-9	6034	Ronan surface	C	0.3	61	0.4	4	72	180	2	<10	8	930	210	<100	15	3.5			<5
410-10	6630	Ronan surface	Rep	0.5	387	10.8	734	780	210	12	10	<5	1400	530	<100	5	0.8			<5
410-11	6045	Ronan dump	S		4452	**1012** *	19771	**2.13** *	470	<20	<160	60	>20000	<390	<3800	<156	>10			88
410-11	6046	Ronan dump	S		7111	**2229** *	9090	**11.82** *	<10000	<34	<250	<30	7600	<670	<6300	<54	6.7			<130

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
6215		380	5.9		<10	1.1	9	17		<0.5	<2	0.2	<0.5	1.2	0.6	68			TP	shear in sil an w/ sulf lens
6839		1050	33.3		<10	2	4	<11		<0.5	<2	0.3	0.6	1	0.8	150			TP	sil an w/ po,py,cp,sl
6840		672	17		<10	0.9	7	12		<0.5	<2	0.3	<0.5	0.9	<0.2	55			TP	sil an w/ po,py,cp
6841		5480	23.8		<37	1.9	3	<20		<0.5	<6	<0.2	<0.5	<0.8	<0.6	<16			TP	msv po,py,aspy,cp,sl
6842		12	1		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			MD	msv sulf (po,py,cp,aspy)
6843		8450	35.2		<53	2	3	<25		<0.5	<12	<0.4	<0.5	<1.1	<0.7	<64			TP	sil an w/ po,py,aspy,cp
6844		>10000	<100		<180	<2.5	<2	<83		<1.3	<40	<1.5	<1.5	<3.4	<2.3	<51			TP	sil an w/ py,po,cp,aspy
6845		5690	43		<52	0.9	4	<24		<0.5	<8	1.2	<0.5	2.3	<0.6	88			TP	sil an w/ po,py,cp,aspy
6716		1890	3.1		<33	<0.5	4	<32.0		<0.5	<3	0.8	<0.5	<0.6	<0.6	<21			TP,	60% po, 35% gs, 5% cp
6103		7040	8.4		<59	<1.5	<10	<41.0		<0.5	<19	<0.6	<1.4	<2.3	<1.0	<40			TP,	gs w/5% sulf
6100		>10000	16		<230	<3.2	<6	<160		<1.6	<40	<3.6	<3.0	<4.3	<2.7	<91			TP,	gs w/13% sulf (po, cp, aspy)
6715		>10000	<127		<670	<10.0	<21	<520		<5.6	<131	<14.0	<12.0	<15.0	<12.0	<280			MD,	po w/10% cp
6101		>10000	<111		<960	<15.0	<15	<760		<7.2	<206	<17.0	<14.0	<23.0	<14.0	<400			TP,	msv sulf body w/po, aspy, cp
6102		>10000	<50		<410	<7.4	<10	<320		<3.7	<103	<9.4	<8.0	<10.0	<6.7	<200			TP,	msv sulf body w/po, cp, aspy, qz
6714		>10000	<29.5		<190	<3.3	<5	<140		<2.1	<17	<2.2	<3.3	<7.1	<3.5	<95			TP,	po w/cp, aspy
6104		54.2	1.2		<10	1	10	13		<0.5	<2	0.3	<0.5	1.7	1.3	96			TP,	gs w/slight dissem sulf
6105		29	0.8		<10	0.9	2	<16.0		<0.5	<2	0.5	<0.5	<0.2	<0.2	<18			TP,	fest gs w/20% po
6106		54	0.8		<10	1.3	18	28		<0.5	<2	<0.2	1.2	7.3	3.6	110			TP,	fest gs 5% dissem sulf
6107		79.3	2.2		<10	<0.5	22	20		<0.5	<2	0.3	<0.5	1	1	<18			TP,	high-grade of po and cp
6717		202	1.1		<10	<0.5	18	32		0.6	<2	0.2	<0.5	5.9	4	58			TP,	fest gs w/5% sulf
6718		104	2.5		<10	<0.5	17	21		0.7	<2	0.3	0.7	5.4	3.6	63			TP,	fest gs w/5% sulf
6719		43	0.8		<10	0.8	12	15		<0.5	<2	0.2	<0.5	3.9	2.8	51			TP,	po lens
6227		2.1	0.3		<10	<0.5	5	8.3		<0.5	<2	<0.2	<0.5	1.6	0.7	32			TP	reddish tan qz vein w/ minor sulf
6226		110	0.6		<10	1.1	11	<5		<0.5	<2	<0.2	0.6	4.9	2.1	67			TP	qz carb vein w/ sulf
6860		47	0.2		<10	0.7	14	17		<0.5	2	0.4	0.6	3.7	1.8	92			TP	calc-qz gd zone w/ sulf
6858		53.7	0.6		<10	0.8	20	32		<0.5	<2	0.2	<0.5	8	2.7	100			TP	qz-sulf lens
6857		185	0.4		<10	<0.5	6	<5		<0.5	<2	<0.2	<0.5	2.5	1	29			MD	qz w/ py and sparse cp
6859		173	0.4		<10	0.9	21	23		0.7	<2	0.3	1.1	8.9	3.2	110			TP	qz gd sulf vein/lens
6861		123	0.4		<10	1	9	<5		<0.5	<2	0.2	<0.5	3.6	1.4	53			TP	sil chl sheared gd w/ py
6862		307	0.8		<10	<0.5	10	15		<0.5	<2	0.2	<0.5	4.3	1.7	39			TP	sheared gd w/ py,cp
6222		8.6	0.4		<10	0.9	17	21		0.6	<2	<0.2	<0.5	6.4	2.1	85			OC	alt gd w/ dissem/banded sulf
6223		1.9	0.4		<10	<0.5	8	13		<0.5	<2	<0.2	0.6	4.8	2	23			TP	alt gd @ fest zone of dissem sulf
6224		19	0.8		<10	1	11	17		<0.5	<2	0.3	0.8	5.5	2.1	74			TP	fest zone of alt gd w/ sulf
6225		108	1.3		<10	<0.5	4	<5		<0.5	<2	<0.2	<0.5	2	1.2	10			TP	sulf band in alt gd along shear
6029		14	50.2		<33	0.6	3	<22.0		<0.5	<2	<0.2	<0.5	<0.6	<0.2	33			TP,	qz vein w/5% sulf
6628		288	777		<190	<1.5	<2	<100		<0.5	<8	<1.6	<0.5	<2.8	<2.0	<36			TP,	py and gn
6627		71.2	181		<47	0.7	3	<22.0		<0.5	<2	<0.2	<0.5	1.1	<0.2	30			TP,	qz vein w/py, gn
6030		34	142		<42	0.6	2	<20.0		<0.5	3	<0.2	<0.5	<0.5	0.6	24			TP,	qz vein w/dissem gn, cp, py
6031		301	1110		<220	<1.6	4	<100		<0.5	<21	<1.6	<1.0	<3.2	<1.8	71			TP,	qz vein w/dissem gn, cp, py
6629		32	100		<10	<0.5	4	8.4		<0.5	<2	<0.2	<0.5	1.4	1.2	42			TP,	qz vein w/sparse gn
6032		10	33.5		<10	<0.5	6	11		<0.5	<2	<0.2	<0.5	1.9	1.3	55			TP,	qz vein w/dissem gn, cp, py
6033		4.1	14.7		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.4	<0.2	10			MD,	qz rubble w/gn, py
6034		3.3	7.2		<10	1	12	26		<0.5	<2	0.2	0.6	4.4	1.4	150			TP,	qz vein w/dissem sulf
6630		2.3	6.5		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.2	<0.2	8			OC,	qz lens w/sparse cp
6045		1100	>3000		<420	<3.7	3	<200		<1.8	<71	3.2	<2.3	<7.2	<4.2	<100			MD,	high-grade sample of py in qz
6046		1700	>3000		<710	<6.1	<2	<330		<3.0	<143	<4.7	5.9	<12.0	<6.9	<160			MD,	high-grade sample of gn in qz

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
410-11	6645	Ronan dump	S		**5.07** *	**513.2** *	13394	**3.61** *	2500	<11	<84	24	3700	520	<1900	30	6.4			<48
410-12	6217	Ronan, upper x-cut	SC	1.5@0.1	29	0.6	105	46	56	2	<10	11	2700	110	<100	7	4.8			<5
410-13	6218	Ronan, upper x-cut	SC	1.5@0.1	8	0.4	135	23	58	16	<10	13	1900	96	<100	54	4.9			<5
410-14	6219	Ronan, upper x-cut	SC	1.5@0.1	16	0.3	71	16	55	3	26	17	2100	110	<100	5	5.8			<5
410-15	6220	Ronan, upper x-cut	SC	1.5@0.1	11	0.5	149	21	73	8	<10	18	1900	75	<100	6	6.8			<5
410-16	6221	Ronan, upper x-cut	SC	1.5@0.1	<5	0.2	40	22	72	7	16	10	2000	82	<100	4	4.7			<5
410-17	6856	Ronan, upper x-cut	SC	1.5@0.1	<5	0.5	36	48	74	4	<10	10	1800	77	<100	6	5.1			<5
410-18	6855	Ronan, upper x-cut	SC	1.5@0.1	19	1.5	58	182	80	2	<10	18	1700	83	<100	8	6.6			<5
410-19	6854	Ronan, upper x-cut	SC	1.5@0.1	<5	0.6	53	50	90	23	<10	13	1700	83	<100	9	7			<5
410-20	6853	Ronan, upper x-cut	SC	1.5@0.1	23	0.8	26	82	100	8	<10	10	2400	110	<100	13	4.4			<5
410-21	6852	Ronan, upper x-cut	SC	1.5@0.1	262	9.1	131	662	222	4	<10	13	2000	140	<100	18	5			<5
410-22	6632	Ronan, upper drift	C	0.2	181	23	1012	220	350	11	<10	15	1400	290	<100	25	6			<5
410-23	6631	Ronan, upper drift	C	0.2	293	42.9	4490	240	430	18	<10	28	1800	74	<100	18	>10			<5
410-24	6633	Ronan, upper drift	C	0.8	127	3.2	94	1314	1200	13	<10	10	4000	140	<100	26	5.3			20
410-25	6534	Ronan, upper drift	S		8948	**186.9** *	10103	**3.85** *		36	<220	<28	8900	<630	<4500	<26	5.5			<150
410-26	5948	Ronan, upper drift	Rep		**35.34** *	**7803** *	**6.38** *	**5.67** *		<100	<560	<79	<3300	<1400	11000					<560
410-26	6634	Ronan, upper drift	C	0.7	9000	**813.3** *	10597	**1.35** *	<2200	<33	<150	<19	10300	670	<3200	<404	7.9			<160
410-27	6635	Ronan, upper drift	C	0.8	1476	**400.5** *	2343	**1.58** *	1200	23	<36	<5	1700	190	<730	<22	2.2			22
410-28	6636	Ronan, upper drift	C	1.1	928	48.1	685	4442	340	20	<10	10	1300	310	<100	409	3.7			<5
410-29	6637	Ronan, upper drift	CC	0.2	275	**281.1** *	6108	**10.74** *	740	30	<22	12	280	210	<370	116	>10			14
410-30	6638	Ronan, upper drift	CC	0.5	1256	**61.71** *	1068	**1.17** *	330	104	<10	64	1800	170	<100	30	8.7			<5
410-31	6639	Ronan, upper drift	CC	0.4	**16.28** *	**2750** *	**2** *	**3.54** *	<20000	<71	<300	<47	<1800	<1300	<6600	<867	3.6			<340
410-32	6039	Ronan, upper drift	CC	0.7	**27.36** *	**116.9** *	2872	**2.3** *	1500	33	<10	9	3100	280	<370	14	4.3			30
410-33	6038	Ronan, upper drift	CC	0.8	**8.88** *	**190.3** *	4974	**8.39** *	1400	17	<32	14	350	340	<710	11	4.8			35
410-34	6037	Ronan, upper drift	CC	0.8	2946	**538.9** *	5160	**2.79** *	6400	59	<140	30	2600	<420	<3300	43	6			<68
410-35	6035	Ronan, upper drift	CC	1.1	1554	**193.7** *	2162	**1.26** *	8200	20	<52	<5	760	400	<1200	21	2.8			98
410-36	6036	Ronan, upper drift	C	0.7	457	33.8	504	379	1900	57	<10	11	1900	91	<100	18	5.3			36
410-37	6640	Ronan, lower drift	C	0.7	5051	**39.43** *	1882	6757	360	390	<10	15	2000	280	<100	19	4.9			6
410-38	6641	Ronan, lower drift	C	0.7	**13.16** *	145	3452	**2.44** *	1400	11	<36	25	1800	370	<720	26	7.7			<18
410-39	6642	Ronan, lower drift	C	0.9	**19.88** *	**916.8** *	4731	**1.67** *	3900	39	<160	52	930	<460	<3700	<154	7			<89
410-40	6643	Ronan, lower drift	C	0.9	1615	28.9	118	8777	530	50	<10	18	1900	240	<100	17	5.6			19
410-40	6644	Ronan, lower drift	C	0.5	977	8.8	149	2067	<100	18	<10	<5	410	320	<270	3590	1.6			<11
410-41	6043	Ronan, lower drift	CC	0.4	2535	**53.14** *	1311	5124	820	957	<10	10	570	200	<100	60	3			<5
410-42	6044	Ronan, lower drift	CC	0.3	**16.04** *	**534.2** *	13335	**4.77** *	30300	220	<34	7	930	220	<590	20	3.5			859
410-43	6042	Ronan, lower drift	C	0.3	**13.68** *	**577.7** *	2714	**2.27** *	10600	<7	<79	14	3800	320	<1400	32	4.1			180
410-44	6041	Ronan, lower drift	C	0.1	180	44.8	715	6371	200	11	<10	<5	400	250	<100	10	2.2			5
410-45	6040	Ronan, lower drift	CC	0.5	727	9.6	124	3174	990	3	<10	23	3700	110	<100	62	7.9			27
411-1	8213	Monarch	C	0.6	<5	0.7	39	398	190	3	11	6	2700	230	<100	22	3.1			<5
411-1	8214	Monarch	C	0.2	453	0.4	29	150	180	16	<10	11	9000	170	<100	1110	4.1			<5
411-1	8454	Monarch	C	0.3	<5	0.1	17	94	<1	<1	<10	<5	450	260	<100	4	0.6			<5
411-1	8455	Monarch	S		296	7.0	2467	39	210	74	<10	220	1000	95	<100	3	>10			<5
411-2	8209	Monarch	C	0.6	287	1.5	25	1030	250	26	<10	7	10900	96	<100	1810	4.0			<5
411-2	8210	Monarch	C	1.0	213	5.4	118	1279	550	20	<10	8	15500	130	<100	692	4.4			<5
411-2	8211	Monarch	C	0.5	436	10.1	93	4829	820	15	<10	11	>20000	120	<100	118	4.3			<5
411-2	8212	Monarch	Rep		19	3.5	137	414	450	11	<10	<5	>20000	250	<240	2300	3.4			<5
411-2	8215	Monarch	G		663	0.7	4	41	110	2	<10	14	2400	120	<100	11	4.9			<5

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
6645		708	1790		<220	<2.0	<2	<97.0		<0.5	41	<1.5	<1.3	<3.6	<2.4	<57			MD,	qz sulf vein w/cp, gn
6217		5.2	2.1		<10	1.4	20	37		0.5	2	<0.2	1	7.3	2.8	110			UW	<3% dissem sulf
6218		6	1.8		<10	0.7	21	38		<0.5	3	<0.2	1	6.6	3.5	89			UW	<3% dissem sulf
6219		8.2	1		<10	2.1	21	29		0.6	<2	<0.2	1.1	6.8	3.4	110			UW	alt gd w/ dissem sulf
6220		6.2	1.4		<10	1.8	18	33		<0.5	2	0.2	0.8	5.7	3	110			UW	alt gd w/ dissem and banded sulf
6221		2.7	2		<10	1.7	22	41		0.6	3	<0.2	0.7	6.2	2.2	100			UW	alt gd w/ dissem sulf
6856		2.7	3.2		<10	0.9	18	33		<0.5	2	0.2	0.7	5.9	2.6	100			UW	chl alt gd w/ py
6855		9.3	10.2		<10	0.8	21	36		0.5	2	<0.2	0.8	6.8	3	110			UW	chl alt gd w/ py
6854		6.5	6.6		<10	2.3	18	31		<0.5	2	<0.2	<0.5	7	3.1	140			UW	gd w/ py
6853		3.6	10		<10	1.7	17	33		<0.5	2	0.2	1	5.6	2.6	140			UW	gd w/ py
6852		11	39.8		<10	1.1	17	25		<0.5	3	0.3	0.7	5.2	2.5	140			UW	gd w/ dissem py
6632		14	30.9		<10	1	15	31		<0.5	<2	<0.2	0.8	5	3.9	150			UW,	qz lens/vein
6631		27	51.1		<10	1.5	17	25		<0.5	4	<0.2	0.9	5.5	5.9	140			UW,	sheared, alt gd
6633		11	16.8		<10	1.3	18	32		<0.5	2	<0.2	0.7	6.6	2.7	150			UW,	shear zone w/qz stringers
6534		484	>3000		<660	<5.6	<6	<260		<2.5	<148	<4.9	<3.6	<10.0	<8.5	<3200			UW,	qz vein w/gn, sl, cp and py
5948		<3350	>3000		<1600	<15	<28	<510		<6.6	<447	<17	<9.3	<25	<25	<8800			UW,	qz vein w/gn, py, cp
6634		>10000	>3000		<430	<3.5	22	<160		<1.7	<93	<3.0	<2.5	<6.2	<7.8	<110			UW,	qz sulf vein w/gn, py
6635		407	706		<83	<0.5	6	<34.0		<0.5	<12	0.7	1.1	<1.3	<0.9	47			UW,	qz sulf vein w/gn, py
6636		44	127		<10	<0.5	9	13		<0.5	3	0.4	<0.5	2.7	2.4	110			UW,	shear zone w/qz, gn, py
6637		210	338		<41	<0.5	6	<17.0		<0.5	8	0.7	<0.5	1.7	0.7	<14			UW,	qz sulf vein w/gn, py
6638		51.9	62.4		<10	1.4	15	30		<0.5	2	0.2	0.6	5.5	2.5	230			UW,	alt gd w/qz
6639		>10000	>3000		<920	<7.0	<14	<350		<3.5	<244	<6.4	<5.0	<13.0	<16.0	<230			UW,	qz sulf vein w/gn, py
6039		78.9	213		<38	<0.5	6	<20.0		<0.5	<2	<0.2	<0.5	1.9	1.6	51			UW,	qz vein w/8% sulf (gn, py, ml)
6038		221	570		<76	<0.5	<2	<35.0		<0.5	<7	<0.5	<0.5	<1.3	<0.7	<21			UW,	qz vein w/10-15% sulf (gn, py)
6037		992	2820		<360	<3.3	13	<160		<1.6	<40	2.5	2.2	<6.1	<3.4	<92			UW,	qz vein w/7% sulf (gn, py)
6035		328	987		<130	<1.2	12	<57.0		<0.5	<23	<0.8	<0.5	5.4	<1.2	<35			UW,	qz vein w/5% sulf (gn, py, ml)
6036		54.1	165		<10	1.2	22	43		<0.5	6	0.5	0.5	7.2	3.2	250			UW,	qz stringers in alt gd
6640		32	95.8		<10	<0.5	8	<5.0		<0.5	<2	<0.2	<0.5	2.9	2.7	79			UW,	qz sulf vein w/py, gn
6641		282	654		<82	<0.5	13	<35.0		<0.5	<12	0.6	<0.5	3.9	2.6	120			UW,	qz sulf vein w/py, gn
6642		1650	>3000		<420	<3.7	13	<180		<1.8	<87	7	<2.5	<8.4	<4.5	<110			UW,	qz sulf vein w/py, gn
6643		22	49.8		<10	1.7	15	32		<0.5	2	0.3	0.6	5.4	2.2	180			UW,	gd w/qz stringers
6644		<0.5	13.5		<29	0.5	4	<15.0		<0.5	<2	0.6	<0.5	<0.6	<0.2	33			UW,	qz sulf vein w/py, gn
6043		22	54.2		<10	<0.5	5	10		<0.5	<2	<0.2	<0.5	1.9	2.5	33			UW,	qz vein w/gouge sulf
6044		123	396		<64	<0.5	10	<31.0		<0.5	<4	<0.5	<0.5	3.1	2.9	83			UW,	qz vein w/msv sulf band
6042		416	1190		<160	<1.5	9	<70.0		<0.5	<30	<1.0	<0.5	<2.6	<1.5	99			UW,	qz vein fw gouge zone
6041		11	64.3		<10	<0.5	5	<5.0		<0.5	2	<0.2	<0.5	1.6	1.8	45			UW,	qz vein w/3% sulf along shear
6040		11	23.3		<10	0.9	16	25		<0.5	3	0.2	0.6	4.4	3	150			UW,	sil gouge w/3-4% sulf (gn, py, cp)
8213		1	1.6		<10	<0.5	6	15		<0.5	<2	<0.2	<0.5	1.8	1.4	72			TP,	qz vein in gd, w/ very minor gn, py
8214		6	2.1		<10	1.7	14	29		<0.5	<2	0.3	<0.5	3.9	2.6	170			TP,	qz vein in shear in gd
8454		1.2	1.1		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.4	0.6	12			TP,	qz + ar
8455		506	1.2		<10	1.3	7	<5		<0.5	<2	<0.2	<0.5	2.2	2.1	81			MD,	gd w/ py, mo
8209		<0.5	3.3		<10	1.5	15	23		<0.5	2	0.5	<0.5	3.5	2.9	120			UW,	sheared, alt gd w/ minor cp, gn, py & scheelite
8210		4.3	10.4		<10	1.2	15	34		<0.5	<2	<0.2	0.5	4.5	3.8	150			UW,	sheared, alt gd w/ gn, scheelite & py
8211		6.8	6.5		<10	1.2	14	23		<0.5	<2	<0.2	<0.5	3.8	2.7	130			UW,	sheared, alt gd w/gn, scheelite, sl
8212		<0.5	4		<26	0.6	6	<14		<0.5	<2	0.5	<0.5	<0.5	1.6	65			MD,	qz veins hosted by sheared gd w/barite, gn
8215		91.7	4.7		<10	1.5	17	36		<0.5	<2	<0.2	0.8	5.2	3.3	220			MD,	alt gd w/ py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
411-2	8453	Monarch	C	0.8	6	0.7	64	265	430	2	<10	6	2500	71	<100	17	3.2			<5
412-1	5972	Olympia No. 8 adit	C	0.2	16	1	46	58	<100	6	<10	15	3900	160	<100	10	4			<5
412-1	5973	Olympia No. 8 adit	C	1.4	14	1.9	233	217	520	4	<10	24	2400	34	<100	10	5.5			<5
412-1	5974	Olympia No. 8 adit	SC	6.10@0.3	7	0.4	170	20	110	5	<10	28	4600	40	<100	4	6.8			<5
412-1	6571	Olympia No. 9 adit	C	0.1	20	1.3	12	58	130	2	<10	9	2400	290	<100	23	2.5			<5
412-1	6572	Olympia No. 9 adit	C	0.9	34	0.7	47	233	110	4	<10	9	2600	170	<100	6	3.8			<5
412-1	6573	Olympia No. 9 adit	C	0.9	13	0.7	79	30	<100	7	<10	5	1400	280	<100	6	1.8			<5
412-1	6574	Olympia No. 9 adit	C	1.2	69	1.4	50	252	210	<1	<10	26	1200	68	<100	12	>10			<5
413-1	5975	Judy-Ronnie	C	0.8	20	2.1	19	77	<100	6	<10	<5	290	450	<100	3	0.8			<5
413-1	5976	Judy-Ronnie	CC	0.9	15	0.4	42	90	100	6	<10	<5	690	410	<100	4	1.1			<5
413-1	5977	Judy-Ronnie	C	3.7	44	4.4	133	118	150	3	<10	8	850	400	<100	8	2.3			<5
413-1	6575	Judy-Ronnie	C	0.4	14	0.6	25	40	100	3	12	6	1600	390	<100	16	2.2			<5
413-1	6576	Judy-Ronnie	C	0.1	154	25.6	1183	**3.61** *	380	56	<10	7	990	340	<100	244	2.3			<5
413-1	6577	Judy-Ronnie	Rep	0.3	14	1	92	180	280	5	<10	9	3100	36	<100	16	3.6			<5
414-1	5949	Olympia No. 6	CC	0.2	138	**72.69** *	845	4554	1400	4	<10	7	680	480	<100	10	2.1			28
414-1	5951	Olympia No. 6	C	0.2	1785	**1501** *	2981	8681	50000	10	<74	<5	740	530	<1200	65	1.1			760
414-1	6535	Olympia No. 6	C	0.6	8209	**183.8** *	**2.31**	6885	1500	4	<10	8	330	270	<100	5	4.4			46
414-1	5950	Olympia No. 6	CC	0.3	42	**47.31** *	438	445	<100	2	<10	<5	140	480	<100	1	0.4			<5
414-1	5952	Olympia No. 5	C	0.2	28	5.3	59	273	770	3	<10	9	2000	300	<100	47	2.9			12
414-1	6536	Olympia No. 6	C	0.2	155	**49.71** *	2314	328	240	3	<10	<5	320	370	<100	62	1.4			6
414-1	6537	Olympia No. 6	C	0.3	5276	**584.2** *	5829	8048	830	8	<39	44	1000	320	<730	28	8.5			<26
414-1	6538	Olympia No. 6	C	0.3	593	24.2	1321	1787	6400	11	<10	9	2800	400	<510	10100	2.5			<23
414-1	6539	Olympia No. 5	S		2730	**1670** *	17210	**14.95** *	6400	<9	<70	23	790	450	<1200	89	5.6			140
415-1	5953	Starboard No. 3	C	1.1	259	18.8	225	893			<10	8	5490	430	<100		3.5			13
415-1	5954	Starboard No. 3	C	0.8	514	**136.1** *	767	**1.74** *		13	<10	<5	4900	480	<270	290	2.6			13
415-1	6540	Starboard No. 1	C	0.9	460	**137.8** *	251	1715	250	16	11	<5	2100	370	<100	39	1			<5
415-1	6541	Starboard No. 1	S		2265	**125.8** *	1205	**2.05** *	510	11	15	<5	350	530	<100	7	1			15
415-1	6542	Starboard No. 2	C	0.5	37	4.5	69	1069	140	2	13	6	560	360	<100	6	1.4			<5
415-1	6543	Starboard No. 2	C	0.3	481	24.4	115	9820	130	30	<10	6	1600	390	<100	7	2.2			<5
415-1	6544	Starboard No. 2	C	0.9	163	15.4	44	571	220	66	<10	<5	810	520	<100	5	1.1			<5
416-1	5978	Silver Point	C	0.4	2534	**1629** *	2860	**5.24** *	58800	<20	<85	<12	990	420	<1200	<380	2.2			430
416-1	5979	Silver Point	C	0.2	18	7.5	174	979	2300	4	130	82	2300	640	<100	177	>10			<5
416-1	5980	Silver Point	C	0.2	3500	**2027** *	3669	**7.71** *	4500	<31	<91	<14	<1000	<380	<1500	<470	1.5			<200
416-1	5981	Silver Point	C	0.5	3134	**4750** *	12500	**11.98** *	54200	<84	<210	<29	<1200	<550	<3200	<2170	<3.3			<460
416-1	5982	Silver Point	CC	0.6	2233	**1407** *	2380	**3.00** *	810	<15	<50	<5	<280	<340	<740	<310	<1.4			<110
416-1	5983	Silver Point	C	0.2	21	16.5	99	501	210	3	11	11	170	440	<100	60	2.3			<5
416-1	5984	Silver Point	S		17	22.7	32	5933	6200	13	11	<5	<50	500	<100	16	0.9			110
416-1	6578	Silver Point	C	0.6	9	2.7	37	246	320	5	25	18	510	410	<100	74	3.3			<5
416-1	6579	Silver Point	C	0.7	48	1.5	26	71	220	4	21	20	530	370	<100	28	3.1			<5
416-1	6580	Silver Point	CC	0.1	150	12.6	178	180	190	12	<10	9	280	350	<100	1390	2.1			<5
416-1	6581	Silver Point	C	1.2	50	8.1	61	249	840	2	41	31	1200	270	<100	44	6.6			10
416-1	6582	Silver Point	S	0.1	52	34.1	14	**2.03** *	17300	13	<10	<5	<50	410	<100	7	0.9			300
416-1	6583	Silver Point	Rep	0.9	19	0.2	13	45	140	3	17	9	490	390	<100	2	3.2			<5
417-1		New W		See Table A-4																
418-1	5499	Riverside, Lindenborg Vein	RC	0.6	**10.08** *	44.7	66	1377		9	<10	19	850	310	<100	246	>10			<5
418-1	5500	Riverside, Lindenborg Vein	C	0.6	7352	35.2	335	8226		6	<10	15	310	400	<100	6	>10			<5

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
8453		2	3.9		<10	1.3	18	36		<0.5	2	<0.2	0.6	5.6	3.4	160			UW,	qz stringers in metagw
5972		43	2.1		<10	2.1	17	28		<0.5	<2	<0.2	0.7	5.2	2.9	150			UW,	qz pod w/inclusions of host rock
5973		22	1.9		<10	1.7	16	30		0.5	<2	<0.2	0.8	4.1	2	130			UW,	gray hn w/qz veinlets & py
5974		19	1.5		<10	1.3	29	51		1	<2	<0.2	1.6	9.5	5.5	110			UW,	gray hn w/qz veinlets & py
6571		3.2	3		<10	<0.5	9	17		<0.5	<2	<0.2	<0.5	2	0.9	58			UW,	qz stringer
6572		3.7	1		<10	1.5	15	31		<0.5	<2	<0.2	<0.5	4.5	2.2	120			UW,	qz stringer zone in gs
6573		1.9	0.9		<10	0.7	9	20		<0.5	<2	<0.2	<0.5	2.6	1.3	48			UW,	qz stringer zone w/sparse sulf
6574		17	1.2		<10	2.3	17	27		<0.5	<2	<0.2	<0.5	4.2	2.3	100			UW,	gs w/dissem py
5975		1.9	1.3		<10	<0.5	2	<5.0		<0.5	<2	<0.2	<0.5	0.4	0.3	16			OC,	msv qz vein
5976		3.8	1.6		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.6	0.4	22			TP,	qz vein in alt volc
5977		5.9	1.6		<10	0.7	7	13		<0.5	<2	<0.2	<0.5	1.3	1.2	62			TP,	qz vein/lens hosted in gs
6575		5.1	1		<10	<0.5	3	5.9		<0.5	<2	<0.2	<0.5	1	0.7	44			TP,	qz vein
6576		3.1	6.4		<10	0.7	4	13		<0.5	<2	<0.2	<0.5	1	2.3	34			TP,	qz sulf vein
6577		6.4	1.6		<10	2.8	19	36		<0.5	<2	<0.2	1.1	5.7	2.8	210			TP,	gs
5949		8.2	86.1		<10	<0.5	5	<5.0		<0.5	3	<0.2	<0.5	1.5	1.4	<200			UW,	small qz vein w/dissem sulf
5951		168	1870		<150	<1.9	9	<57.0		<0.5	<38	1.8	<1.1	<2.8	<2.4	<1000			UW,	qz vein w/dissem & banded sulf
6535		34	162		<40	<0.5	4	<17.0		<0.5	5	0.7	<0.5	1.2	1.7	<200			UW,	qz vein w/py, cp, gn, sl and ml
5950		15	235		<10	<0.5	<2	<5.0		<0.5	3	<0.2	<0.5	<0.2	<0.2	<200			UW,	qz vein along shear
5952		4.8	8.3		<10	0.8	8	15		<0.5	<2	<0.2	<0.5	1.9	1.8	<200			UW,	qz vein w/<1% dissem sulf
6536		6.3	29.8		<10	<0.5	2	<5.0		<0.5	<2	<0.2	<0.5	0.6	0.5	<200			UW,	qz vein w/blebs of py, cp, gn, sl
6537		69.8	794		<95	<1.0	6	<38.0		<0.5	<19	0.7	<0.5	<1.6	<1.3	<570			UW,	qz vein w/py, cp, sl, gn, ml
6538		4.6	38.8		<58	<0.5	11	<29.0		<0.5	<4	0.7	0.6	2.6	<1.1	510			UW,	qz vein w/py and cp
6539		95.7	1800		<150	<1.8	3	<60.0		<0.5	<38	2.1	<1.1	4.4	<2.3	<980			UW,	qz vein w/cp, sl, gn, py
5953		7.1	26.8		<10	0.6	7	18		<0.5	<2	0.3	<0.5	2.5	1.5	<200			UW,	qz vein w/sparse dissem py
5954		16	224		<33	<0.5	3	<14.0		<0.5	6	0.3	<0.5	<0.6	<0.2	<200			UW,	qz vein w/dissem gn, cp, py
6540		11	55.4		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	0.9	<200			UW,	qz vein
6541		5.4	42.5		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	2.1	<200			MD,	qz w/blebs of cp, sl, gn, py
6542		3.2	2.5		<10	<0.5	4	8.9		<0.5	<2	<0.2	<0.5	1.3	0.5	<200			UW,	qz vein
6543		6.6	5.4		<10	1.1	7	16		<0.5	<2	<0.2	<0.5	2	1.2	<200			UW,	qz vein and fault gouge
6544		3.9	4.7		<10	<0.5	<2	5		<0.5	<2	<0.2	<0.5	0.6	0.4	<200			UW,	qz vein
5978		<1590	>3000		<210	<2.2	<49	<51.0		<1.1	<14	<3.1	<1.4	<2.7	<6.1	<56			TP,	shear zone w/min qz, gouge
5979		91.4	53.6		<10	3.2	18	31		<0.5	<2	<0.2	0.6	3.1	1.7	120			TP,	fault gouge above vein in 5978
5980		<2130	>3000		<250	<2.4	<28	<64.0		<1.1	<22	<1.9	<1.7	<3.3	<7.8	<64			TP,	qz vein w/msv gn, minor cp, ml
5981		<3060	>3000		<550	<5.4	<38	<140		<2.6	<39	<4.1	<3.6	<7.2	<18.0	<140			TP,	qz vein w/gn & minor cp, sl, py
5982		<876	2510		<130	<1.3	<37	<30.0		<0.5	<9	<0.9	<0.5	<1.6	<3.9	<36			TP,	qz vein w/msv gn minor py
5983		8.5	39.8		<10	<0.5	<2	<5.0		<0.5	<2	0.2	<0.5	0.6	0.4	5			TP,	qz vein and gouge in gray hn
5984		7.9	32.3		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			RC,	qz rubble w/gn, sl
6578		5.1	12.3		<10	1.6	6	<5.0		<0.5	<2	<0.2	<0.5	1	1.2	49			UW,	qz sulf vein in shear zone
6579		13	21		<10	0.6	11	15		<0.5	<2	<0.2	<0.5	1.4	1	47			UW,	qz sulf vein & sheared gs
6580		1	17.1		<10	0.5	4	<5.0		<0.5	<2	0.6	<0.5	<0.2	1.1	17			UW,	qz sulf vein w/py, gn, sl
6581		8.5	15.1		<10	1.7	12	22		0.5	<2	<0.2	<0.5	2	2.1	110			UW,	black-gray metavolc
6582		6.5	57.7		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			TP,	qz, sl, gn vein
6583		4	2.9		<10	0.9	3	8.6		<0.5	<2	<0.2	<0.5	0.7	0.4	19			TP,	qz vein
See Table A-4																				
5499		73	5.9		<10	0.8	4	13		<0.5	<2	<0.2	<0.5	1.1	1.4	<200			UW,	qz sulf vein
5500		19	34.5		<10	<0.5	3	<5.0		<0.5	<2	0.2	<0.5	0.7	1.4	<200			UW,	qz sulf vein w/py, gn, sl

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
418-1	5921	Riverside, Lindenborg Vein	S		**9.39** *	**382.6** *	3400	**19.42** *	9600	6	<21	12	160	270	<300	625	>10			220
418-1	5922	Riverside, Lindenborg Vein	S		1621	21.6	390	8921	280	5	<10	14	4600	190	<100	1130	9.2			12
418-1	6007	Riverside, Lindenborg Vein	C	0.5	103	1.6	26	301	<100	6	<10	<5	>20000	330	<100	10	2.1			<5
418-1	6008	Riverside, Lindenborg Vein	C	0.4	1377	27.2	70	**1.84** *	<100	6	<10	7	11300	250	<100	155	4.1			10
418-1	6009	Riverside, Lindenborg Vein	C	1.7	5779	35.4	887	**1.40** *	130	10	<10	<5	9080	350	<200	776	2.8			<5
418-1	6178	Riverside, surface trenches	C	0.3	521	6.6	773	651	40	3	11	12	510	640	<100	4	6.4			<5
418-1	6179	Riverside, Top adit	C	1.5	408	19.5	278	4977	201	4	<10	12	2400	130	<100	8	4.6			8
418-1	6180	Riverside, Top adit	C	0.5	1609	8.6	347	1730	123	1	<10	6	2100	120	<100	19	4			<5
418-1	6181	Riverside, Top adit	C	0.9	**26.74** *	**235.2** *	7914	6.63	11524	6	<10	10	1500	260	<100	25	7			390
418-1	6204	Riverside, Top adit	C	0.9	5685	**170.1** *	2429	**10.97** *	2313	6	<10	15	>20000	270	<240	799	7.1			180
418-1	6205	Riverside, Top adit	C	0.8	**12.86** *	**320.2** *	7616	**5.08** *	3581	4	<10	9	810	300	<240	180	>10			120
418-1	6206	Riverside, Top adit	C	0.5	1204	**148.1** *	5724	**5.09** *	618	5	<10	12	2200	130	<100	129	6.2			44
418-1	6501	Riverside	RC		19	0.6	65	52	130	5	11	6	3500	230	<100	14	3.7			<5
418-1	6592	Riverside	G		8802	**310.3** *	5450	**14.68** *	3900	16	<22	12	1600	300	<260	1060	>10			86
418-1	6593	Riverside	G		**13.61** *	**240.3** *	3748	**8.05** *	5600	23	<24	11	3800	260	<300	3620	8			110
418-1	6594	Riverside	G		597	8.6	208	2220	220	5	<10	8	2200	230	<100	318	5.8			<5
418-1	6793	Riverside, surface trenches	C	0.3	8859	**320.9** *	6157	**4.88** *	5154	<10	<23	12	2200	320	<300	1140	5			150
418-1	6794	Riverside, surface trenches	Rep		**11.28** *	**135.8** *	7230	4289	649	<5	32	48	320	330	<200	87	>10			<11
418-1	6795	Riverside, Top adit	C	1.7	260	48.1	262	9866	93	6	<10	5	1500	290	<100	11	4.1			27
418-1	6796	Riverside, Top adit	C	1.1	566	**180.7** *	229	**12.51** *	67	37	<10	8	1500	300	<100	25	4.3			100
418-1	6797	Riverside, Top adit	C	1.2	1601	**139.9** *	7665	**5.43** *	331	9	<10	8	1800	440	<100	759	>10			67
418-1	6834	Riverside, Top adit	C	1.2	111	**76.46** *	209	6257	43	22	<10	6	1400	310	<100	10	6.6			15
418-1	6835	Riverside, Top adit	C	1.3	7051	**242.7** *	4298	**11.60** *	138	5	<10	7	2200	230	<240	1350	3.7			68
418-1	6863	Riverside, Lindenborg Vein	Rep	1.2	1046	16.7	665	6354	79	18	<10	<5	6130	250	<100	16	2			<5
418-1	6864	Riverside, Lindenborg Vein	C	0.3	6882	**283.5** *	5105	**16.12** *	309	7	<10	<5	2400	120	<100	61	5			82
418-1	8438	Riverside, Lindenborg Vein	C	1.7	1400	8.9	295	2835	160	11	<10	13	2200	92	<100	695	>10			<5
418-1	8439	Riverside, Lindenborg Vein	C	0.7	2597	6.4	194	986	<100	11	<10	12	3600	110	<100	121	>10			<5
418-2	5923	Riverside, Ickis Vein	C	0.9	6156	2.9	38	915	<100	2	<10	<5	85	510	<100	7	1.5			<5
418-2	5985	Riverside, Ickis Vein	C	0.1	894	2.8	94	95	<100	4	<10	9	170	360	<100	7	2.3			<5
418-2	5986	Riverside, Ickis Vein	CC	0.2	163	1.1	15	55	<100	5	<10	<5	79	460	<100	8	1.1			<5
418-2	5987	Riverside, Ickis Vein	CC	0.1	**13.51** *	13.8	61	6794	110	29	<10	21	>20000	250	<100	13200	6			<33
418-2	5988	Riverside, Ickis Vein	C	0.5	32	0.9	89	69	200	2	<10	8	2300	110	<100	38	4.8			<5
418-2	5989	Riverside, Ickis Vein	C	0.6	18	0.8	30	91	200	3	<10	8	1900	130	<100	86	4			<5
418-2	5990	Riverside, Ickis Vein	C	1.4	66	1.3	234	105	170	4	<10	8	240	420	<100	31	3.6			<5
418-3	6502	Riverside, Cross Vein	C	0.6	6153	40.3	274	8458	300	4	<10	<5	480	500	<100	8	5			7
418-3	6584	Riverside, Cross Vein	C	0.3	7721	**129.3** *	7162	**2.22** *	240	7	<10	<5	550	370	<100	10	2.5			<5
418-3	6585	Riverside, Cross Vein	C	0.2	870	2.2	37	330	100	7	<10	<5	1800	340	<100	298	1.4			<5
418-3	6586	Riverside, Cross Vein	C	0.5	664	12.7	82	4684	160	12	<10	7	2100	220	<100	381	4.2			<5
418-3	6587	Riverside, Cross Vein	C	0.4	1279	**67.89** *	19	**3.36** *	<100	7	<10	<5	420	400	<100	65	2.1			<5
418-3	6588	Riverside, Cross Vein	C	0.5	116	6.6	131	2265	320	8	<10	9	1700	190	<100	91	4			<5
418-3	6589	Riverside, Cross Vein	C	1.0	403	5.9	84	1529	110	3	<10	9	450	410	<100	12	4.1			<5
418-3	6590	Riverside, Cross Vein	C	0.6	566	28	33	**1.21** *	200	57	<10	<5	>20000	480	<100	22	1.7			<5
418-3	6591	Riverside , Cross Vein	C	0.6	384	3.8	120	1476	120	5	<10	10	9510	330	<100	8	3.4			<5
419-1	6171	Jarvis Vein	C	0.4	15	1.3	167	420	170	6	<10	<5	>20000	420	<100	4	1.5			27
419-1	6172	Jarvis Vein	S		509	**758.7** *	102	**47.84** *	**3.13** *	<4	<33	46	280	160	<340	563	4			1470
419-1	6173	Jarvis Vein	C	0.5	154	30.8	333	9010	15677	3	<10	<5	450	490	<100	52	2.1			460

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description	
5921		30	395		<37	<0.5	6	<17.0		<0.5	<9	0.5	<0.5	<0.7	<0.7	<200			MD,	qz rubble w/cp, gn, py
5922		17	12.1		<10	<0.5	15	16		<0.5	3	0.5	0.8	4.3	3.3	<200			MD,	gs w/py, qz and gn
6007		1.3	1.9		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	0.3	5			UW,	qz vein w/banded sulf
6008		5.9	31		<10	<0.5	7	<5.0		<0.5	<2	<0.2	<0.5	2.2	2.4	67			UW,	qz vein w/10% sulf (py, gn)
6009		2.8	18.5		<21	<0.5	2	<13.0		<0.5	<2	0.5	<0.5	<0.4	1	27			TP,	qz vein w/5-10% sulf (gn, py)
6178		48	6.7		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	1.6	<5			OC	qz vein
6179		2.9	17.1		<10	0.9	19	31		<0.5	2	<0.2	0.7	6.2	4.4	140			UW	alt gd w/ qz stringers & sulf
6180		3.1	5.7		<10	0.9	17	29		<0.5	<2	<0.2	0.7	6.5	4.9	140			UW	gd sc w/ qz stringers and sulf
6181		11	53.8		<10	<0.5	8	10		<0.5	<2	<0.2	<0.5	2.1	5.1	67			UW	alt gd, qz along shear w/ sulf
6204		19	172		<25	<0.5	6	<15		<0.5	5	0.3	<0.5	<0.7	2.9	32			UW	qz vein,alt gd,sulf in shear
6205		28	197		<25	<0.5	6	<16		<0.5	<2	0.4	<0.5	2.5	1.7	27			UW	qz vein,banded gn,py along shear
6206		17	113		<10	1	18	31		<0.5	3	<0.2	0.5	5	9.4	120			UW	qz vein, alt gd, gn, py in shear
6501		3.8	1.8		<10	1.2	15	32		<0.5	2	0.3	<0.5	6	3	<200			UW,	gs w/qz stringers and py
6592		30	332		<29	<0.5	9	<21.0		<0.5	5	1.2	<0.5	<0.9	1.5	47			TP,	pea-sized qz gravel
6593		20	242		<30	<0.5	9	<23.0		<0.5	4	2.2	<0.5	<1.1	2.9	44			TP,	fines from ball mill
6594		12	11.5		<10	1.4	14	18		<0.5	<2	0.4	0.5	3.2	2.1	69			MT,	tailings
6793		15	277		<36	<0.5	10	<13		<0.5	<2	0.5	<0.5	2.7	1.2	77			TP	qz vein w/ gn,sl,cp and py
6794		24	110		<30	<0.5	<2	<13		<0.5	<2	<0.3	<0.5	<0.5	3.1	<14			RC	pale yellow py
6795		5.1	26.2		<10	<0.5	10	10		<0.5	<2	<0.2	<0.5	3.2	3.3	71			UW	shear w/ qz,gn,sl,py
6796		19	181		<10	<0.5	10	<5		<0.5	3	<0.2	<0.5	2.9	3.6	77			UW	shear w/ sc inclusion,qz,sulf
6797		13	116		<10	<0.5	8	<5		<0.5	2	<0.2	<0.5	1.6	5.3	54			UW	qz sulf vein in shear zone
6834		5.5	16.7		<10	<0.5	9	12		<0.5	<2	<0.2	<0.5	2.1	2.2	55			UW	qz sulf vein w/ po,py,cp,sl,gn
6835		29	207		<27	<0.5	12	<14		<0.5	<2	0.3	<0.5	1.3	2.5	66			UW	qz sulf vein w/ gn,sl,py,po,cp
6863		5	15.4		<10	0.7	7	<5		<0.5	<2	<0.2	<0.5	2.4	2.5	64			UW	sheared chl alt gd w/ 4% sulf
6864		47	275		<10	<0.5	12	25		<0.5	<2	0.3	<0.5	3.2	3.5	60			UW	qz-sulf vein w/ sulf
8438		12	8.6		<10	1	14	21		0.6	<2	0.2	0.5	4.7	3.9	200			UW,	qz zone w/sulf
8439		8.5	4		<10	0.7	14	10		<0.5	<2	<0.2	<0.5	5.4	7.9	140			UW,	qz zone w/sulf
5923		12	3.2		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	0.8	<200			UW,	qz vein w/sparse dissem py
5985		2.3	5.6		<10	<0.5	2	<5.0		<0.5	<2	<0.2	<0.5	1.1	6.2	15			UW,	qz vein w/little dissem py
5986		1.4	2.5		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	0.3	5			UW,	qz vein in sil gd
5987		<2.5	6.7		<10	<0.5	11	17		1.1	<2	<0.3	<0.5	1.7	6.4	29			UW,	qz vein w/banded gn, py, scheelite
5988		0.5	1.8		<10	2	20	45		<0.5	<2	<0.2	0.6	5.8	2.1	120			UW,	alt gd
5989		<0.5	1.6		<10	1.1	17	31		<0.5	<2	<0.2	0.8	6.1	2.6	100			UW,	gd
5990		1	1.7		<10	<0.5	2	<5.0		0.5	2	0.4	<0.5	0.8	1.2	7			UW,	qz vein w/gn, py, cp
6502		12	39.4		<10	<0.5	4	12		<0.5	<2	0.4	<0.5	<0.2	<0.2	<200			UW,	qz sulf vein (py, aspy, gn, sl)
6584		8.1	80.4		<10	<0.5	5	<5.0		<0.5	<2	<0.2	<0.5	1.3	1.9	27			UW,	qz sulf vein w/py, cp, gn, sl
6585		3.7	3.6		<10	<0.5	3	<5.0		<0.5	<2	<0.2	<0.5	0.8	0.7	29			UW,	qz sulf vein w/sparse sulf
6586		5.5	13.3		<10	1.4	15	28		<0.5	<2	0.3	<0.5	4.8	2.8	100			UW,	sil di w/sulf
6587		13	69.5		<10	<0.5	4	<5.0		<0.5	<2	<0.2	<0.5	<0.2	1.3	16			UW,	qz sulf vein w/py, gn, sl
6588		3.7	6.9		<10	<0.5	17	32		0.6	<2	<0.2	<0.5	5.3	5.1	98			UW,	sil di w/sulf
6589		4.1	3.3		<10	<0.5	7	15		<0.5	<2	<0.2	<0.5	1.2	1.9	32			UW,	qz sulf vein w/py, sl, gn, cp
6590		13	26.4		<10	<0.5	<2	<5.0		<0.5	<2	0.3	<0.5	0.6	2.4	<5			UW,	qz vein w/py, sl, gn
6591		1.2	3.1		<10	0.6	8	<5.0		<0.5	<2	<0.2	<0.5	2.3	4.3	49			UW,	qz sulf vein w/py, sl, gn
6171		3.1	3.3		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	0.8	<0.2	14			TP	qz vein in gd
6172		53.4	839		<57	<0.5	8	<16		<0.5	<12	0.5	<0.5	<0.8	<1.2	<21			OC	gossanous qz vein w/ msv sulf
6173		5.2	28.2		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	0.6	0.9	13			OC	qz vein w/ py,cp, alt gray sulf

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
419-1	6174	Jarvis Vein	C	0.9	52	11.4	23	7890	494	3	<10	<5	650	620	<100	20	2			25
419-1	6175	Jarvis Vein	C	0.2	9	0.5	83	226	56	7	<10	<5	>20000	510	<100	4	1.3			39
419-1	6787	Jarvis Vein	C	0.4	3792	**329.1** *	885	**16.10** *	**7.89** *	<6	<34	13	<110	380	<290	7	3.7			2000
419-1	6788	Jarvis Vein	C	0.4	6729	**137.5** *	711	**8.65** *	**21.06** *	<5	<51	10	<120	180	<250	7	6.1			2000
419-1	6789	Jarvis Vein	C	0.4	151	6.1	41	3462	1918	1	10	<5	180	520	<100	3	1.1			40
419-1	6790	Jarvis vein	C	0.2	161	7	232	4839	8729	2	<10	6	930	470	<100	4	3.2			450
420-1	6176	Last Shot adit	Rep	0.2	204	**1502** *	7606	**23.85** *	9406		<41	14	520	200	<490	<60	>10			170
420-1	6177	Last Shot vein	Rep	1.2	<5	9.5	86	1648	89	3	<10	<5	230	540	<100	1	0.5			<5
420-1	6791	Last Shot vein	C	0.3	2068	**1239** *	**3.21** *	**29.87** *	**2.29** *	<10	<35	<5	<160	260	<370	<62	5.3			753
420-1	6792	Last Shot vein	C	0.7	186	10.4	271	2400	264	3	11	5	1100	310	<100	18	3.6			6
421-1	6003	Six Mile, N adit	CC	0.1	167	4.6	229	234	130	24	<10	8	4100	320	<100	12	2.6			<5
421-1	6004	Six Mile, N adit	CC	0.2	1312	8.5	410	1420	850	48	14	6	510	340	<100	37	3.1			<5
421-1	6005	Six Mile, N adit	CC	0.4	3771	**195.8** *	700	**2.89** *	1100	144	<10	<5	>20000	330	<220	2100	3.9			<11
421-1	6609	Six Mile, S adit	C	0.1	357	14.2	153	4190	140	257	<10	7	2000	320	<100	168	5.1			<5
421-1	6610	Six Mile, S adit	CC	0.1	1349	**78.17** *	626	**2.33** *	130	1400	<10	<5	190	460	<100	165	3			<5
421-1	6611	Six Mile, S adit	C	0.1	1039	33.1	154	**1.54** *	<100	2520	<10	7	300	340	<100	333	2.4			<5
421-1	6786	Six Mile adits	Rep	0.3	39	1.6	89	335	56	2	<10	8	890	290	<100	8	2.3			<5
422-1		Bishop		No Samples Taken																
423-1	5955	Onlione	C	0.2	**10.60** *	**826.3** *	1019	**12.2** *	1600	<830	<44	<5	1000	330	<830	48	2.9			52
423-1	5956	Onlione	CC	0.2	651	**153.6** *	569	5941	9200	<100	<10	5	330	300	<100	12	1.6			130
423-1	5957	Onlione	C	0.2	53	11.7	10	2876	340	<100	<10	<5	2400	150	<100	7	1.2			<5
423-1	5958	Onlione	Rep	2.2	54	17.4	136	823	750	<100	<10	14	2600	92	<100	21	6.5			<5
423-1	6545	Onlione	C	0.2	1373	**136.1** *	790	7210	5900	8	<10	19	2000	160	<100	68	5.8			120
423-1	6546	Onlione	C	0.2	4065	**445.0** *	4752	**1.94** *	14100	7	<27	8	690	300	<410	158	5.6			210
423-1	6547	Onlione	C	0.6	137	**48.00** *	539	2970	790	17	<10	21	1900	140	<100	30	5.8			6
423-1	6548	Onlione	C	0.3	186	38.3	297	2390	1600	4	<10	17	2400	91	<100	25	6.1			25
423-1	6549	Onlione	C	0.3	177	15.3	175	1560	1400	23	<10	28	2600	73	<100	34	6.9			19
423-1	6550	Onlione	Rep	0.3	38	3.4	34	133	350	3	<10	11	1300	180	<100	12	3.1			6
423-1	6551	Onlione	C	0.4	196	27.1	145	1459	3600	113	<10	18	1400	120	<100	18	6.2			58
424-1	6555	Ruby Silver	C	0.2	35	1.3	25	208	400	4	<10	<5	130	580	<100	2	0.8			<5
424-1	6556	Ruby Silver No. 1	C	0.5	569	6.2	57	222	190	12	13	<5	1900	290	<100	9	1			<5
424-1	6557	Ruby Silver No. 1	C	1.0	6	0.8	22	101	180	7	<10	<5	1200	290	<100	66	1.4			<5
424-1	6558	Ruby Silver No. 1	C	0.9	23	3	44	278	690	5	<10	7	2200	170	<100	6	3.6			11
424-1	6559	Ruby Silver No. 1	C	1.0	64	1.1	45	229	590	32	<10	<5	1800	180	<100	11	1.8			7
424-1	5961	Ruby Silver No. 2	CC	1.1	33	4.3	44	526	950	47	<10	<5	980	200	<100	2	1.1			17
424-1	5962	Ruby Silver No. 2	CC	0.5	3655	**89.83** *	468	985	6400	29	15	21	210	360	<100	6	3.9			120
424-1	5963	Ruby Silver No. 2	C	1.1	109	3.8	97	355	870	24	<10	6	850	240	<100	5	2			15
424-1	5964	Ruby Silver No. 2	CC	0.2	875	25.8	215	4752	4600	91	24	10	700	300	<100	15	3.2			100
424-1	5959	Ruby Silver No. 3	CC	0.1	356	13.7	335	1022	2000	6	<10	9	720	250	<100	2	3			44
424-1	5960	Ruby Silver No. 3	CC	0.1	15	2	56	84	1200	12	<10	<5	490	360	<100	3	1.4			30
424-1	6552	Ruby Silver No. 3	C	1.1	493	37.9	199	1812	4300	5	43	24	970	120	<100	13	7.8			66
424-1	6553	Ruby Silver No. 3	C	0.2	924	**54.17** *	392	2342	2500	4	<10	7	240	370	<100	5	2.8			45
424-1	6554	Ruby Silver No. 3	C	0.7	1509	26.3	136	5921	16300	22	29	24	1300	69	<100	7	5.9			200
424-1	5965	Ruby Silver, trench	C	0.7	33	1.2	56	106	280	8	29	7	1700	190	<100	9	3.2			<5
424-1	5966	Ruby Silver, trench	C	1.1	195	6.7	108	278	260	13	<10	<5	1200	170	<100	15	2.1			<5
424-1	6560	Ruby Silver, trench	C	0.6	167	12.6	156	523	570	30	<10	<5	920	370	<100	10	2.7			6

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
6174		7.5	13.9		<10	<0.5	4	7.8		<0.5	<2	<0.2	<0.5	2	1.2	40			OC	qz br zone
6175		4.2	1.2		<10	0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.9	<0.2	18			TP	qz vein w/ py hosted in gd
6787		30	333		<35	<0.5	3	<12		<0.5	7	<0.2	<0.5	1.5	<0.6	<16			TP	qz vein w/ gn,py,sl,cp
6788		95.6	138		<35	<1.1	<2	<14		<0.5	<4	<0.2	<0.5	<0.7	1.5	17			TP	qz vein w/ gn,py,sl
6789		4.1	5.2		<10	<0.5	2	<5		<0.5	<2	<0.2	<0.5	1.2	2.3	11			TP	qz vein w/ gn,sl,py,cp
6790		4.1	5.2		<10	<0.5	6	5.1		<0.5	<2	<0.2	<0.5	2	2.1	50			TP	qz vein w/ gn,sl,cp,py
6176		129	1150		<70	<0.5	3	<21		<0.5	<12	0.6	0.8	<1.2	<1.8	<28			UW	sulf ore chute in qz vein
6177		1.8	7.7		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC	msv qz vein
6791		67.3	942		<53	<0.5	9	<15		<0.5	8	<0.2	1.1	<0.9	<1.3	<24			TP	sulf vein w/ gn,cp,sl,py
6792		11	8.4		<10	0.8	18	31		<0.5	<2	<0.2	0.7	5.8	3.5	130			TP	sheared gd w/ qz stringers and py
6003		2.8	2.3		<10	<0.5	8	16		<0.5	<2	<0.2	<0.5	2.2	1.2	41			UW,	qz w/gouge
6004		37	9.4		<10	<0.5	9	11		<0.5	<2	<0.2	<0.5	3	2.7	44			UW,	shattered qz vein
6005		12	121		<21	<0.5	8	<17.0		<0.5	2	1.4	<0.5	<0.8	6.6	30			UW,	qz gouge zone hosted in gd
6609		16	2.2		<10	<0.5	7	8.8		1.4	3	0.4	<0.5	1.1	5	26			UW,	qz vein w/blebs of py
6610		91.5	4.1		<10	<0.5	5	<5.0		<0.5	<2	<0.2	<0.5	1.1	5.6	<5			UW,	qz vein w/sparse py
6611		27	3.6		<10	<0.5	3	<5.0		0.7	<2	<0.2	<0.5	0.3	8.6	<5			UW,	qz vein w/sulf
6786		51.6	1.1		<10	0.6	5	7.6		<0.5	<2	<0.2	<0.5	3.3	2.6	51			OC	qz stringer zone w/ py
No Samples Taken																				
5955		68.2	886		<120	<1.2	13	<46.0		<0.5	<13	<0.9	<0.5	<1.9	<1.7	<690			UW,	qz vein w/banded gn, dissem py
5956		28	105		<10	<0.5	5	13		<0.5	4	0.3	<0.5	2	0.7	<200			UW,	qz vein w/dissem gn, py
5957		7.2	6.2		<10	1.3	12	15		<0.5	<2	<0.2	<0.5	20.1	7.1	<200			UW,	qz gouge lens w/dissem gn, cp
5958		6.2	12.9		<10	2	23	53		0.6	4	0.5	0.8	6.8	6.2	<200			TP,	sheared gd w/sulf
6545		9.1	137		<10	2.2	23	48		<0.5	6	0.4	0.6	8.8	4.4	<200			TP,	shear zone w/qz, py, cp, sl
6546		23	457		<46	<0.5	11	<24.0		<0.5	11	0.7	<0.5	2.2	4.3	<200			TP,	shear zone w/qz, py, cp, sl, gn, mo
6547		5.8	44.8		<10	1.5	20	45		<0.5	4	0.5	0.7	6.5	3.8	<200			TP,	shear zone w/qz, cp, sl, gn, py
6548		13	36.4		<10	1.8	24	47		0.8	5	0.7	0.6	7	3.9	<200			TP,	shear zone w/qz and sulf
6549		7	24		<10	1.7	20	42		0.6	3	0.5	0.7	5.5	3.3	<200			TP,	sheared gd
6550		6.2	4.6		<10	1.3	15	24		<0.5	<2	<0.2	0.9	21.7	5.5	<200			UW,	shear zone
6551		4.9	23.5		<10	0.7	19	42		0.7	4	0.5	1	6.1	3.5	<200			UW,	shear zone w/qz and sulf
6555		2.9	2		<10	1.1	3	5		<0.5	<2	<0.2	<0.5	1.3	0.8	<200			UW,	qz vein
6556		1.8	2.3		<10	1.7	15	25		<0.5	<2	<0.2	0.6	18	3.8	<200			UW,	shear zone w/qz and sulf
6557		0.5	0.9		<10	1.8	21	41		<0.5	<2	<0.2	0.7	22.6	4.1	<200			UW,	shear w/qz stringers and sulf
6558		2.7	1.2		<10	3.5	13	30		<0.5	<2	0.2	<0.5	3.5	2.6	<200			UW,	shear zone w/qz stringers
6559		1.1	0.7		<10	1.4	19	33		<0.5	<2	<0.2	0.6	20.4	4.9	230			UW,	shear w/qz stringers
5961		2.1	1.8		<10	<0.5	20	28		<0.5	<2	<0.2	0.6	25.4	9.4	<200			UW,	qz body w/sulf
5962		8.4	23.9		<10	<0.5	6	13		<0.5	<2	<0.2	<0.5	1.4	4	<200			UW,	qz vein in alt volc
5963		2.5	2.5		<10	0.8	16	31		<0.5	<2	<0.2	1.4	21.3	16	<200			UW,	qz gouge w/sulf
5964		6.9	9.4		<10	1	11	25		<0.5	<2	<0.2	0.7	3.6	5.6	<200			UW,	qz lens
5959		8.2	7.4		<10	1.1	4	7		<0.5	<2	<0.2	<0.5	1.5	1	<200			UW,	qz vein w/dissem sulf
5960		3.4	2.6		<10	1.5	4	9.3		<0.5	<2	<0.2	<0.5	2.3	1.4	<200			UW,	qz vein w/sparse dissem sulf
6552		6.3	20.4		<10	2.1	18	29		<0.5	3	0.3	0.8	3.9	4.9	<200			UW,	shear zone w/qz stringers, sulf
6553		4.2	10		<10	1	8	22		<0.5	<2	<0.2	<0.5	1.8	11	<200			UW,	qz vein
6554		3.2	11.1		<10	1.7	19	40		0.6	3	0.3	0.8	3.8	7.5	<200			UW,	shear zone w/qz stringers
5965		2.2	1		<10	3.4	16	31		<0.5	<2	0.3	<0.5	6.6	3.5	<200			TP,	alt volc in shear zone
5966		10	2.4		<10	1.6	16	34		<0.5	<2	<0.2	1.3	11	7.6	<200			TP,	qz vein in alt volc
6560		1.6	10.8		<10	1.7	39	69		<0.5	<2	<0.2	0.9	30.8	10	<200			TP,	sil volc w/qz stringers

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
424-1	6561	Ruby Silver, trench	S		1167	**185.5** *	762	346	200	38	<10	<5	450	430	<100	10	2.2			6
425-1	5967	Grey Copper	C	0.2	105	1.1	37	15	100	14	<10	<5	>20000	460	<100	8	1.5			<5
425-1	5968	Grey Copper	C	0.8	114	19.8	1315	90	<100	10	<10	69	7930	370	<100	730	8.4			<5
425-1	5969	Grey Copper	Rep	1.0	109	16.9	167	817	190	<1	27	9	7530	120	<100	16	5.1			<5
425-1	5970	Grey Copper	C	0.6	1856	**54.51** *	658	2430	110	6	<10	8	15300	440	<100	55	4.2			<5
425-1	5971	Grey Copper	C	1.0	348	37	730	3910	120	31	<10	6	7990	390	<100	2480	4.5			<12
425-1	6562	Grey Copper	C	0.7	537	21.5	320	690	300	16	<10	13	>20000	410	<100	51	3.2			16
425-1	6563	Grey Copper	Rep	0.6	130	5.8	38	1045	670	45	<10	15	3100	100	<100	35	5			<5
425-1	6564	Grey Copper	C	0.2	**25.92** *	**129.9** *	4050	**1.17** *	2300	26	<10	16	>20000	280	<100	25200	>10			110
425-1	6565	Grey Copper	C	0.4	1820	21.1	1025	2230	110	11	<10	7	530	280	<100	343	>10			<5
425-1	6566	Grey Copper	C	1.2	2173	29.3	847	1062	1100	21	15	10	>20000	370	<100	719	8.1			39
425-1	6567	Grey Copper	Rep	0.9	23	1.2	29	118	220	4	<10	10	3600	120	<100	29	4.9			<5
425-1	6568	Grey Copper	C	0.9	6680	45	194	4352	<100	24	19	6	6230	380	<100	618	9			<5
425-1	6569	Grey Copper	C	0.9	2474	**252.3** *	812	4940	30400	<10	<38	15	>20000	370	<410	5630	>10			340
425-1	6570	Grey Copper	Rep	0.3	34	1.1	34	53	220	3	<10	8	4400	98	<100	23	4.7			<5
426-1	5924	Mountain View, Grey Copper	C	0.3	38	1.6	113	109	<100	3	<10	6	2100	420	<100	11	2.3			<5
426-1	5925	Mountain View, Grey Copper	G	0.1	48	4.6	277	67	290	3	<10	13	2100	93	<100	26	6.1			<5
426-1	5926	Mountain View, Grey Copper	C	0.3	795	5.8	473	87	<100	27	<10	12	4200	600	<100	9	2.7			<5
426-1	5927	Mountain View, Grey Copper	C	0.4	11	2.9	65	44	280	5	<10	14	4700	95	<100	19	5.7			<5
426-1	5928	Mountain View, Grey Copper	C	0.3	190	2.8	274	46	200	10	<10	12	2600	130	<100	22	4.5			<5
426-1	5929	Mountain View, Grey Copper	C	0.6	210	2.3	137	54	140	6	14	<5	1200	280	<100	5	2.7			<5
426-1	5930	Mountain View, Grey Copper	S	0.2	32	1.3	180	33	<100	158	<10	35	270	82	<100	6	3.8			<5
426-1	5931	Mountain View, Grey Copper	C	0.2	728	18.8	793	348	<100	16	<10	33	2400	220	<100	9	>10			<5
426-1	5932	Mountain View, Grey Copper	C	0.3	83	4	128	104	220	16	<10	11	3300	97	<100	36	5.2			<5
426-1	5933	Mountain View, Grey Copper	C	0.2	239	2.9	89	232	140	56	<10	<5	3300	190	<100	62	2.4			<5
426-1	6273	Mountain View, Grey Copper	C	0.3	<5	<0.1	15	14	77	208	<10	12	2800	130	<100	<1	3.7			<5
426-1	6503	Mountain View, Grey Copper	CC	0.2	230	9.8	1158	80	37	11	<10	15	3100	280	<100	5	>10			<5
426-1	6504	Mountain View, Grey Copper	C	1.2	21	1.7	165	73	66	13	<10	10	5700	130	<100	23	5.1			<5
426-1	6505	Mountain View, Grey Copper	CC	0.2	**33.39** *	**350.1** *	6852	**1.46** *	1877	7	<10	10	3100	390	<100	10	6.6			160
426-1	6506	Mountain View, Grey Copper	C	1.0	35	5.6	286	63	100	8	<10	28	2100	96	<100	3	8.3			<5
426-1	6507	Mountain View, Grey Copper	CC	0.2	276	**69.94** *	1468	106	92	10	<10	<5	410	370	<100	25	2.2			<5
426-1	6508	Mountain View, Grey Copper	C	0.3	83	7.5	174	127	89	11	<10	<5	1500	240	<100	54	2.3			<5
426-1	6509	Mountain View, Grey Copper	C	0.4	**12.44** *	**173.1** *	6448	5648	2219	12	<30	52	960	180	<410	4070	>10			120
426-1	6510	Mountain View, Grey Copper	C	0.6	240	**70.29** *	1154	1537	247	6	<10	9	4300	170	<100	143	6.3			<5
426-1	6511	Mountain View, Grey Copper	C	0.6	4597	**53.49** *	774	2487	52	16	<10	14	3900	420	<320	2690	>10			<5
426-1	6512	Mountain View, Grey Copper	Rep	0.6	50	10.7	202	739	173	22	<10	10	3900	98	<100	324	5.7			<5
426-1	6513	Mountain View, Grey Copper	C	0.3	2480	24	1444	262	38	20	31	130	15100	240	<100	443	>10			<5
426-1	6514	Mountain View, Grey Copper	C	0.5	75	9.3	711	442	109	8	<10	14	3200	130	<100	242	6			<5
426-1	6515	Mountain View, Grey Copper	C	0.4	82	3.6	167	62	57	8	<10	6	3900	220	<100	48	3.1			<5
426-1	6516	Mountain View, Grey Copper	CC	0.3	4768	**100.1** *	3305	185	327	77	<10	11	1100	270	<100	183	5.5			23
426-1	6517	Mountain View, Grey Copper	C	0.5	670	16.7	791	176	184	226	<10	16	3300	160	<100	219	6.2			10
426-1	5934	Mountain View, Ruby Silver Drift	CC	1.7	14	<0.1	17	35	<100	66	19	7	2000	160	<100	3	1.2			<5
426-1	5935	Mountain View, Ruby Silver Drift	CC	1.1	10	0.2	12	103	200	9	<10	<5	1300	160	<100	4	1.1			<5
426-1	5936	Mountain View, Ruby Silver Drift	CC	1.1	<5	0.2	5	380	320	117	<10	<5	3300	140	<100	6	0.8			<5
426-1	5937	Mountain View, Ruby Silver Drift	CC	1.0	54	1.9	55	134	320	121	<10	<5	1600	170	<100	5	1.6			5
426-1	5938	Mountain View, Ruby Silver Drift	CC	0.9	19	1.4	45	47	100	39	<10	<5	1600	260	<100	7	0.6			<5

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
6561		21	10		<10	0.8	9	17		<0.5	<2	<0.2	<0.5	4	1.8	210			MD, qz zone w/py, sl, cp
5967		1.7	4.5		<10	1	3	<17.0		<0.5	<2	<0.2	<0.5	<0.6	<0.2	19			OC, qz vein w/blebs of mg py
5968		0.5	5.7		<10	<0.5	3	<5.0		<0.5	<2	0.6	<0.5	<0.2	1.8	<5			OC, qz vein w/dissem & banded py
5969		2.4	7.5		<10	2.2	24	47		0.7	<2	0.4	0.6	6.3	3	160			UW, sil di w/dissem py
5970		24	144		<10	<0.5	<2	<11.0		<0.5	2	<0.2	<0.5	<0.5	<0.2	9			TP, qz vein w/dissem py & ml stain
5971		<0.5	6.4		<10	<0.5	7	<15.0		<0.5	<2	1.4	<0.5	<0.7	1.6	40			TP, qz zone w/dissem py, gn, aspy
6562		12	26.6		<10	<0.5	6	<5.0		<0.5	<2	<0.2	<0.5	1.2	1.3	44			UW, qz sulf vein w/py, cp, gn, sl, ml
6563		1.4	7.5		<10	2.4	24	40		0.7	<2	<0.2	0.6	5.2	2.9	160			UW, green-gray rock (alt di)
6564		<28	35.6		<26	<0.5	14	<10.0		0.6	<2	0.4	<0.5	<0.4	<1.5	<5			UW, qz sulf vein w/py, cp, gn, sl, scheelite
6565		5.3	2.6		<10	<0.5	2	<5.0		<0.5	<2	0.2	<0.5	<0.2	1.5	<5			UW, qz sulf vein w/py, cp, sl, gn, scheelite
6566		27	42.8		<10	0.9	4	<20.0		<0.5	<2	<0.2	<0.5	<0.7	1.3	19			UW, qz vein w/py, cp, sl, gn, ml, scheelite
6567		2.7	6.2		<10	2.2	20	36		<0.5	<2	<0.2	0.5	7.3	3	160			UW, black alt di
6568		88.8	19.8		<10	<0.5	6	15		<0.5	<2	0.5	<0.5	<0.2	0.9	38			TP, qz sulf vein w/py, cp, sl, gn
6569		467	718		<81	<0.5	<11	<20.0		<0.5	<6	0.9	<0.5	<0.9	<2.9	<24			TP, qz sulf vein w/py, cp, sl, gn
6570		3.2	5.8		<10	1.7	22	43		0.6	<2	0.4	0.7	5	2.4	150			TP, alt di
5924		3.2	1.8		<10	<0.5	4	7.3		<0.5	<2	<0.2	<0.5	1.2	1.9	<200			UW, qz vein w/small sulf stringers
5925		1.2	0.7		<10	2.1	24	56		0.7	4	0.5	0.5	6.2	3.6	<200			UW, gd w/dissem py
5926		2.2	1.2		<10	0.5	6	15		<0.5	<2	<0.2	<0.5	4.4	3.3	<200			UW, qz vein w/sparse sulf
5927		1	0.5		<10	1.7	29	65		0.6	5	0.7	1.8	7.4	2.8	<200			UW, gd
5928		1.2	0.8		<10	2	22	53		<0.5	4	0.3	1	10	4.3	<200			UW, gd w/sparse sulf, qz
5929		4	1.5		<10	0.6	8	16		<0.5	<2	<0.2	<0.5	8.3	3.6	<200			UW, qz vein w/dissem sulf
5930		3.3	0.5		<10	<0.5	17	38		<0.5	3	<0.2	2.8	33.5	65.1	<200			UW, gd w/py and mo
5931		5.4	3.8		<10	0.9	8	20		<0.5	<2	<0.2	<0.5	1.5	1.9	<200			UW, qz vein w/banded & dissem sulf
5932		1.8	1.6		<10	2.1	21	40		0.7	3	0.4	0.8	7.5	6.8	<200			UW, gd w/dissem sulf
5933		0.5	0.8		<10	0.6	22	38		<0.5	<2	<0.2	<0.5	14	6.3	<200			UW, qz vein
6273		1.1	0.4		<10	<0.5	18	28		0.7	2	<0.2	<0.5	8.7	15	110			UW alt gd w/ moly in leucocratic dike
6503		2.1	3.1		<10	<0.5	3	6.5		<0.5	<2	<0.2	<0.5	0.7	1	<200			UW, qz sulf vein
6504		1.3	1.2		<10	1.7	22	44		0.7	3	0.5	0.6	8.6	3.8	<200			UW, gd
6505		6.2	31		<10	<0.5	13	17		<0.5	<2	<0.2	<0.5	1.3	3.4	<200			UW, qz sulf vein
6506		1	1.4		<10	2.9	16	28		0.5	3	0.5	0.5	4.2	2.7	<200			UW, gd
6507		4.6	6.7		<10	<0.5	2	<5.0		<0.5	<2	<0.2	<0.5	0.6	0.6	<200			UW, qz sulf vein
6508		2.6	4		<10	0.5	16	29		<0.5	<2	<0.2	<0.5	27	11	<200			UW, sil gd w/qz vein
6509		17	40.7		<46	<0.5	9	<29.0		<0.5	<3	<0.5	<0.5	<1.1	<1.0	<200			UW, sulf vein w/sparse qz
6510		4.7	37.5		<10	1.7	17	43		<0.5	2	0.5	0.7	5	2.3	<200			UW, qz stringer w/sulf in gd
6511		5.7	20.8		<35	<0.5	13	<19.0		<0.5	4	1.1	<0.5	<0.8	2.4	470			UW, qz sulf vein
6512		1.7	7.8		<10	1.1	18	37		0.7	3	0.4	0.7	4.6	2.5	<200			UW, sil gd
6513		2	6.6		<10	<0.5	11	15		<0.5	<2	<0.2	<0.5	3.9	1.9	<200			UW, qz sulf vein
6514		1.9	4.1		<10	1.2	17	38		<0.5	2	0.3	0.6	5	3.4	<200			UW, gd w/qz blebs
6515		2.2	1.7		<10	0.9	14	21		<0.5	<2	<0.2	0.6	18	6.1	<200			UW, gd w/qz lenses
6516		2.4	16.1		<10	<0.5	6	10		<0.5	<2	<0.2	<0.5	1.7	1.9	<200			UW, qz sulf vein
6517		2.1	5.6		<10	2	22	48		0.5	3	0.3	0.6	7.9	6.8	<200			UW, gd sheared near vein
5934		1.6	0.6		<10	1	18	28		<0.5	<2	<0.2	0.6	25.2	10	<200			UW, gd w/dissem sulf, chl
5935		1.9	0.3		<10	<0.5	20	33		<0.5	<2	<0.2	0.8	34.3	18	<200			UW, gd w/very sparse sulf
5936		1	0.5		<10	1.3	30	46		<0.5	<2	<0.2	0.7	42.7	14	<200			UW, gd w/sulf, mo vein
5937		3.3	0.5		<10	0.6	15	30		<0.5	<2	<0.2	0.6	42.5	18	<200			UW, gd w/sulf
5938		1.1	0.4		<10	<0.5	27	44		<0.5	<2	<0.2	<0.5	38	13	<200			UW, gd w/dissem sulf

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
426-1	6232	Mountain View, Ruby Silver Drift	SC	4.6@0.2	29	1	40	109	123	298	<10	<5	1500	180	<100	2	1			<5
426-1	6271	Mountain View, Ruby Silver Drift	C	1.5	72	0.4	65	16	27	1446	<10	<5	1600	210	<100	2	0.9			<5
426-1	6272	Mountain View, Ruby Silver Drift	C	1.5	10	1	38	77	100	381	<10	<5	1400	200	<100	2	0.6			<5
426-1	6518	Mountain View, Ruby Silver Drift	C	1.5	40	0.6	36	76	<100	40	<10	<5	700	180	<100	4	1.2			<5
426-1	6519	Mountain View, Ruby Silver Drift	C	0.9	11	0.9	14	556	190	40	<10	<5	1900	230	<100	23	0.9			<5
426-1	6520	Mountain View, Ruby Silver Drift	C	0.2	<5	0.5	65	30	170	4	<10	7	7940	64	<100	7	2.7			<5
426-1	6521	Mountain View, Ruby Silver Drift	C	1.4	24	1.7	268	34	130	23	<10	13	6430	41	<100	10	4.5			<5
426-1	6522	Mountain View, Ruby Silver Drift	C	0.7	8	0.6	95	30	130	4	<10	6	1100	180	<100	5	1.9			<5
426-1	6523	Mountain View, Ruby Silver Drift	C	0.9	8	0.6	70	73	440	13	<10	15	3700	130	<100	12	3.9			<5
426-1	6524	Mountain View, Ruby Silver Drift	Rep	0.5	6	0.5	54	39	<100	5	<10	<5	2200	210	<100	5	1.5			<5
426-1	6525	Mountain View, Ruby Silver Drift	C	1.1	21	0.5	114	16	140	75	<10	15	4700	120	<100	3	4.3			<5
426-1	6916	Mountain View, Ruby Silver Drift	C	1.5	<5	<0.1	21	42	63	665	<10	<5	1100	160	<100	2	1.9			<5
426-1	6917	Mountain View, Ruby Silver Drift	C	1.2	52	1.2	49	66	81	28	<10	6	1300	200	<100	1	1.6			<5
426-1	6526	Mountain View, Skookum	C	0.5	120	2.9	76	285	140	12	<10	<5	380	290	<100	4	1.1			<5
426-1	6527	Mountain View, Skookum	Rep	0.3	3977	**425.5** *	1054	**3.88** *	10100	24	<10	23	730	220	<100	13	7.3			420
426-1	6528	Mountain View, Skookum	C	0.9	761	**80.23** *	5303	2468	3300	3	43	32	<50	360	<100	<1	7.3			140
426-1	6529	Mountain View, Skookum	C	1.0	736	18.5	457	5180	680	3	<10	6	270	420	<100	2	1.8			34
426-1	6530	Mountain View, Skookum	C	1.2	20	0.7	53	81	250	2	<10	12	2400	89	<100	7	4.3			<5
426-1	6531	Mountain View, Skookum	C	0.7	2024	7.5	670	339	300	6	<10	<5	<50	530	<100	<1	1.4			9
426-1	6532	Mountain View, Skookum	C	0.4	8841	17.5	487	642	520	8	<10	8	65	400	<100	2	1.9			13
426-1	6533	Mountain View, Skookum	Rep	0.9	32	0.9	123	256	500	<1	<10	13	2100	62	<100	5	5.5			8
426-1	5939	Mountain View, qz lens	SC	6.10@0.6	23	0.1	7	24	<100	2	<10	<5	<50	480	<100	<1	0.4			<5
426-1	5940	Mountain View, qz lens	Rep	0.4	4457	**177.6** *	3474	**14.69** *	8700	18	<10	150	<50	390	<100	1	>10			210
426-1	5941	Mountain View, qz lens	SC	9.15@0.6	<5	0.3	12	196	<100	1	<10	<5	<50	450	<100	<1	0.4			<5
426-1	5942	Mountain View, qz lens	SC	6.71@0.6	15	0.9	68	544	<100	2	<10	<5	<50	550	<100	<1	0.5			<5
426-1	5943	Mountain View, qz lens	SC	6.71@0.6	<5	0.2	13	56	<100	2	<10	<5	75	490	<100	<1	0.4			<5
426-1	5944	Mountain View, qz lens	SC	6.71@0.6	<5	0.2	15	46	<100	2	<10	<5	<50	430	<100	<1	0.4			<5
426-1	5945	Mountain View, qz lens	SC	6.71@0.6	54	2.2	420	111	170	2	<10	<5	<50	630	<100	1	1			<5
426-1	5946	Mountain View, qz lens	SC	6.71@0.6	<5	<0.1	17	23	<100	1	<10	<5	<50	430	<100	<1	0.4			<5
426-1	5947	Mountain View, qz lens	C	0.1	4770	**1076** *	1445	**22.75** *	>90000	16	<74	34	<270	360	<840	46	4.3			>2000
427-1	6147	Adanac, upper	C	0.2	1925	**94.97** *	1810	2695	8200	2	<10	28	660	360	<100	20	7			160
427-1	6148	Adanac, upper	C	0.4	2189	**204.0** *	1781	**1.00** *	17500	9	30	36	920	310	<100	30	>10			330
427-1	6149	Adanac, upper	C	0.2	490	**605.1** *	8508	4318	1900	5	31	11	77	400	<100	11	3.4			42
427-1	6150	Adanac, surface	C	0.5	2140	**69.94** *	1869	1328	460	7	<10	<5	420	390	<100	19	4.4			7
427-1	6151	Adanac, lower	C	0.3	2185	**234.9** *	2115	**1.61** *	14500	23	<10	44	850	140	<100	28	8.2			210
427-1	6152	Adanac, lower	C	0.6	5926	**82.63** *	757	8876	3300	9	57	140	1300	160	<100	11	7.7			53
427-1	6153	Adanac, lower	C	0.5	276	12	203	459	11000	<1	<10	24	760	220	<100	18	6			220
427-1	6608	Adanac, lower	Rep	0.2	677	35.2	465	4877	14300	7	<10	38	1800	320	<100	5	6.8			400
427-1	6760	Adanac, upper	CC	0.4	40	5.1	266	505	1500	6	<10	10	1200	420	<100	19	3.7			21
427-1	6761	Adanac, upper	CC	0.3	255	12.3	310	1486	2100	15	<10	12	1700	390	<100	35	4.8			28
427-1	6762	Adanac, lower	C	0.6	466	26.6	818	1505	12600	3	<10	31	2800	130	<100	24	8.4			290
427-1	6763	Adanac, lower	C	0.3	75	6.7	381	189	1500	<1	<10	15	4600	150	<100	16	4.7			36
428-1	6006	Silver Falls	C	0.4	949	**1529** *	2961	**44.6** *	>90000	21	<68	66	<250	110	<510	<680	3.8			>2000
428-1	6612	Silver Falls	C	0.2	36	3.6	359	600	780	116	21	14	350	140	<100	4	3.3			<5
428-1	6613	Silver Falls	C	0.7	127	1.1	111	110	200	22	27	17	1900	180	<100	4	4.1			<5
428-1	6614	Silver Falls	C	0.1	21	1	168	43	340	5	32	29	1300	140	<100	3	5.8			<5

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
6232		6.3	0.4		<10	0.8	11	20		<0.5	<2	<0.2	0.8	32.1	15	92			UW	leucocratic intrusive w/ moly
6271		2.2	0.4		<10	<0.5	13	18		0.6	<2	<0.2	0.5	44.3	22	110			UW	leucocratic gd w/ dissem mo
6272		1.1	0.3		<10	0.6	18	19		<0.5	<2	<0.2	0.6	27.7	14	110			UW	leucocratic gd w/ moly
6518		2.4	0.5		<10	1.1	24	36		<0.5	<2	<0.2	0.7	25.8	8.7	<200			UW,	sil gd
6519		2	0.6		<10	1.1	15	20		<0.5	<2	<0.2	<0.5	19	7.9	<200			UW,	gd w/sulf
6520		1.4	0.4		<10	1.8	18	41		<0.5	2	0.3	1.2	6.1	3.1	<200			UW,	qz-rich gs lens w/sulf
6521		2.2	0.5		<10	1.8	17	33		<0.5	<2	0.2	0.9	4.9	2.9	310			UW,	gs w/5% sulf
6522		1.7	0.4		<10	<0.5	16	22		<0.5	<2	<0.2	0.7	22.3	9.3	<200			UW,	irregular, sheared qz lens
6523		4	0.5		<10	1.5	25	55		<0.5	2	<0.2	1.4	8.6	4.8	<200			UW,	gs w/qz stringers
6524		1.4	0.4		<10	1	13	27		<0.5	<2	<0.2	0.5	16	7.4	<200			UW,	sheared qz lens w/4% sulf
6525		4.3	0.6		<10	<0.5	24	45		0.5	2	0.2	1.2	8.1	4.9	<200			UW,	gs w/qz stringer
6916		3.2	0.3		<10	<0.5	16	21		<0.5	<2	<0.2	0.9	22.3	15	88			UW	qz-rich gd w/ blebs of mo
6917		4.4	0.5		<10	0.8	24	35		<0.5	<2	<0.2	<0.5	23.4	8.9	100			UW	qz-rich gd w/ blebs of moly
6526		1.4	4.1		<10	<0.5	2	6.9		<0.5	<2	<0.2	<0.5	0.8	0.5	<200			UW,	qz vein w/sulf
6527		4.3	10.8		<29	<0.5	8	11		<0.5	<2	0.3	<0.5	2.2	1.9	<200			UW,	qz vein w/sulf
6528		10	3.4		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<200			UW,	qz vein w/blebs of py, sl, gn
6529		6.7	6.6		<10	<0.5	3	10		<0.5	<2	<0.2	<0.5	0.8	0.4	<200			UW,	qz sulf vein w/py, gn, sl
6530		1	1		<10	3.7	23	51		0.6	4	0.5	1.1	7.8	3.2	<200			UW,	black fg dike
6531		5.4	1.4		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	0.2	<200			UW,	white qz
6532		6.6	2.2		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	0.8	<200			UW,	qz vein w/10% sulf
6533		2.1	1		<10	2.4	20	42		0.7	3	0.4	0.8	4.4	2.4	<200			UW,	qz zone
5939		1	0.2		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.3	<0.2	<200			UW,	barren qz lens
5940		26	67.3		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<200			UW,	msv sulf sheet on qz lens
5941		0.5	0.2		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<200			UW,	barren qz lens
5942		1.3	0.5		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<200			UW,	barren qz lens w/some sulf
5943		0.5	0.3		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<200			UW,	barren qz lens
5944		3.1	0.3		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<200			UW,	barren qz lens, rare sulf
5945		54.3	1		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.2	<0.2	<200			UW,	barren qz lens
5946		1.8	0.5		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<200			UW,	barren qz lens
5947		87.4	990		<100	<1.8	3	<45.0		<0.5	<7	<1.7	<0.5	<2.0	<1.8	<940			UW,	gn & sl vein in barren qz lens
6147		6.4	17.9		<10	0.6	8	12		<0.5	<2	0.2	<0.5	1.3	1.7	68			UW,	qz and qz-rich gouge w/sulf
6148		24	103		<10	1.7	15	15		<0.5	3	0.5	0.5	2.4	3.1	130			UW,	qz vein and gouge w/10% sulf
6149		24	172		<10	<0.5	2	<5.0		<0.5	<2	0.2	<0.5	<0.2	1.2	<5			UW,	qz vein w/10% sulf
6150		11	26.2		<10	<0.5	5	<5.0		<0.5	<2	<0.2	<0.5	1	1.6	34			OC,	qz vein w/5% sulf
6151		49	74.1		<10	1.8	9	15		<0.5	<2	<0.2	<0.5	2.6	2.5	130			UW,	gouge in shear zone
6152		88.5	24.2		<10	0.6	9	16		<0.5	<2	<0.2	0.6	2.9	2.2	82			UW,	qz sulf gouge in shear
6153		7	7.2		<10	2.1	9	11		<0.5	<2	<0.2	<0.5	1.7	1.3	170			UW,	shear w/qz, 10% sulf & maroon volc
6608		6.1	15.5		<10	<0.5	9	14		<0.5	<2	<0.2	<0.5	2.4	2.3	25			UW,	qz sulf vein
6760		22	3.9		<10	<0.5	12	17		<0.5	<2	<0.2	0.5	2.9	1.4	79			UW,	qz vein & fault gouge w/sulf
6761		30	6.7		<10	1.3	11	21		<0.5	<2	<0.2	<0.5	2.8	1.7	110			UW,	qz vein and fault gouge w/sulf
6762		11	10		<10	0.5	16	14		<0.5	3	<0.2	0.6	3.8	2.6	84			UW,	shear w/qz, ar 4% sulf
6763		9.3	10.5		<10	0.9	12	19		<0.5	<2	<0.2	<0.5	2.1	1.5	98			UW,	shear w/qz vein, ar, 5% sulf
6006		379	710		<100	<1.7	40	<26.0		<0.5	<7	<0.8	<0.5	<1.2	<3.9	<29			UW,	msv gn band in qz vein
6612		2.9	0.3		<10	<0.5	10	17		<0.5	<2	<0.2	<0.5	2.1	1.8	30			UW,	shear zone w/qz
6613		4.6	0.6		<10	1	18	29		0.6	<2	<0.2	0.6	3.8	4.4	130			UW,	shear zone w/qz stringers
6614		18	1.1		<10	7.6	17	27		<0.5	<2	0.2	<0.5	2.6	2.1	95			UW,	gray-yellow fault gouge

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
428-1	6615	Silver Falls	C	1.1	44	0.9	79	61	270	8	27	19	1800	160	<100	3	4.8			<5
428-1	6616	Silver Falls	C	0.9	34	0.4	53	39	140	5	35	18	2200	140	<100	2	4.7			<5
429-1	6275	Victoria ?	Rep	0.2	7	**141.9** *	10258	**2.22** *	**16.64** *	6	<36	28	<50	250	<100	<1	2.6			2000
430-1	6129	Dupree Qtz	Rep		<5	<0.1	4	4	<100	<1	<10	<5	<50	520	<100	<1	0.5			<5
430-1	6130	Dupree Qtz	C	0.9	15	0.6	84	20	130	6	70	19	2300	420	<100	<1	6.7			<5
430-1	6131	Dupree Qtz	Rep	0.6	<5	0.2	17	6	<100	1	10	<5	58	660	<100	<1	1			<5
430-1	6745	Dupree Qtz	C	0.4	13	11.1	50	163	730	<1	16	11	220	370	<100	2	2.8			11
430-1	6746	Dupree Qtz	Rep	0.2	48	0.9	111	23	150	<1	<10	12	660	220	<100	<1	5.3			<5
431-1	6111	Mt. Dolly, summit	Rep	0.8	26	1.4	456	27	250	8	<10	27	1200	65	<100	<1	>10			<5
431-1	6128	Mt. Dolly, summit	C	0.3	<5	0.2	17	8	<100	6	<10	<5	7250	540	<100	<1	0.6			<5
431-1	6140	Mt. Dolly, summit	RC	1.8	<5	0.3	16	35	120	2	<10	8	1400	110	<100	<1	5.3			<5
431-1	6141	Mt. Dolly, summit	S	0.2	<5	0.4	18	12	<100	10	<10	6	2400	77	<100	1	4.2			<5
431-1	6142	Mt. Dolly, summit	C	0.5	<5	<0.1	5	7	<100	5	<10	<5	<50	490	<100	<1	0.5			<5
431-1	6722	Mt. Dolly, summit	C	0.4	25	0.4	112	15	<100	4	<10	6	760	170	<100	<1	1.3			<5
431-1	6742	Mt. Dolly, summit	G	0.2	722	**65.49** *	623	160	>90000	<1	130	57	<50	130	<240	4	>10			1610
431-1	6743	Mt. Dolly, summit	CC	0.0	2820	**4425** *	410	**6.90** *	>90000	<68	<300	<38	<1400	<690	<5000	<357	<1.9			>2000
431-1	6744	Mt. Dolly, summit	C	0.5	42	7.8	54	161	1000	1	19	8	320	390	<100	2	4			11
431-1	6753	Mt. Dolly	C	0.2	<5	0.4	15	276	840	2	<10	<5	260	340	<100	2	2.6			<5
431-1	6754	Mt. Dolly	C	0.1	<5	0.3	36	7	<100	<1	<10	12	220	300	<100	<1	2.9			<5
431-1	6755	Mt. Dolly	C	0.2	<5	0.2	134	14	150	10	<10	18	<50	150	<100	5	>10			<5
431-1	6920	Mt Dolly above Slide Cr	G	0.1	2185	2.3	253	15	136	7	85	220	<50	23	<100	56	>10			<5
432-1		J & L		No Samples Taken																
433-1		Ferro 1-21		No Samples Taken																
434-1		Chickamin River		No Samples Taken																
435-1	8203	Commonwealth	Rep		<5	2.5	89	63	6500	14	34	30	300	41	<100	<1	>10			60
435-1	8204	Commonwealth	Rep		<5	0.5	5	48	190	<1	<10	<5	2200	130	<100	<1	1.8			<5
435-1	8205	Commonwealth	Rep		<5	0.9	66	22	580	31	100	15	660	230	<100	<1	5.1			<5
435-1	8206	Commonwealth	Rep		<5	2.8	94	23	3100	12	37	19	61	42	<100	2	>10			8
435-1	8448	Commonwealth	SC	3.1@0.2	<5	0.9	132	42	970	52	<10	<5	<50	35	<100	24	>10			<5
436-1	9160	Gnat	C	1.9	11	1.1	126	183	12	217	<10	<5	2000	480	<100	1	1.00			<5
436-1	9161	Gnat	S		13	1.1	201	63	16	267	<10	<5	2500	450	<100	1	2.40			<5
436-1	9422	Gnat	SC	3.3@0.2	9	0.9	83	56	30	372	<10	<5	1300	400	<100	<1	1.00			<5
436-1	9423	Gnat	SC	1.3@0.1	10	0.3	121	29	377	738	11	<5	730	420	<100	<1	1.30			<5
437-1	9157	Alamo	C	1.0	62	1.7	5838	8	172	5	81	140	83	76	<100	2	>10			<5
437-1	9158	Alamo	C	1.2	10	0.3	896	10	232	4	38	50	1400	110	<100	<1	>10			<5
437-1	9159	Alamo	S		110	2.8	5203	11	2636	5	110	120	530	120	<100	<1	>10			54
437-1	9420	Alamo	C	2.7	50	0.9	2971	16	16452	5	<10	37	<50	98	<100	3	>10			470
437-1	9421	Alamo	C	1.8	22	3.3	8661	8	3039	3	28	37	110	180	<100	4	>10			88
438-1		Marble Copper		No Samples Taken																
439-1		Quartz Hill		No Samples Taken																
Roe Point Area																				
440-1	8080	IXL	C	1.3	224	26.5	1029	619	9990	7										
440-1	8081	IXL	S		42	1.3	370	20	**5.72** *	7	22	18	890	97		414	>10			
440-1	8354	IXL	SC	7.6@0.3	20	3.7	1045	130	866	4										

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd	Sample Description
6615		4.4	0.3		<10	<0.5	20	32		0.6	<2	0.2	0.7	3.8	2.7	120			UW, sheared metavolc w/qz stringers
6616		4.7	0.5		<10	1.1	23	43		0.7	2	0.2	0.6	4.1	4	140			UW, shear zone w/qz stringers
6275		34	14.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	1.1	1.1	21			FL msv sl,gn,cp in qz
6129		1.8	0.4		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			RC, coarse crystalline qz
6130		74.4	4.2		<10	5.4	29	40		0.8	5	0.5	0.8	4.9	4.9	150			OC, fest ar w/sparse sulf
6131		4.1	0.4		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC, lightly fest irregular qz body
6745		7.4	15.1		<10	1.6	3	<5.0		<0.5	<2	0.2	<0.5	1.1	0.6	29			OC, fest vuggy qz
6746		44	2.5		<10	3.4	14	28		0.7	3	0.4	<0.5	2.2	1.4	65			OC, fest qz vein
6111		16	4.5		<10	1.1	24	50		0.8	5	0.7	<0.5	3.2	1.6	25			OC, sil zone w/dissem po (3%)
6128		1.2	0.4		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC, qz vein w/sulf and ep
6140		4.7	2.7		<10	2.2	22	42		0.7	3	0.5	0.9	4	1.8	26			RC, slightly min Hazelton sed
6141		4.4	1.4		<10	6.1	27	54		0.6	3	0.5	1	4.5	1.9	120			RC, sil maroon tuff w/3% py
6142		0.5	0.2		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC, barren qz vein w/ep pockets
6722		126	0.6		<10	1.1	21	42		<0.5	<2	<0.2	0.7	17	6.8	82			OC, qz vein w/ep
6742		33	130		<21	<0.5	3	<11.0		<0.5	<5	0.3	<0.5	0.9	<0.2	<14			OC, qz and sl
6743		<5380	>3000		<520	<6.7	<7	<380		<4.2	<115	<5.3	<3.7	<9.6	<8.8	<170			OC, sl vein
6744		32	14.4		<10	0.7	3	9.1		<0.5	<2	<0.2	<0.5	0.7	0.5	31			OC, qz lens w/fest
6753		3	0.8		<10	0.6	5	10		<0.5	<2	<0.2	<0.5	0.9	0.5	10			OC, qz lens in ep garnet skarn
6754		3.9	0.8		<10	0.5	4	<5.0		<0.5	<2	<0.2	<0.5	0.8	0.4	13			OC, qz vein w/ep & py blebs
6755		3.4	1.7		<10	<0.5	31	44		<0.5	4	0.6	<0.5	3.4	2.3	<5			OC, ep garnet skarn w/10% sulf
6920		108	1		35	<0.5	15	24		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5			OC qz zone w/ po
	No Samples Taken																		
	No Samples Taken																		
	No Samples Taken																		
8203		59.7	4.1		<10	1.6	9	<5		0.5	4	<0.2	<0.5	1.4	9.3	51			OC, skarn mineralization w/po (~10%)
8204		4.6	0.5		<10	1.9	33	76		2.1	14	1.8	1.5	10	3.6	240			OC, quartzite w/dissem po (~2%)
8205		31	1.3		<10	5.0	22	37		1	5	<0.2	0.6	3.4	11	110			OC, sc w/po (~1%)
8206		39	1.3		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	0.5	1.9	<5			OC, skarn rock w/ ~10% po + py
8448		12	0.3		<10	<0.5	4	9.3		<0.5	<2	<0.2	<0.5	0.7	6.5	<5			UW, carbonate/metasediment? w/po, py
9160		1.2	0.2		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	1.6	0.8	30			OC, qz vein w/minor py,very minor cp,mo
9161		2.1	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	1	0.7	34			OC, rich part of qz vein
9422		0.5	<0.1		<10	<0.5	5	5.4		<0.5	<2	<0.2	<0.5	2.1	1.5	30			OC, qz vein w/py 2%,gn, cp
9423		0.5	0.1		<10	<0.5	7	10		<0.5	<2	<0.2	<0.5	2.4	1.9	42			OC, qz vein w/py 4%,gn, cp
9157		3.1	0.3		<10	0.5	15	25		<0.5	<2	0.2	0.8	2.2	3.7	<5			TP, qz gneiss w/po 30%,cp 3%
9158		1.5	0.3		<10	3	28	48		0.7	3	0.3	0.6	6.3	3	48			TP, bt gneiss w/po+py 5%,minor cp
9159		1.7	0.2		<10	0.8	18	34		0.6	<2	0.2	0.9	3.5	2.9	<5			FL, bt gneiss w/po 20%,cp 2%
9420		1.9	0.1		<10	<0.5	12	23		0.5	<2	0.2	0.8	1.3	2.1	9			OC, paragneiss w/cp 3%,py 2%
9421		1.6	0.2		<10	<0.5	18	38		0.8	<2	<0.2	1.9	3.1	3.6	16			OC, paragneiss w/cp 3%,py 2%
	No Samples Taken																		
	No Samples Taken																		
Roe Point Area																			
8080																			UW, msv py in fel sc
8081	39	517	11	35.640															UW, massive py w/minor mica sc
8354																			UW, sc w/layers of py

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
440-1	8355	IXL	SC	7.6@0.3	372	14.2	711	1362	5067	7										
440-1	8356	IXL	S		130	**97.71** *	1951	6964	**2.48** *	3	21	61	880	110		48	>10			
440-2	9162	IXL	O	0.2	47	1.5	1210	61	236	<1	63	51	3900	220	<100	<1	8.50			<5
440-2	9163	IXL	O	0.3	162	23.6	1216	3495	**2.31** *	11	50	53	3800	150	<100	<1	>10			87
440-2	9164	IXL	O	0.4	8	0.3	364	35	192	<1	37	28	3200	120	<100	<1	5.20			<5
440-2	9165	IXL	O	2.1@0.2	72	10.5	1172	1471	570	<1	83	51	1000	310	<100	<1	9.30			<5
440-2	9166	IXL	O	0.7	291	41.4	6095	4562	16000	13	62	47	9750	150	<100	<1	>10			64
440-2	9167	IXL	O	0.8	180	43.7	523	6700	18476	15	29	32	12500	150	<100	<1	>10			70
440-2	9168	IXL	O	0.3	68	1.4	897	116	449	<1	<10	7	19300	210	<100	2	3.10			<5
440-2	9169	IXL	O	0.8	314	36.7	1734	5710	10935	11	43	33	15200	270	<100	<1	>10			39
440-2	9170	IXL	O	3.0	2041	23.6	2790	2571	14476	18	49	32	9810	280	<100	<1	>10			41
440-2	9171	IXL	O	1.0	2068	25.5	5666	2607	6462	11	56	57	8290	260	<100	<1	>10			19
440-2	9172	IXL	O	2.1	43	3.3	722	442	1295	<1	100	54	13500	340	<100	<1	>10			<5
440-2	9173	IXL	O	2.8	657	15.6	5343	1619	6857	11	25	47	8110	140	<100	2	>10			21
440-2	9424	IXL	O	3.0	978	38.3	3266	4633	18098	16	<20	18	6430	190	<100	<3	>10			66
440-2	9425	IXL	O	1.2	668	38.8	4626	4665	**2.29** *	18	<10	21	15300	220	<100	<2	>10			77
440-2	9426	IXL	O	1.8	44	1.0	561	77	278	6	27	18	2700	350	<100	2	4.90			<5
441-1	8082	Nanjan	C	1.2	<5	<0.1	14	7	235	343	7	7	150	335		<20	2.45			
441-1	8083	Nanjan	C	1.3	<5	<0.1	5	4	305	1978										
441-1	8084	Nanjan	C	0.9	<5	0.1	1	<2	18	55										
441-1	8357	Nanjan	C	1.8	<5	0.8	20	77	110	316										
441-1	8360	Nanjan	Rep	1.8	<5	<0.1	2	12	149	358										
441-2	8085	Nanjan	S		<5	<0.1	<1	6	28	69	13	24	490	69		<20	8.08			
441-2	8358	Nanjan	Rep	5.5	<5	2.6	50	259	450	4										
441-2	8359	Nanjan	SC	4.0@0.2	<5	<0.1	2	6	12	15										
441-2	8361	Nanjan	C	1.5	<5	<0.1	2	6	133	344										
441-3	8086	Nanjan	Rep	1.2	<5	<0.1	2	<2	10	16										
441-3	8362	Nanjan	S		<5	<0.1	2	6	12	2468	10	2	40	326		<20	1.18			
442-1	8061	Gullette Placer	PC	2 pans	2248	<0.2	60	13	95	7	10	17	400	92		52	>10			
443-1	9154	Red Claims	Rep	5.0	8	0.4	173	3	72	9	<10	14	3200	170	<100	<1	4.90			<5
443-1	9417	Red Claims	C	3.0	10	0.5	255	13	96	10	<10	14	3800	130	<100	<1	5.00			<5
443-1	9418	Red Claims	C	1.3	692	17.4	**2.76** *	10	231	248	<10	170	1700	420	<100	<1	9.50			<5
443-2	9153	Red Claims	C	1.0	<5	<0.1	13	5	19	2	<10	<5	3200	260	<100	<1	0.80			<5
443-2	9416	Red Claims	S		99	1.1	1076	20	90	20	20	27	680	370	<100	<1	3.80			<5
443-3	9155	Red Claims	SC	22@1	15	0.7	979	<2	54	49	<10	16	2400	150	<100	1	4.40			<5
443-3	9156	Red Claims	Rep		72	2.0	2557	4	64	76	<10	17	1700	140	<100	1	5.50			<5
443-3	9419	Red Claims	C	2.1	33	1.0	1484	5	73	2597	<10	19	2000	83	<100	<1	6.90			<5
444-1	8054	Very Inlet Steatite	Rep		6	<0.2	23	6	60	3	1016	72	<20	1533		<20	4.09			
444-1	8055	Very Inlet Steatite	S		<5	<0.2	9	7	43	<1	603	43	50	1318		<20	3.31			
444-1	8056	Very Inlet Steatite	S		<5	<0.2	1	7	20	<1	141	14	30	253		<20	1.36			
444-1	8057	Very Inlet Steatite	Rep		8	<0.2	14	6	49	<1	799	57	<20	1579		<20	4.07			
444-1	8058	Very Inlet Steatite	C	0.8	98	<0.2	29	4	9	3	12	2	350	120		<20	0.76			
444-1	8331	Very Inlet Steatite	G		<5	<0.1	18	<2	12	4	6	<1								
445-1	8049	Very Inlet Zinc	C	1.2	122	<0.1	12	58	422	6	35									
445-1	8050	Very Inlet Zinc	C	1.4	234	<0.1	25	51	1210	6										

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
8355																			UW,	sc w/py layers
8356	133	521	91	16.582															MD,	mainly py
9162		10	11.8		<10	0.6	11	21		0.8	4	0.5	<0.5	3.7	1.9	<5			O,	bt sc w/minor sulf, drill core
9163		200	6.8		<10	<0.5	4	17		<0.5	<2	0.3	<0.5	0.9	0.8	<5			O,	msv sulf w/py 60%,minor sl
9164		16	11.1		<10	3.7	23	48		1.1	4	0.3	0.7	9.4	4.5	45			O,	qz sc, drill core
9165		14	18.5		<10	<0.5	9	17		<0.5	3	0.5	0.7	1.7	0.8	19			O,	mafic sc w/minor sulf, drill core
9166		280	28		<10	0.7	7	19		<0.5	<2	0.3	<0.5	1.7	2.4	11			O,	msv sulf,py,cp,sl,po, drill core
9167		335	35.3		<10	0.7	8	15		<0.5	<2	0.2	<0.5	1.2	2.2	20			O,	msv sulf,py,cp,sl,po, drill core
9168		36	5.9		<10	1.3	14	15		<0.5	<2	<0.2	0.6	2.4	1.8	40			O,	qt w/bt & py + sericite sc w/qz bands, drill core
9169		265	41.8		<10	1.2	11	15		0.5	<2	0.3	<0.5	2.6	2.9	32			O,	sericite sc 40%, drill core
9170		310	57.1		<29	1.1	4	23		<0.5	<2	0.4	<0.5	<0.6	1.6	<5			O,	msv sulf, py,cp,sl, drill core
9171		250	26.3		<25	<0.5	3	<17		<0.5	<2	0.3	<0.5	1	0.7	12			O,	msv sulf 60%, mafic sc 40%, drill core
9172		42	20.9		<10	1.5	<2	<5		<0.5	2	0.4	<0.5	0.3	0.4	33			O,	chl sc w/minor sulf, drill core
9173		341	20.4		<10	1.4	8	24		<0.5	<2	0.3	<0.5	1.5	2.3	<5			O,	msv sulf, py,cp,sl, drill core
9424		372	35.9		<26	0.9	5	<19		<0.5	<2	0.3	<0.5	1.7	0.9	<5			O,	msv sulf, py 60%,cp 3%,gn 2% w/qz,ser, drill core
9425		381	30.7		<31	0.5	5	<21		<0.5	<2	<0.2	<0.5	1.1	1.1	<5			O,	msv sulf, py,sl,cp w/glassy qz lens , drill core
9426		64.3	3.5		<10	1.3	15	22		<0.5	2	0.3	0.5	6.1	2.7	75			O,	sericite sc w/minor py, drill core
8082	<5	8	<5	0.185															UW,	qz vein w/py, mo
8083																			OC,	qz vein w/py & mo, fault gouge, gneiss
8084																			OC,	qz vein w/minor py
8357																			OC,	qz vein w/minor py, mo
8360																			OC,	qz vein w/py, mo
8085	<5	<5	<5	0.011															OC,	fault gouge, clay minerals
8358																			OC,	qz w/minor py
8359																			OC,	qz vein in hnbd gd w/py
8361																			OC,	qz vein w/minor py
8086																			OC,	qz vn w/py
8362	<5	<5	<5	0.029															OC,	qz vein, minor fest
8061	8	<5	<5	<0.010																pan concentrate
9154		1.3	0.2		<10	1	21	32		<0.5	<2	<0.2	0.9	5.3	2.4	120			OC,	orthogneiss w/py+po 3% & minor cp
9417		<0.5	0.1		<10	1.1	18	32		<0.5	<2	<0.2	<0.5	4.8	1.4	150			OC,	orthogneiss w/py 3%,po 2%
9418		1.2	0.2		<10	1.1	10	12		<0.5	<2	<0.2	<0.5	2.8	1.2	76			OC,	qz vein in orthogneiss w/py 5%,cp 10%,mo<1%
9153		1	0.3		<10	0.5	27	40		<0.5	<2	<0.2	<0.5	7.1	0.5	140			OC,	mica pegmatite
9416		3.1	2.1		<10	0.7	7	12		<0.5	<2	0.2	<0.5	8.2	3.6	130			FL,	qz-feldspar-bt pegmatite w/py 5%
9155		1.9	0.3		<10	0.7	18	28		0.8	2	<0.2	0.9	5.3	2.5	100			OC,	bt gneiss w/cp,py,po?,mag
9156		0.5	0.2		<10	<0.5	22	43		0.7	3	0.3	0.9	5.2	2.3	75			OC,	amphibole gneiss w/cp,py,mag
9419		1	0.1		<10	0.5	23	44		1.4	3	0.4	0.9	4.2	3.1	60			OC,	orthogneiss w/py 2%,cp 3%,mo 1%
8054	8	9	<5	<0.010															RC,	steatite
8055	7	11	<5	<0.010															RC,	steatite
8056	<5	<5	<5	<0.010															RC,	talc
8057	9	6	<5	<0.010															RC,	steatite
8058	<5	<5	<5	<0.010															OC,	qz vein w/ py
8331																			OC,	qz w/minor sulf
8049																			UW,	qz stringers in qz mica sc
8050																			UW,	sil qz mica sc

Table A-2. Analytical results from mines, prospects and occurrences.

Map No.	Sam No.	Location	Sample type	Sample size	Au *	Ag *	Cu *	Pb *	Zn	Mo *	Ni	Co	Ba *	Cr	Sn	W	Fe *	Ti	V	Cd
445-1	8051	Very Inlet Zinc	S		19	0.8	33	192	**3.94** *	19	21	42	20	51		179	5.63			
446-1	8031	Sitklan Passage Pegmatites	Rep		<5	<0.1	<1	<2	7											
446-1	8032	Sitklan Passage Pegmatites	SC	6.1@0.6	<5	<0.1	1	<2	2											
446-1	8033	Sitklan Passage Pegmatites	SC	8.2@0.6	<5	<0.1	83	<2	25											
446-1	8034	Sitklan Passage Pegmatites	SC	8.8@0.6	<5	<0.1	<1	<2	4											
446-1	8035	Sitklan Passage Pegmatites	SC	11.3@0.6	<5	<0.1	<1	<2	6											
446-1	8036	Sitklan Passage Pegmatites	SS		<5	<0.2	32	5	45	<1	16	27	220	64		<20	4.12			
446-1	8037	Sitklan Passage Pegmatites	Rep	1.8	<5	<0.1	1	<2	1											
446-1	8038	Sitklan Passage Pegmatites	SC	12.2@0.6	<5	<0.1	<1	<2	2											
446-1	8039	Sitklan Passage Pegmatites	G		<5	<0.1	212	4	78	2	75	33	680	119		<20	6.01			
446-1	8314	Sitklan Passage Pegmatites	SC	9.2@0.6	<5	<0.1	11	<2	37											
446-1	8315	Sitklan Passage Pegmatites	SC	10.4@0.6	7	<0.1	<1	<2	5											
446-1	8316	Sitklan Passage Pegmatites	SC	6.1@0.6	<5	<0.1	<1	<2	<1											
446-1	8317	Sitklan Passage Pegmatites	SC	7.9@0.6	<5	<0.1	<1	<2	7											
446-1	8318	Sitklan Passage Pegmatites	SC	7.9@0.6	<5	<0.1	24	<2	7											
446-1	8319	Sitklan Passage Pegmatites	SC	4.6@0.6	<5	<0.1	4	<2	10											
446-1	8320	Sitklan Passage Pegmatites	S		8	<0.1	423	<2	3											
446-1	8321	Sitklan Passage Pegmatites	SC	9.8@0.6	<5	<0.1	<1	<2	<1											
446-1	8322	Sitklan Passage Pegmatites	SC	8.2@0.6	<5	<0.1	1	<2	2											

Table A-2. Analytical results from mines, prospects and occurrences.

Sam No.	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt *	Pd		Sample Description
8051	28	93	13	3.184															MD,	qz-mica sc
8031							0.7	<2		<1	<1	<0.1		<0.5	<1				RC,	mica-bearing pegmatite
8032							0.7	<2		<1	<1	<0.1		<0.5	<1				TP,	pegmatite
8033							6.2	15		<1	<1	<0.1		1	<1				TP,	pegmatite
8034							0.7	<2		<1	<1	<0.1		<0.5	<1				TP,	pegmatite
8035							0.9	<2		<1	<1	<0.1		<0.5	<1				TP,	plag qz mica pegmatite
8036	<5	<5	<5	0.026																fault-related sulf reported
8037							0.7	<2		<1	<1	<0.1		<0.5	<1				OC,	plag qz mica pegmatite
8038							0.9	<2		<1	<1	<0.1		<0.5	<1				OC,	pegmatite
8039	7	<5	<5	<0.010															RC,	hornblendite w/po & py
8314							0.7	<2		<1	<1	<0.1		<0.5	<1				TP,	plag qz mica pegmatite
8315							<0.5	<2		<1	<1	<0.1		<0.5	<1				TP,	plag qz mica pegmatite
8316							<0.5	<2		<1	<1	<0.1		<0.5	<1				TP,	plag qz mica pegmatite
8317							<0.5	<2		<1	<1	<0.1		<0.5	<1				TP,	plag qz mica pegmatite
8318							<0.5	<2		<1	<1	<0.1		<0.5	<1				TP,	bt qz pegmatite
8319							<0.5	<2		<1	<1	<0.1		<0.5	<1				TP,	bt qz pegmatite
8320							<0.5	<2		<1	<1	<0.1		<0.5	<1				RC,	qz pegmatite w/sulfs, po
8321							<0.5	<2		<1	<1	<0.1		<0.5	<1				OC,	qz pegmatite
8322							<0.5	<2		<1	<1	<0.1		<0.5	<1				OC,	plag bt musc qz pegmatite

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sample No.	Location	Sample type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
R1	1790	Red Bay	Rep		<5		<0.1		27		6		80													
R2	1789		Rep	1.5	112		1.4		631		16		89													
Shakan/El Capitan Area																										
R3	4720	Marble Creek area	Rep	1.5	24		<0.1		8		5		41		8		9	6				<5	<2			
R4	1788		S	0.5	905		16.5		4200		10		128													
R5	1787		Rep	0.9	8		0.2		112		7		84													
R6	4712	El Capitan	Rep	4.6	<5		<0.1		37		3		42		10		16	22				<5	<2			
R7	4710		Rep	1.5	<5		0.3		485		4		58		546		17	20				13	<2			
	4711		Rep	7.6	<5		0.6		250		5		22		13		9	14				<5	<2			
R8	4709		Rep	3.0	<5		0.3		96		3		34		70		5	5				<5	<2			
R9	4697	Calder area	C	0.6	<5		0.3		70		3		76		17		6	16				<5	<2			
R10	1775	El Cap Gold area	SS		13		<0.2		62		9		63		1		17	12			25		<20	2.49		
	1776		PC	1 pan	9		<0.2		108		20		147		2		23	15			216		<20	3.88		
R11	1777		PC	2 pans	11		<0.2		107		17		90		<1		15	18			185		<20	5.46		
	1778		SS		17		<0.2		100		41		221		<1		17	13			95		<20	3.19		
	1779		MM		18		<0.2		141		184		659		3		14	18			226		<20	7.01		
R12	1793		MM		IS		<0.2		124		19		78		7		17	36			194		<20	>10		
	1794		PC	3 pans	146		<0.2		97		8		82		<1		17	17			134		<20	5.69		
R13	1792		Rep		<5		<0.1		34		13		84													
R14	1791		Rep	12.2	<5		<0.1		9		9		72													
R15	1771		PC	2 pans	11		<0.2		66		16		99		<1		14	13			185		<20	3.43		
	1772		SS		12		<0.2		36		12		52		<1		9	28			24		<20	4.25		
R16	4463	Limestone Point	C	0.8	<5		<0.1		77		8		79													
	4476		C	1.1	154		2.2		7829		7		98													
R17	4464	Orr Island	C	0.5	<5		<0.1		30		7		79													
R18	1795	Luck Lake	Rep		<5		<0.1		151		13		58													
	4662		Rep	7.6	<5		<0.2		168		11		23		<1		23	27	230		58		<20	6.08		
R19	4699	Eagle Island	Rep	7.6	6		<0.2		2		4		<1		<1		<1	<1	40		10		<20	0.41		
R20	4698	Cap Island	Rep	3.0	<5		<0.2		61		3		76		<1		8	19	170		19		<20	5.19		
R21	4630	Heceta Island	Rep	0.3	<5		<0.2		195		3		46		<1		77	18	30		100		<20	3.69		
R22	4646		Rep	4.6	6		<0.2		<1		5		63		<1		82	20	570		163		<20	4.01		
Salt Chuck Area																										
R23	4632	Loon Lake Pit	C	1.5	<5		<0.2		92		2		84		<1		13	23	430		44		<20	4.99		
R24	3014	Noyes Island	SS		50		1.0		81		20		146		<1		38	32	220		57		<10	7.30		
R25	3505	San Juan Bautista, N	Rep	4.57	21		<0.1		381		8		48													
	3506		C	0.94	8		<0.1		339		6		45													
R26	3004	San Juan Bautista, SE	Rep		130		1.3		15		75		84		<1		<1	4	450		12		<10	0.19		
	3005		SS		7038		21.6		66		17		181		2		29	24	480		31		12	9.89		
	3006		C	0.15	21		2.4		149		32		1125		13		76	10	1700		41		29	>10		
	3007		C	0.24	107		2.8		54		30		56		5		39	5	2500		42		<10	1.13		
	3008		SS		683		5.2		66		13		306		2		61	19	1400		35		<10	6.85		
R27	3016	St. Ignace Island	Rep	0.61	<5		0.5		11		40		124		2		1	10	1600		54		<10	4.41		
	3055		C	0.30	14		0.9		650		11		49		<1		14	19	720		23		<10	4.59		

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
1790																						TP,	matrix-rich cng from pit
1789																						TP,	py, cp to 5%, msv sulf bands near ls/dike contact
Shakan/El Capitan																							
4720																						OC,	skarn, no sulf
1788																						OC,	msv sulf pod in marble, py/po + cp to 50%
1787																						OC,	py di dike, hw/fw highly min
4712																						OC,	hnbd, di, skarn contact
4710																						OC,	hnbd gabbro, skarn contact
4711																						OC,	alt igneous w/marble bands
4709																						OC,	qz monz, py to 2%
4697																						OC,	alt di dike, w/py to 5%
1775			<5	8	<5	0.093																	NE corner Kosciusko Island, ls cng, di
1776			<5	9	<5	0.037																	dry trib, gravel, sand
1777			<5	<5	9	0.019																	Raft Creek w/ ls, cng. gd, volc float
1778			<5	<5	<5	0.027																	Raft Creek near 1777 site
1779			<5	<5	7	0.017																	same spot as 1778
1793			<5	<5	<5	0.041																	moss mat site on lower Raft Creek
1794			<5	18	6	0.022																	vis gold speck, black sands, good site
1792																						OC,	alt gw cng near fault zone, sil/limonite
1791																						OC,	alt hnbd gd sill, minor py
1771			<5	7	<5	0.03																	north of main veins in trib creek
1772			<5	<5	<5	0.08																	gs, cng float in area, minor trib
4463																						OC,	polymictic cg, fest, pebbles
4476																						OC,	polymictic cg, cobbles
4464																						OC,	porph an dike, py to 5%
1795																						TP,	py volc br w/ls, arg clasts
4662			<5	55	<5	0.025																TP,	br gs porph
4699			<5	<5	<5	0.011																OC,	calc vein, fest
4698			<5	<5	<5	<0.01																OC,	mafic volcanic
4630			<5	<5	<5	0.159																OC,	alt porph dike
4646			<5	<5	<5	0.077																OC,	volc cg
Salt Chuck Area																							
4632			<5	<5	<5	<0.01																OC,	mafic volc w/qz
3014			5	6	<5	0.170																	stream sediment, poor sample, lack of fines
3505																						RC,	sulf in metaplutonic rock
3506									18	35	25											OC,	fel-intermediate dike
3004			19	21	<5	0.148																OC,	ls, dolomite, minor siderite
3005			<5	24	8	0.661																	stream sediment sample
3006			<5	40	6	0.280																OC,	oxide-filled fractures cutting ls
3007			<5	79	9	0.086																OC,	carbonaceous ls, minor siderite
3008			7	73	<5	0.268																	stream sediment sample
3016			7	<5	5	0.125																OC,	chert-jasper zone in conglomeratic ls
3055			9	<5	<5	0.058																OC,	ca vein in lithic wacke, possible Ba

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sampl e No.	Location	Sampl e type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
R28	3010	Port San Antonio	C	0.61	145		2.6		27		21		69		26		25	2	630		152		<10	1.12		
	3011		C	0.91	14		2.1		89		17		184		22		37	10	1000		145		<10	2.44		
	3012		C	0.91	10		3.0		14		33		131		1		3	6	30		40		<10	0.57		
	3013		S		<5		1.4		50		11		49		9		100	25	410		175		15	5.99		
	3051		C	0.61	24		1.2		42		196		291		15		23	4	1400		99		<10	2.03		
	3052		C	1.52	7		1.2		78		19		77		2		22	8	1200		128		<10	1.70		
	3053		Rep	4.57	26		0.6		123		18		110		1		10	21	600		31		10	6.45		
R29	9115	Baker Island	G		<5		<0.1		105		7		172		428		7	4	48		137	<20	<20	3.91		
	9116		SS		6		<0.2		86		7		144		14		27	10	1203		127		<20	2.32		
	9117		SS		7		<0.2		65		10		192		12		30	12	1850		140		<20	2.12		
R30	9118		G		<5		<0.1		4		5		34		6		7	3	29		196	<20	<20	1.68		
	9393		C	0.4	<5		<0.1		33		7		22				6	4	79		194	<20	<20	1.80		
R31	3512	Big Salt Lake Road	C	1.31	<5		<0.1		589		6		57													
	3513		C	0.34	8		<0.1		878		6		35													
	3758		C	0.18	6		<0.1		363		5		30													
R32	3514	Black Lake	Rep		8		0.5		119		12		193													
	3515		C	0.43	<5		0.6		54		8		46													
R33	3308	McGilvery Creek	PL	.076 m3	4459		0.9		28		5		104		<1		25	23	400		95		13	>10		
R34	3307		PL	.076 m3	59		<0.2		19		17		72		<1		36	41	210		65		<10	2.27		
R35	9053		PC	3 pans	909		<0.2		83		8		113		2		18	16	486		88		<20	4.06		
R36	9054		PC	3 pans	446		<0.2		102		14		131		<1		21	31	260		89		<20	8.23		
R37	9055		PC	3 pans	1337		<0.2		217		50		568		7		34	13	747		216		<20	4.78		
R38	9056		S		<5		0.3		74		11		136		6		25	13	89		96	<20	<20	2.46		
R39	3211	Dew Drop	C	1.52	11		0.5		14		9		27		<1		12	3	390		154		<10	3.41		
	3212		C	3.66	<5		0.7		15		9		46		<1		11	5	500		108		<10	2.53		
	3553		S		154		0.7		45		20		105													
R40	3601	Upper Harris River	Rep	0.09	466		19.4		1008		288		620		3		53	44	<100		680	<200	160	>10		
R41	3602		G		307		10.7		2184		75		313													
R42	3603		G		58		1.3		455		16		539													
R43	3613		S		44		0.6		27		16		74		3		<20	52	470		290	<200	<2	>10		
	3614		S		25		0.8		567		12		86													
	3615		Rep		16		0.4		42		18		22													
R44	3524	Klawock-Hollis Road	Rep		124		0.7		52		19		144													
	3525		Rep		7		0.6		133		9		882													
	3577	Harris River placer	PL	0.08m3	1546		<0.1		68		19		127													
R45	3576		PL	0.08m3	1663		6.3		37		21		201													
Hollis Area																										
R46	3112	Granite Mountain	Rep	0.76	14		0.9		177		7		45		<1		26	20	<20		51		<10	6.71		
R47	9057		C	0.4	<5		<0.1		13		<2		3													
R48	3305	Maybeso Creek	PL	.076 m3	8801		1.7		73		21		220		2		25	36	900		77		<10	7.23		
R49	3585	Maybeso Knob	Rep		11		0.6		105		11		268													
	3586		Rep		<5		0.6		94		34		524		7		46	7				<5	<2			
R50	3303	Maybeso Creek	PL	.076 m3	1815		0.8		64		17		159		2		23	22	770		89		<10	5.74		
R51	3392	Cascade	C	0.09	<5		0.7		15		263		22		4		8	3	100		321		<10	0.72		
	3408		CC	0.40	817		2.8		37		75		91		4		4	5	350		136		<10	2.30		

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
3010			<5	26	10	0.090																OC,	gp black ar, sedex environment
3011			5	<5	<5	0.075																OC,	black ar, sedex environment
3012			13	<5	<5	0.067																OC,	qz layers in ar, veins parallel to foliation
3013			5	288	<5	0.059																RC,	siliceous ar, debris close to in place
3051			<5	33	13	0.126																OC,	carbonaceous argillic pl
3052			<5	6	<5	0.031																OC,	carbonaceous pl, 90m el
3053			<5	9	9	0.062																OC,	sil ar, N side of steep outcrop
9115	8	<1	<5	<5	<5		<10		9		10											OC,	leucocratic intrusive w/po+py 5%
9116			<5	12	5	0.029																	poor sample, sulf in qz veins in area
9117			<5	<5	<5	0.067																	sulf in qz veins reported in area
9118	19	<1	<5	<5	<5		<10		4		4											RC,	di w/very minor mo
9393	16	<1	<5	11	<5		<10		7		14											OC,	sil di porph w/py 3%
3512																						OC,	gs w/veins & dissem sulf
3513																						OC,	qz vein and gouge in ar
3758																						OC,	qz vein in gs
3514																						OC,	sulf in metavolc br
3515																						OC,	qz-calc vein & fault gouge
3308			<5	<5	9	0.019																	placer, 50m el, sand and gravel
3307			13	<5	11	<0.010																	placer, 80m el, sand and gravel
9053			<5	9	38	<0.01																CB	minor black sands, possible very fine Au
9054			<5	<5	<5	0.025																CB	significant black sands, little to no visible Au
9055			<5	84	7	4.411																CB	very few to no black sands, no visible Au
9056	192	1	<5	8	<5		<10		3		7											RC,	fest ar w/minor cp?,py,po
3211			<5	30	<5	0.017																OC,	qt and chert, local slate interbeds
3212			<5	<5	6	<0.010																OC,	sil ar w/chert, on strike to Lucky Nell workings
3553																						OC,	minor sulf in ar/slate
3601		<10		44	5.4		<20	<1	<5	<10		<1	<5	<0.5	<1	<0.5	<0.5	<10				FL,	0.09m qz vein w/ sulf
3602																						FL,	qz vein w/ minor sulf
3603																						FL,	metasediments w/ sulf
3613		<10		42	0.7		<20	<1	15	27		<1	<5	<0.5	<1	3	1.5	47				OC,	metavolc & clays w/ qz
3614																						OC,	metavolc w/ sulf lenses
3615																						OC,	alt metavolc w/ sulf
3524																						OC,	qz vein in gs; dissem py in gs
3525																						OC,	qz vein in black slate
3577																							placer sample
3576																							placer sample
Hollis Area																							
3112			6	<5	5	<0.010																OC,	diabase dike, similar to Flagstaff dike
9057																						OC,	qz vein w/minor chl seams
3305			<5	19	6	0.100																	sand and gravel, 80m el
3585																						OC,	qz stringers in black slate
3586																						OC,	qz vein in black slate
3303			<5	7	<5	0.149																	sand and gravel, 30m el
3392			<5	29	<5	0.054																RC,	vuggy crystalline qz, vein may be slumped block
3408			<5	1041	11	0.204																OC,	br qz vein, w/hn clasts

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sampl e No.	Location	Sampl e type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
R52	3200		S		55		3.5		13		15		72		1		8	17	<20		341		<10	9.46		
	3548		C	0.52	778		3.0		37		61		55		<1		2	8	350		160		<20			
	3549		C	0.09	20		0.2		14		23		21													
	3550		G	0.30	2106		5.2		14		115		63									<5	4.1			
	3644		Rep		98		3.0		19		127		19		<1		9	4								
	3645		Rep		193		6.3		12		40		28		6		6	<1								
R53	3170	Harris River	C	0.15	<5		0.7		45		4		95		<1		14	11	820		149		<10	3.60		
R54	3660	Flagstaff Creek	PC	3.5 pans	55		<0.2		17		45		89		2		8	6	370		121		<20	3.32		
R55	3661		PC	3.5 pans	4270		<0.2		7		27		75		<1		4	3	240		108		<20	1.52		
R56	3662		PC	3.5 pans	30		<0.2		11		6		69		<1		8	5	310		117		<20	4.31		
	3663		PL	.08m3	323		0.2		26		11		78													
R57	3664		PC	3.5 pans	254		<0.2		8		5		56		<1		7	4	320		142		<20	2.26		
R58	3306		PL	.076 m3	106		0.6		29		13		215		1		16	7	380		100		<10	3.62		
R59	3066	Stella	Rep	2.44	<5		<0.2		6		<2		68		<1		7	3	<20		269		<10	0.36		
	3067		C	0.91	17		0.7		17		5		196		4		3	1	<20		252		<10	1.41		
	3108		Rep	3.05	15		0.8		49		7		126		2		7	2	<20		291		<10	3.14		
	3109		C	1.22	20		10.5		161		6		1109		5		4	1	<20		248		<10	5.68		
R60	3519	Clark Bay	SS		<5		0.3		95		42		799													
R61	3520		C	0.98	26		1.2		193		26		754													
	3521		C	0.61	<5		<0.1		35		17		67													
R62	3545	Kina Cove	G		13		0.2		209		6		29		<1		5	14								
R63	3064		C	1.22	<5		0.6		74		7		68		1		32	17	530		75		<10	3.73		
	3103		Rep	2.44	10		0.5		20		10		77		<1		21	11	430		56		<10	3.44		
R64	3547		G		<5		<0.1		50		3		5													
R65	3546		Rep	0.06	8		<0.1		57		6		42													
R66	3050		CH	0.03	73		3.3		459		59		40		6		18	75	230		215		15	>10		
	3063		C	0.15	103		4.9		18		555		190		3		7	3	50		286		<10	0.88		
	3101		C	0.46	10		0.9		85		7		70		<1		6	15	5400		20		<10	5.39		
	3102		C	0.61	19		3.3		28		6		92		1		<1	32	1800		22		30	>10		
R67	3620	Baker Point	SS		20		<5						240		3		<20	56	270		220	<200	3	6.80		
	3621		Rep		9		<0.1		51		4		52		<2		<20	25	180		160	<200	<2	8.20		
R68	3092	Shelton	Rep	1.52	9		1.2		130		15		135		<1		57	13	50		167		13	8.10		
	3538		SS		16		<0.2		89		45		195		<1		37	20	500		127		<20	4.45		
R69	3527	Cable Creek	SC	5.5@0.3	<5		<0.1		51		5		47													
	3528		C	1.46	<5		0.1		8		6		42						<20							
	3759		C	0.76	<5		<0.1		9		6		175													
	3760		C	1.52	<5		<0.1		26		4		193													
R70	3563		Rep		7		0.6		9		6		32													
R71	3564		G		<5		0.4		11		4		42													
	3565		S		19		0.3		34		6		84													
	3566		S		6		0.2		36		6		12		<1		12	37	90		81		<20	9.59		
	3567		C	0.91	<5		0.3		7		<2		5													
	3568		SC	3.7@0.15	<5		<0.1		4		<2		11		<1		2	2	<20		174		<20	0.34		
	3775		SC	2.6@0.3	113		1.1		23		11		14													

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
3200			<5	24	6	0.081																FL,	qz vein material, above presumed adits
3548																						OC,	qz vein & qz br vein
3549																						OC,	qz vein w/ minor py
3550							<0.2															MD,	up to 1' qz vein; fest common
3644																						FL,	qz vein & qz br
3645																						OC,	qz vein; in intermed. intrusive
3170			5	81	<5	0.032																OC,	qz vein in pl, pl foliated 315/34S
3660			<5	<5	<5	0.016																	pan concentrate
3661			<5	<5	<5	0.025																	pan concentrate
3662			<5	<5	<5	<0.01																	pan concentrate
3663																							placer sample
3664			<5	<5	<5	<0.01																	pan concentrate
3306			<5	<5	<5	0.030																	sand and silt, 140m el, small sample
3066			<5	<5	<5	0.015																OC,	msv milky qz; Stella prospect not found
3067			<5	138	<5	0.247																OC,	vuggy qz vein w/sulf
3108			<5	7	<5	0.033																OC,	milky qz veins in limy ar
3109			<5	<5	<5	0.708																TP,	small prospect pit in milky qz vein
3519																							stream sediment
3520																						OC,	qz lenses in black slate
3521																						OC,	qz veins in black slate; fest
3545									11	14	12											OC,	gd dike in gs
3064			<5	<5	<5	<0.010																OC,	skarn, sample on point E of Jarvis Island
3103			<5	<5	7	<0.010																OC,	calc-silicate sc, exoskarn? 150m from contact
3547																						FL,	fest qz vein w/ minor sulf
3546																						OC,	qz vein w/ py; in metavolc
3050			<5	41	10	<0.010																OC,	vuggy qz vein in siliceous gs
3063			<5	52	8	0.013																TP,	qz vein in alt ls
3101			<5	<5	<5	<0.010																OC,	road cut, py dacitic tuff
3102			12	16	15	0.031																OC,	sil ls, exposed in roadbed by quarry
3620		<10		14	1.3		<20	1	11	27		<1	<5	<0.5	<1	1.4	1.5	18					stream sediment
3621		<10		6	0.9		<20	<1	6	20		<1	<5	0.6	<1	0.8	<0.5	<10				OC,	dissem sulf in metavolc
3092			<5	75	<5	0.062																OC,	20m el on creek, calcareous pl
3538																							stream sediment
3527																						OC,	chl-sericite sc w/dissem sulf
3528																						OC,	chl sc w/bands dissem sulf
3759																						OC,	min body of chl sc
3760																						OC,	chl sc w/dissem sulf
3563																						FL,	qz-chl sc or gs
3564																						FL,	chl sc & gs
3565																						OC,	chl sc w/minor sulf
3566																						FL,	sericite-chl sc
3567																						OC,	qz vein in siliceous-sericite sc
3568																						OC,	sericite sc w/ qz veins/lenses
3775																						OC,	sericite sc w/ py bands

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sample No.	Location	Sample type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
	3776		S		8		<0.1		27		8		12													
R72	3510		SS		12		0.2		45		15		137													
R73	3143	Trocadero Bay to Polk Inlet	Rep	1.83	6		1.0		97		8		29		<1		45	28	890		70		12	4.89		
R74	3090		C	0.61	7		0.8		100		17		82		1		21	21	700		57		<10	7.11		
	3140		Rep	0.91	6		0.8		134		14		74		<1		25	18	730		82		<10	4.92		
R75	3509	Cable Creek	SS		18		0.4		53		23		170													
R76	3139	Trocadero Bay to Polk Inlet	C	0.61	11		1.8		180		16		87		<1		12	38	<20		26		18	>10		
R77	3091		C	0.12	<5		0.9		138		10		34		2		7	14	<20		120		<10	4.46		
	3141		Rep		111		1.9		169		13		50		2		26	36	140		27		18	>10		
	3142		CH	0.06	49		0.8		109		15		59		1		7	13	<20		125		12	5.82		
R78	3065		C	0.91	<5		<0.2		3		4		42		3		1	2	490		44		<10	2.98		
	3107		C	1.22	98		1.6		49		8		81		2		14	13	860		59		<10	7.91		
R79	3106		Rep	2.44	13		0.6		46		9		26		3		25	7	720		135		<10	3.93		
R80	3097		Rep	0.91	<5		<0.2		33		<2		22		1		3	3	<20		150		<10	1.76		
	3202		S		28		0.4		28		<2		22		<1		3	3	<20		147		<10	2.60		
	3203		Rep		<5		0.2		47		3		22		<1		3	3	<20		128		<10	2.31		
	3204		Rep	15.24	<5		<0.2		39		<2		21		<1		2	3	<20		141		<10	2.27		
R81	3294	Franks Ridge	SC	3.4@0.15	11		0.2		144		<2		4		11		25	5	<20		181		<10	1.28		
	3295		SC	2.4@0.15	<5		0.3		96		3		4		12		30	4	<20		267		<10	2.18		
	3296		CH	0.24	140		1.6		703		<2		4		3		4	2	<20		313		<10	0.71		
	3321		C	1.77	<5		<0.2		51		<2		2		6		14	2	40		281		<10	0.73		
	3322		C	1.07	19		0.7		326		4		5		15		39	9	<20		236		<10	1.40		
R82	3201	Trocadero Bay to Polk Inlet	CH	0.15	132		12.6		29		15		120		1		8	8	<20		327		<10	3.68		
R83	3396		Rep		6		0.4		94		<2		60		<1		38	39	290		60		<10	5.52		
R84	9111	Rock Lake	G		7		<0.1		8		5		34													
	9112		Rep		7		<0.1		30		5		65													
	9113		C	0.4	15		0.2		322		7		179		56		9	20	7		55	<20	<20	6.29		
	9114		Rep		13		<0.1		24		8		44		7		6	19	21		148	<20	<20	4.99		
	9391		C	0.4	<5		<0.1		9		9		40				11	26	9		118	<20	<20	6.22		
	9392		C	0.4	<5		<0.1		76		6		122				10	11	7		115	<20	<20	9.27		
Khayyam Area																										
R85	3284	Lucky Monday	C	1.52	14		0.7		59		5		14		11		5	3	1500		51		12	7.96		
	3285		SC	3.0@0.15	8		0.6		14		13		29		3		2	5	850		61		<10	6.74		
	3314		SC	3.0@0.15	<5		0.3		23		107		190		6		3	1	890		176		<10	2.21		
	3315		SC	3.0@0.15	16		0.6		38		21		201		3		13	5	1100		217		<10	7.41		
R86	3286		C	1.22	16		0.5		11		8		52		3		29	29	860		106		<10	6.86		
	3287		C	1.52	10		0.6		29		6		41		3		19	25	920		104		<10	7.88		
	3288		C	0.91	<5		0.5		37		30		68		5		27	31	970		119		<10	7.29		
	3289		C	1.22	12		0.9		51		258		443		4		14	14	1400		104		<10	6.06		
	3290		C	2.44	24		0.9		44		19		87		3		10	18	1400		71		<10	6.64		
	3291		C	0.91	51		1.3		58		16		237		4		12	20	1200		99		<10	6.98		
	3292		SC	3.0@0.15	8		0.6		171		7		40		7		27	23	880		246		<10	7.74		
	3293		SC	3.0@0.15	10		0.5		113		4		35		11		23	20	820		188		<10	6.78		
	3316		C	0.21	<5		0.2		23		23		59		1		15	13	190		217		<10	2.99		
	3317		C	0.24	<5		<0.2		18		9		75		<1		12	8	570		254		<10	1.49		

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
3776																						OC,	sericite sc w/ minor sulf
3510																							stream sediment
3143			<5	14	5	<0.010																TP,	quarry, qz chl sc, weathers brick red
3090			<5	10	11	0.273																OC,	boulder in quarry, chl sc
3140			<5	22	<5	0.241																TP,	quarry, chl sc, local jasperoid
3509																							stream sediment
3139			6	18	<5	0.020																TP,	quarry, qz chl sc, numerous ca veinlets
3091			<5	<5	<5	0.094																TP,	quarry, qz veins in marble
3141			<5	66	5	<0.010																TP,	quarry, py marble, weathers brick red
3142			<5	6	7	0.016																TP,	quarry, qz vein crosscuts msv gs
3065			<5	<5	<5	<0.010																OC,	bleached qt
3107			6	28	5	<0.010																OC,	musc sc, exposed in blowdown
3106			<5	49	<5	<0.010																OC,	sil ls, exposed in blowdown
3097			<5	<5	<5	0.012																FL,	Float above pit floor, chert
3202			<5	<5	<5	0.030																TP,	quarry, sil chl sc, 15m-thick zone
3203			<5	<5	<5	<0.010																TP,	alt sil chl sc, leached part of min zone, quarry
3204			<5	<5	<5	0.025																TP,	alt sil chl sc, sample across min zone, quarry
3294			<5	<5	<5	<0.010																OC,	chert, local qz veining
3295			<5	9	<5	<0.010																OC,	black ar, w/infolded chert
3296			<5	<5	<5	<0.010																OC,	milky qz vein, trace cp
3321			<5	<5	<5	<0.010																OC,	qz vein in chert
3322			<5	<5	<5	<0.010																OC,	qz vein, minor fg py
3201			<5	55	19	0.059																OC,	road cut, qz vein, fresh shot face
3396			6	9	<5	<0.010																OC,	road cut, gs, same section as Franks ridge
9111																						FL,	fg fel sc w/dissem py 3%
9112																						OC,	chl sc w/dissem py 3%
9113	210	<1	6	<5	<5		<10		<1		3											OC,	chl sc w/py 5%
9114	39	<1	<5	<5	<5		<10		1		1											OC,	sericite sc w/dissem py 3%
9391	67	<1	7	<5	<5		<10		<1		<1											OC,	fel sc w/fg py 20%
9392	351	<1	11	<5	<5		<10		<1		<1											OC,	alt greenschist w/py 3%
Khayyam Area																							
3284			<5	6	5	0.016																RC,	sericite sc
3285			<5	<5	<5	0.017																OC,	sericite-py sc
3314			<5	<5	<5	0.128																OC,	qz-sericite sc, 780m el
3315			<5	8	<5	0.058																OC,	qz-sericite sc, 780m el
3286			<5	<5	<5	0.033																OC,	chl-sericite sc
3287			<5	<5	<5	0.016																OC,	chl-sericite sc, adjoins sample 3286
3288			<5	<5	<5	<0.010																OC,	qz-sericite sc, locally very sil, trace Cr mica
3289			<5	9	<5	0.091																OC,	sericite sc, minor Cr mica
3290			<5	17	<5	0.017																OC,	sericite sc
3291			<5	8	<5	0.066																OC,	sericite sc, contacts mafic dike
3292			<5	<5	<5	<0.010																OC,	sericite sc, adjoins 3293
3293			<5	9	6	<0.010																OC,	chl sc, local qz eyes
3316			<5	<5	<5	0.023																OC,	qz boudin, 690m el
3317			<5	<5	<5	<0.010																OC,	qz boudin, 690m el

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sample No.	Location	Sample type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
	3318		C	1.52	<5		0.2		7		3		13		5		6	8	11300		125		<10	2.90		
	3319		C	0.46	<5		<0.2		6		<2		11		2		6	3	3300		294		<10	1.22		
	3320		C	1.52	<5		0.3		6		3		46		4		7	10	9600		113		<10	4.82		
R87	3277		C	1.52	45		0.6		108		7		164		1		11	20	1900		63		<10	8.12		
	3278		C	1.22	15		0.8		141		7		73		4		16	26	2500		75		11	9.73		
	3279		CC	0.30	8		<0.2		15		<2		6		<1		4	5	430		176		<10	1.25		
	3280		SC	3.0@0.15	7		0.4		34		7		64		<1		9	13	1500		129		<10	5.23		
	3281		SC	3.0@0.15	15		1.3		54		8		104		3		7	8	3900		103		<10	6.72		
	3282		SC	3.0@0.15	7		0.8		36		7		153		2		10	12	1300		69		<10	8.83		
	3283		SC	2.4@0.15	7		0.5		18		7		98		7		8	7	2200		114		<10	7.12		
	3309		C	1.22	11		0.7		31		5		83		4		7	6	3000		93		<10	7.46		
	3310		SC	4.0@0.15	15		0.7		38		35		73		4		9	4	1000		228		<10	7.65		
	3311		C	0.46	<5		<0.2		25		16		12		1		6	2	160		282		<100	1.19		
	3312		SC	3.7@0.15	6		0.5		32		9		77		3		5	3	1300		184		<10	4.63		
	3313		SC	3.0@0.15	<5		0.7		37		17		104		3		7	5	1400		121		<10	7.66		
R88	3398	Trocadero Bay to Polk Inlet	Rep		<5		0.7		102		<2		69		<1		8	22	<20		28		<10	7.39		
R89	3397		Rep		<5		0.6		22		<2		26		<1		11	31	<20		57		<10	5.94		
R90	4318	Goat Island	Rep	0.3	7		1.5		567		191		395		3		45	21	360		38		<10	5.84		
R91	4336		C	1.2	<5		0.9		70		28		107		<1		51	36	2100		57		<10	>10		
R92	4319		SS		<5		1.5		121		59		115		5		41	71	330		66		11	>10		
R93	4320		SS		<5		1.0		65		19		83		2		30	52	240		73		<10	8.15		
	4321		SS		<5		1.5		111		44		85		3		22	129	160		46		16	>10		
	4322		C	0.9	<5		0.8		89		94		141		<1		33	14	30		100		<10	4.16		
	4323		S	0.15 x 0.9	<5		1.8		35		347		348		<1		12	6	<20		48		<10	2.37		
	4324		S	0.6	564		2.0		110		72		91		2		71	113	<20		234		20	>10		
	4337		SS		31		1.3		109		115		105		2		39	58	270		70		<10	9.70		
	4338		SC	2.44@0.1	<5		1.2		37		105		125		<1		5	15	90		42		<10	7.77		
	4339		SS		6		0.9		46		152		105		1		45	45	280		57		<10	8.11		
R94	4325		SS		6		1.7		136		43		104		4		34	123	250		60		11	>10		
									Jumbo Mountain Area																	
R95	3569	Sultana	S		<5		1.7		156		20		134													
	3570		C	1.46	<5		0.8		149		10		86													
	3571		Rep		<5		0.7		183		7		30		5		20	19				<5	<2			
R96	3076	Deer Bay	SC	6.1@0.3	65		1.3		30		11		60		4		12	17	70		92		<10	8.27		
R97	1686	Lake Marge	Rep		<5		<0.1		286		<2		51													
R98	4090	Simmons Point	C	1.5	<5		<0.1		21		<2		25		3			5	270							
R99	4088	Hetta Cove area	C	1.5	85		0.2		68		<2		56		<1		2	5	385		86	<20	<10	3.38		
R100	4087		C	1.5	<5		0.5		67		6		52		<1		2	5	373		85	<20	<10	3.34		
R101	4086		C	0.9	<5		1.0		71		9		94		<1		13	11	478		29	<20	20	2.73		
R102	5341	Divide Head area	Rep	0.6	<5		<0.1		6		8		12													
R103	5780		G		<5		<0.1		8		5		10		10											
R104	5335		C	0.1	<5		<0.1		13		4		35													
R105	5334		C	0.2	<5		<0.1		17		3		45													

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
3318			<5	<5	<5	0.016																OC,	sericite sc, 770m el
3319			<5	<5	<5	<0.010																OC,	qz-sericite sc, 680m el
3320			<5	<5	<5	<0.010																OC,	sericite sc, 680m el
3277			<5	7	<5	<0.010																OC,	py sc, at cliff face
3278			<5	<5	<5	0.023																OC,	chl py sc
3279			<5	6	<5	<0.010																OC,	qz boudin in sc
3280			<5	6	<5	<0.010																OC,	siliceous sc, glacial polish
3281			<5	<5	6	0.015																OC,	chl-sericite sc, 3280 adjoins to N
3282			<5	<5	6	<0.010																OC,	chl-sericite sc, adjoins 3281 to N
3283			<5	<5	<5	0.015																OC,	qz-sericite sc, adjoins 3282 to N
3309			<5	<5	6	<0.010																OC,	qz-sericite sc, 690m el
3310			<5	13	<5	<0.010																OC,	qz-sericite sc, 700m el
3311			<5	<5	<5	<0.010																OC,	qz vein in sc, 700m el
3312			<5	7	<5	0.023																OC,	qz-sericite sc, 700m el
3313			<5	<5	<5	0.039																OC,	qz-sericite sc, 700m el
3398			<5	17	<5	<0.010																TP,	quarry, intermediate sc, flat shear
3397			<5	13	<5	<0.010																TP,	quarry, mafic sc
4318			<5	<5	6	0.019																FL,	chert float w/py stringers
4336			<5	9	<5	<0.01																OC,	mafic dike w/2% dissem py
4319			5	46	6	0.108																	stream sediment, coarse grained
4320			<5	30	<5	0.116																	stream sediment, good sample
4321			<5	22	<5	0.182																	stream sediment, high organics
4322			<5	9	6	0.01																OC,	siliceous volcanics/agglomerate
4323			<5	<5	5	<0.01																OC,	qz/ca shear vein in phyllite
4324			<5	435	<5	<0.01																RC,	qz veins in mafic volcanic/ar
4337			<5	24	<5	0.11																	stream sediment, coarse material
4338			<5	44	<5	<0.01																OC,	andesitic dikes/qz veins w/py
4339			<5	10	6	0.09																	stream sediment, taken from moss
4325			<5	54	<5	0.181																	stream sediment, mixed organics
Jumbo Mountain Area																							
3569																						OC,	limonite lens; some sulf & qz
3570																						OC,	siliceous marble w/ dissem sulf
3571							0.5															OC,	siliceous marble w/ dissem sulf
3076			<5	<5	<5	0.118																OC,	qz-mica sc, fest outcrop
1686																						RC	hn, py/po in stringers
4090																						OC,	qz-ser sc w/5-25% py
4088	46	<1.0	8	<5	<5		<10		12		12											OC,	garnet-bearing hnbd hornfels
4087	45	<1.0	7	10	5		<10		12		11											OC,	qz vein in bt sc
4086	77	<1.0	12	<5	<5		13		2		8											OC,	marble/bt sc w/trace py/po
5341																						OC,	qz-calc stringer zone in marble
5780																						OC,	ls w/oxidized carbonate veins
5335																						OC,	qz stringer
5334																						OC,	qz stringer

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sampl e No.	Location	Sampl e type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
R106	5342		Rep	0.2	<5		<0.1		18		7		32													
R107	5338		Rep	2.1	<5		<0.1		15		4		34													
R108	5337		Rep	0.5	<5		<0.1		6		70		19													
	5781		C	0.2	<5		<0.1		7		<2		3		8											
R109	5784		S		<5		<0.1		138		7		97		6											
R110	5786		S	0.2	<5		0.3		71		19		124		7											
R111	5339		Rep	1.5	<5		<0.1		4		12		49													
R112	5338		Rep	2.1	<5		<0.1		15		4		34													
	5782		Rep	0.2	<5		<0.1		6		<2		5		8											
R113	5074	South Arm and Dora Bay	Rep	1.2	<5		<0.1		8		<2		12		6											
R114	5831	Divide Head area	Rep	0.6	<5		<0.1		78		3		74		2											
R115	5829		S		54		0.6		119		22		46		23											
R116	5830		G		<5		<0.1		55		5		58		5											
R117	5073	South Arm and Dora Bay	S	0.2	<5		<0.1		56		7		20		8											
R118	5072		S	0.1	<5		<0.1		67		4		62		8											
R119	5828	Divide Head area	Rep	2.1	<5		<0.1		61		4		59		11											
R120	5827		Rep	0.6	13		<0.1		18		10		53		21											
R121	5826		G		14		<0.1		70		4		69		3											
R122	5340		Rep	0.9	<5		0.2		96		42		13													
R123	5071	South Arm and Dora Bay	G		<5		1		36		36		66		7											
R124	5806	Divide Head area	Rep	0.9	<5		<0.1		5		15		86													
R125	5807		Rep	0.6																						
R126	5783		C	0.9	<5		<0.1		13		16		13		8											
R127	5366		Rep	2.1	<5		<0.1		7		9		100		9											
R128	5388		Rep	0.2	<5		<0.1		11		3		56		4											
R129	5364		G		<5		<0.1		7		6		96		3											
R130	5387		Rep	0.2	8		<0.1		42		6		74		4											
R131	5805		Rep	0.6	<5		<0.1		6		68		398													
R132	5365		Rep	1.2	<5		1		76		41		433		9											
R133	5354	Dora Lake	C	0.2	<5		<0.1		17		8		94													
	5795		Rep	0.6	<5		<0.1		15		5		107													
R134	5328	Kitkum Bay,	C	0.6	<5		<0.1		7		15		13													
R135	5327	Kitkum Bay, W	C	0.1	<5		<0.1		8		23		18													
R136	5403	Kitkum Bay,	C	0.8	<5		<0.1		3		5		40													
Dolomi Area																										
R137	5405	Lancaster Cove	C	0.2	<5		0.2		16		3		4													
R138	5406		C	0.1	<5		<0.1		101		5		11													
R139	5390		G	0.2	<5		0.5		48		105		5													
R140	5389		G	0.1	16		36.8		7490		**6.09**	*	204													
R141	5391		CC	0.1	<5		0.4		115		370		9													
R142	5832		Rep	0.6	<5		<0.1		47		3		76													
R143	5011	Dolomi area	S		8		<0.1		30		6		17													
	5202		S		<5		<0.1		23		4		11													
R144	5010		Rep	0.1	11		<0.1		39		7		37													
	5506		S		10		<0.1																			

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
5342																						RC,	fest qz-calc stringers
5338																						RC,	qz lens
5337																						OC,	qz-calc vein w/ml
5781																						OC,	qz vein in tan marble
5784																						TP,	sheared gs w/sparse py
5786																						TP,	py-calc vein in sheared marble
5339																						RC,	qz lens
5338																						RC,	qz lens
5782																						OC,	qz lens
5074																						OC,	milky white qz vein
5831																						OC,	gs w/qz & py
5829																						RC,	gs w/sulf bands & qz
5830																						TP,	gs w/qz, calc & py
5073																						RC,	qz-calc stringers in meta-volc,-sed
5072																						RC,	fest qz-calc veins in gs
5828																						OC,	sc w/qz & py
5827																						OC,	gray sc w/banded py & qz
5826																						FL,	gs w/gn veinlet
5340																						RC,	qz lens
5071																						RC,	graphitic sc w/ pyrite band
5806									8.5	28			11	1.6		12	4.8					OC,	medium grained hnbd di
5807									6.5	14			2.3	0.31		0.9	0.7					OC,	green inrusive w clots & dissem py
5783																						OC,	qz-carbonate vein
5366																						OC,	feldspar, hnbd pegmatite
5388																						OC,	lithic tuff w/py
5364																						RC,	syenite w/fine, dissem sulf
5387																						RC,	mafic volc w/ dissem py
5805									97	206			60	7.8		57	28					OC,	monz w/hnbd
5365									31.5	120			21	3.3		9.4	5.4					OC,	sil rock along shear zone
5354																						OC,	ser sc w/qz band
5795																						TP,	gs w/qz blebs & dissem py
5328																						OC,	qz lens hosted in gray sc
5327																						OC,	qz lens w/py & ml
5403																						OC,	qz lenses in tan-colored sc
Dolomi Area																							
5405																						OC,	qz vein
5406																						OC,	marble br zone
5390																						RC,	qz
5389																						FL,	qz vein w/gn & cp
5391																						OC,	vuggy qz vein
5832																						OC,	gs w/15% qz stringers
5011	22								22	40		<1	2.1			8.1	2.9					RC,	syenite, red-pink
5202																						TP,	syenite
5010	3.8								3.8	11		<1	1.2			5.9	2.1					OC,	fairly coarse-grained diorite
5506									16	30		<1	1.8			17	4.1					OC,	veins of fel intrusive

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sample No.	Location	Sample type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
	5507		S		421		<0.1																			
R145	5049		Rep	0.3	<5		<0.1		7		5		8													
R146	5050		Rep	0.1	<5		<0.1		7		5		7													
R147	5051		Rep		75		0.5		37		13		18													
	5052		C	0.9	<5		<0.1		91		6		41													
R148	5055		G		7		<0.1		19		3		14													
R149	5053		Rep	0.6	<5		<0.1		3		5		10													
R150	5054		CC	0.2	28		0.7		98		221		3150													
R151	5546		C		63		<0.1		147		3		82													
R152	5547		S		40		<0.1		56		5		61													
R153	5848	Brennan Bay area	Rep		<5		<0.1		18		6		23													
R154	5845		C	0.4	<5		<0.1		95		<2		15													
R155	5412		Rep	0.1	<5		0.3		73		6		101													
R156	5851		C	0.7	101		<0.1		3		<2		13													
R157	5850		SC	3.4 @0.15	<5		<0.1		7		3		88													
R158	5847		C	1.5	7		0.2		126		<2		137													
R159	5844		C	0.5	<5		<0.1		4		<2		49													
R160	5839		C	1.8	<5		0.2		73		16		60													
	5840		C	1.9	<5		<0.1		73		4		71													
R161	5843		C	0.5	<5		<0.1		17		<2		15													
R162	5334		C	0.2	<5		<0.1		17		3		45													
R163	5841		RC		<5		<0.1		15		3		36													
	5842		S		<5		0.1		601		2		30													
R164	5039	Dolomi area	G		23		0.4		264		12		43													
	5040		G		1686		1.4		171		23		61					37					<2.0			
	5041		G		15		0.3		351		14		71										2.1			
	5536		S		18		0.6		285		14		49													
R165	5056		CC	0.8	6		<0.1		7		6		88													
	5550		C	0.6	14		<0.1		18		4		40													
	5551		Rep		31		<0.1		22		9		38													
R166	5057		C	0.4	<5		<0.1		66		6		28													
	5552		S		7		<0.1		133		25		81													
R167	5393	Kitkum Bay	Rep	1.8	<5		<0.1		3		11		87													
	5834		Rep	4.0	<5		0.2		106		4		100													
R168	5835		Rep		<5		<0.1		21		4		134													
R169	5836		CC	0.2	<5		<0.1		8		4		60													
R170	5399		G	0.2	<5		<0.1		<1		4		8		<1											
R171	5400		C	0.4	<5		0.1		2		3		4													
	5401		C	1.2	7		<0.1		25		6		75													
	5402		C	0.6	<5		<0.1		3		5		6													
	5837		C	2.7	<5		0.1		3		4		9													
	5838		S		<5		<0.1		2		4		46													
R172	5224	Dolomi Mountain	Rep	0.2	<5		<0.1		4		<2		10													
R173	5226		C	0.5	<5		<0.1		4		5		8													
	5227		C	0.3	<5		<0.1		12		<2		5													

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
5507									22	43		<1	2.1			7.2	2.5					OC,	syenite
5049																						OC,	marble w/ limonite stain
5050																						RC,	qz stringers in marble
5051																						RC,	silicate gossan
5052																						OC,	fest band in limestone
5055																						RC,	qz calc vein w/ marble qz br
5053																						OC,	fest marble w/ qz
5054																						RC,	qz vein
5546																						OC,	qz, marble, sc
5547																						OC,	qz veins + limonite
5848																						OC,	dark-gray marble w/dissem py
5845																						OC,	qz pod in gs
5412																						TP,	fest sc w/qz lens & 7% py
5851																						OC,	qz lens hosted in gs
5850																						OC,	sc w/qz stringers
5847																						OC,	gs w/qz stringer, py & hematite
5844																						OC,	qz vein hosted in gs
5839																						TP,	gray talc sc w/qz & py
5840																						TP,	gray talc sc w/py & qz string
5843																						OC,	qz lens in gs
5334																						OC,	qz stringer
5841																						RC,	gray-green talc sc w/py bands
5842																						TP,	sulf pod in qz lens in talc sc
5039																						RC,	sil gs
5040																						RC,	gossan
5041																						RC,	banded grnstone marble
5536																						RC,	msv sulf, marble
5056																						OC,	qz vein w/ chl sc along shears
5550																						OC,	qz vein & gs
5551																						RC,	qz vein
5057																						OC,	calc sc, chl sc, marble
5552																						RC,	chl sc, gs
5393																						TP,	banded marble w/bands of sc
5834																						OC,	interbedded, folded marble & sc
5835																						FL,	banded marble and chl sc
5836																						OC,	chl sc w/qz stringers & blebs
5399																						RC,	qz-calc sc
5400																						RC,	qz vein w/py, cp, ml, az
5401																						OC,	sc w/dissem py in qz stringer
5402																						OC,	qz vein w/py along fractures
5837																						TP,	L-shaped qz-carbonate vein
5838																						TP,	maraposite
5224																						RC,	qz vein in green micaceous wallrock
5226																						OC,	qz vein, vuggy @ places
5227																						RC,	qz vein

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sampl e No.	Location	Sampl e type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
R174	5225		C	0.1	<5		<0.1		2		<2		7													
R175	5223		Rep	0.1	6		<0.1		11		3		172													
	5695		Rep	0.2	<5		1		14		4		79													
R176	5701	James Lake,	Rep		<5		<0.1		9		<2		6													
R177	5181	Dolomi area	S	0.2	72		<0.1		50		11		116										<2.0			
R178	5261	Paul Lake	Rep	0.3	102		<0.1		20		5		29													
	5716		CC	0.3	8		0.8		6		13		17													
R179	5715		C	0.4	<5		0.3		39		5		121													
R180	5046	Dolomi area	C	0.8	7		<0.1		82		7		77													
R181	5541		S		<5		<0.1		22		4		59										5.6			
									Niblack Area																	
R182	5353	Dora Lake, W side	Rep	2.4	<5		<0.1		86		7		53													
R183	5794	Dora Lake	C	2.4	<5		<0.1		72		11		154													
R184	4142	Archipelago	PC	2 pans	<5		0.9		43		3		114		1		53	29	300		99		<10	9.40		
	4170		PC	3 pans	<5		0.6		46		4		91		2		48	25	200		99		<10	9.16		
R185	4146	Breezy Bay	S	3.0	<5		<0.1		2		5		24													
R186	4144		C	1.6	9		<0.1		5		7		15													
	4153		Rep	4.6	<5		<0.1		72		<2		30													
R187	4145		Rep	0.9	<5		<0.1		61		3		45													
R188	4143		C	1.5	6		0.2		37		12		139					6	370							
	4151		C	1.2	<5		0.4		54		21		119					10	490							
	4152		C	1.5	<5		0.2		30		9		102													
R189	4150		C	1.5	<5		<0.1		41		5		105													
R190	4288	Cape Lookout area	Rep	0.6	21		0.4		759		4		28		4		8	4	520		356		<10	0.81		
R191	4289		Rep	0.6	7		0.4		409		89		189					9	3100				<2			
	4290		Rep	4.9	<5		0.3		111		19		89					11	740				<2			
R192	1762	White Mountain	Rep	3.0	<5		0.2		190		4		45													
R193	4282	Sakie Bay area	Rep	3.05 x 9.1	40		3.0		70		41		48					3	2400							
	4283		Rep	0.91 x 1.5	31		3.9		117		12		56		18		40	6	760		275		20	>10		
	4284		Rep	0.9	20		0.9		54		13		99					2	1100							
R194	4285		Rep	0.9	12		1.0		61		26		220		2		18	8	960		110		<10	2.86		
	4291		Rep	3.0	10		<0.2		49		4		32		<1		6	2	<20		305		<10	0.89		
	4292		C	0.9	10		<0.2		48		4		124		3		27	6	680		302		<10	1.45		
	4293		Rep	9.1	6		<0.2		33		3		67		2		12	4	800		346		<10	0.73		
R195	4181	Oswego	C	1.2	<5		0.6		46		<2		63		<1		43	23	474		84	<20	<10	7.79		
R196	4115	Blanket/Flat Islands	S	4.57 x 6.1	<5		0.3		1734		3		11										<2			
R197	4114		C	1.2	<5		<0.2		46		2		20		<1		19	8	1100		199		11	1.68		
R198	4084		S	0.1	7		<0.1		60		6		84										4.5			
	4116		Rep	0.3	<5		0.5		92		<2		40		<1		24	20	118		191	<20	<10	3.77		
	4117		Rep	0.37 x 0.6	72		<0.1		33		6		58		9			59	600				4			
	4118		S	0.5	10		<0.1		32		7		66		8			68	370							
R199	4461	Sukkwan Island	SS		<5		<0.2		5		9		32		6		7	7	510		13		<20	3.77		
R200	4469		Rep	7.6	<5		<0.1		15		<2		8		7		15	25	540							
R201	4468		SS		<5		<0.2		5		6		34		4		4	18	340		10		<20	4.79		

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
5225																						OC,	qz vein
5223																						OC,	qz-calc vein w/po & mica
5695																						OC,	qz vein in qz-marble host
5701																						RC,	qz vein
5181																						RC,	calcareous grn bands,ser,qz,mg
5261																						RC,	qz/qz-marble br vein
5716																						OC,	qz vein
5715																						OC,	sc band hosted by marble
5046																						OC,	qz vein w/ bands containing py bleb
5541																						OC,	gs/chl sc
5353																						OC,	pl w/15% qz stringers
5794																						OC,	sc w/qz blebs
Niblack Area																							
4142			<5	12	7	0.043																	pan concentrate, coarse gravels
4170			<5	10	9	0.020																	pan concentrate, poor location
4146																						OC,	rockpit: dacite dike w/py
4144																						OC,	rockpit: alt latite dike
4153																						OC,	rockpit: alt latite dike
4145																						OC,	rockpit: ls cg/diabase dike
4143																						OC,	rockpit: ar, gw, dissem py
4151																						OC,	rockpit: ar, gw, siltstone, py
4152																						OC,	rockpit: ar, gw, siltstone, py
4150																						OC,	rockpit: shear zone in gw, py
4288			<5	<5	<5	<0.01																OC,	qz vein in ar w/minor py
4289																						OC,	ar w/qz vein, py
4290																						OC,	black ar w/qz veins, py
1762																						OC,	alt gd dike w/ local py to 5%
4282																						OC,	py clots w/qz in argillite
4283			<5	211	56	0.534																OC,	qz vein & py clots in argillite
4284																						OC,	qz vein & small py clots in ar
4285			<5	24	<5	0.013																OC,	qz veins in ar w/py to 5%
4291			<5	<5	<5	0.012																OC,	qz vein in ar, trace py
4292			<5	17	5	0.029																OC,	qz/ar fault-breccia zone
4293			<5	14	<5	<0.01																OC,	qz/ar breccia zone
4181	120	<1.0	<5	12	<5		18		8		14											OC,	splayed diabase dike, dissem py
4115				2.9		0.025	<0.2															FL,	qz float pile near gs host
4114			<5	8	<5	0.02																OC,	qz vein in gs sc
4084				4.9		0.054	<0.2															OC,	ca/ankerite vein in gs, py to 15%
4116	73	<1.0	10	<5	5		<10		1		6											OC,	qz/ca vein in gs, cp, py
4117																						OC,	alt ca vein w/py to 50%
4118																						OC,	ca/ankerite vein in shear, py
4461			<5	<5	<5	0.063			46	82	14						14						sand, silt, clay
4469																						OC,	sil tuff, qz-mica sc
4468			<5	<5	<5	0.063			71.7	134	30						30						sand, silt, clay, high water

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sample No.	Location	Sample type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
R202	4466		Rep	4.6	<5		<0.2		3		6		41		2		1	<1	<20		61		<20	2.29		
	4467		Rep	0.5	<5		<0.2		4		17		138		2		1	<1	90		58		<20	2.98		
									Hetta Inlet Area																	
R203	4112	Mud Bay	Rep	0.4	<5		0.5		11		18		43		8		4	3	2400		75		12	1.05		
R204	4074	Keete Inlet area	C	0.1	<5		<0.1		34		4		23					4	40							
	4104		S	0.1 x 0.91	<5		0.2		9		<2		13		<1		5	2	33		263	<20	<10	1.18		
R205	4067		SC	9.14@ 0.1	<5		<0.1		27		5		30					18	310							
	4068		S	0.2	<5		<0.1		38		4		25					18	300							
R206	4103		C	1.2	<5		<0.1		24		6		106					5	120							
R207	4102		S	0.9	6		0.3		79		6		108					23	190							
R208	4077	Keete Gull	C	0.9	9		<0.1		18		6		29					13	140							
	4105		S	0.3	<5		2.6		23		52		1293		2		15	14	9		71	<20	27	>10		
R209	4078		S	0.3 x 0.3	336		1.3		104		9		65					79	410							
	4106		Rep	1.22 x 0.9	12		0.2		4		4		9					6	130							
R210	4052	Waterfall Bay	C	0.9	<5		<0.1		8		16		38					2	30							
	4053		S	0.3 x 0.91	<5		0.2		81		3		29		5		3	4	20		126	<20	11	8.04		
R211	1601		S		15		<0.1		86		4		31													
	1602		RC	0.01	8		<0.1		59		15		70													
	1605		Rep	45.7	<5		0.1		64		8		136													
R212	4039		C	1.2	<5		<0.1		5		6		80													
R213	4034		S	1.7	7		<0.1		9		<2		70										<2			
	4035		S	0.6	39		<0.1		28		4		6					7	<20				<2			
R214	4031		C	2.3	15		<0.1		22		6		87				24	22								
	4032		C	3.7	<5		<0.1		79		6		76		<1		104	37	50		179	<20	<10	6.73		
	4033		S	1.5	<5		0.2		83		6		10													
R215	1645	Grace Harbor area	S		<5		<0.1		6		21		24													0.14
	1646		Rep		<5		<0.1		4		<2		12		1		4	<1	25		122	<20	<20	1.81		0.24
	1658		Rep	3.0	<5		<0.1		9		3		15		<1		2	<1	25		67	<20	<20	1.35		0.21
R216	1655		S	0.2	<5		<0.1		21		4		18		<1		3	1	22		95	<20	<20	1.45		0.23
R217	4240		S		7		0.6		300		<2		43					18	<20							
	4241		C	0.9	<5		0.5		61		13		140					18	19300							
	4246		Rep		<5		0.2		143		<2		101					32	<20							
	4247		S	0.1	<5		0.7		157		40		37		6		17	56	<5		113	<20	<10	2.51		
	4248		C	0.4	<5		0.5		346		27		694		16			32	2000							
	4249		S	0.1	6		1.0		106		32		143					19	>20000							
	4250		SC	1.52@0.15	<5		<0.1		26		3		96					20	760							
	4251		SC	1.52@0.15	<5		0.2		18		4		98					22	300							
	4260		C	0.4	<5		0.5		170		12		24		<1		12	16	95		46	<20	<10	6.19		
R218	4261		Rep	0.4	<5		0.5		25		14		34					31	100							
	4262		C	0.9	<5		0.7		52		9		65					25	400							
R219	1613	Ritter Cove	RC		<5		<0.1		285		4		50													
R220	1611		Rep		<5		<0.1		85		10		78													
	1612		C	0.9	<5		0.1		67		16		119													
R221	1617		C	1.1	<5		0.2		126		5		80													

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
4466			<5	<5	<5	<0.01			38.8	73	24						24					OC,	syenite, qz, feldspar
4467			<5	<5	<5	<0.01			100	170	53						53					OC,	syenite dike
Hetta Inlet Area																							
4112			<5	8	<5	0.018																OC,	qz vein w/py, gn
4074																						OC,	qz vein in shear, trace py
4104	7	<1.0	<5	<5	<5		<10		<1		3											OC,	qz vein in chl sc
4067																						OC,	felsic metavolcanic, py to 8%
4068																						OC,	felsic metavolcanic, py to 5%
4103																						OC,	alt tuff/ar, py to 3%
4102																						FL,	lithic tuff float
4077																						OC,	chl sc, tan ser sc, 3% py
4105	20	29	22	<5	11		100		<1		16											OC,	qz rich felsic volcanic w/50% py
4078																						FL,	qz chl sc float w/ msv py
4106																						FL,	qz-mica schist float, py to 4%
4052																						OC,	sil felsic tuff, 1% py
4053	11	<1.0	<5	10	6		14		<1		2											OC,	qz rich gossanous sulfide pod
1601																						OC,	alt sil metavolc w/ py, trace cp
1602																						OC,	meta-an/basalt contact zone
1605																						OC,	selected py zones in dacitic volcs
4039				3.3																		OC,	marble/ls
4034				1.6			<0.2															OC,	qz vein swarm in siliceous volc
4035				13																		OC,	qz vein w/sulfide clots
4031																						OC,	porphyritic basalt dike
4032	66	<1.0	10	62	<5		20		<1		4											OC,	agglomeratic chl sc w/py to 20%
4033																						OC,	hi-grade py cubes
1645					<0.2																	FL,	qz in siliceous sc, py , ilmenite
1646	7	<1.0	<5	<5	1.3		<10		11		4											FL,	ilmenite in qz from roadfill
1658	4	<1.0	<5	<5	0.3		<10		7		3											OC,	qz veins in sil metadacite, ilmenite, py
1655	5	<1.0	<5	<5	<0.2		<10		14		3											OC,	qz vein w/ilmenite in bt sc
4240																						TP,	qz/ca vein in chl sc, cp, fest
4241																						TP,	tuffaceous metavolcanics w/py
4246																						TP,	gs w/ qz veins, copper staining
4247	8	<1.0	18	>2000	28		<10		<1		3											TP,	qz & msv py to 50% in volcanics
4248																						TP,	sil chl sc, agglomerate, 20% py
4249																						TP,	chloritic metavolcanics, dissempy
4250																						TP,	dissem py in chl sc
4251																						TP,	chloritic metavolcanics,
4260	64	<1.0	13	63	9		12		1		5											RC,	sil chl sc w/dissem py
4261																						TP,	chl sc in contact w/marble, py
4262																						TP,	diabase dike w/dissem py to 2%
1613																						RC	sil, py contact between gabbro/di & metaseds
1611																						OC,	qz, chl, ser sc w/fest, py
1612																						OC,	qz, chl, ser sc
1617																						OC,	chl, sil foliated volcaniclastics, py to 10%

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sampl e No.	Location	Sampl e type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
	1618		C	0.6	<5		0.2		58		17		29													
R222	1616		Rep	0.5	<5		<0.1		28		8		28													
R223	1619		S		<5		<0.1		71		7		146													
R224	1623		Rep	0.6	9		0.3		664		3		63													
R225	4430	American Bay	SS		<5		<0.2		18		8		94		1		46	25	320		141		<20	4.71		
R226	4432		SS		<5		<0.2		37		6		92		<1		37	6	130		82		<20	4.43		
	4433		SS		<5		<0.2		22		9		61		<1		13	11	260		25		<20	2.15		
	4434		SS		<5		<0.2		26		9		60		1		31	14	260		69		<20	3.46		
	4435		SS		<5		<0.2		18		8		57		<1		19	10	160		45		<20	2.98		
R227	4431		SS		<5		<0.2		49		5		74		3		43	20	300		101		<20	5.04		
R228	1622	Port Bazan	Rep	0.46 x 0.3	<5		<0.1		310		4		93		3							<5	3			
	1624		Rep	9.1	<5		<0.1		134		3		24		4		11	14				<5	<2			
R229	1620	Port Bazan/Dolgoi Island	Rep	0.5	8		<0.1		155		3		18		17		11	17				<5	<2			
	1621		Rep	1.8	<5		<0.1		44		3		39		4		7	11				6	<2			
R230	4050		C	0.8	<5		<0.1		54								22	36			74					
R231	1630		S		<5		<0.1		16		9		37		597							<5	<2			
	1631		S		<5		0.7		779		4		40		16							<5	<2			
R232	1632		Rep		7		<0.1		5		5		70													
R233	4256	Long Island area	SC	1.83@0.1	<5		3.2		47		122		79					6	1900							
	4271		Rep	0.5	<5		0.6		42		3		136					11	1800							
	4272		Rep	0.9	<5		0.7		89		5		144					44	1200							
R234	4257		SC	1.83@0.1	<5		1.2		38		40		77					15	160							
	4274		Rep	0.9	<5		0.8		38		7		61		3		15	13	150		35		<10	4.09		
R235	4255		S		10		8.6		157		367		144					26	370							
	4269		C	0.9	<5		<0.1		30		3		50					7	310							
	4270		Rep	0.6	<5		<0.1		34		4		56					8	390							
R236	4254		Rep	0.6	14		11.1		369		374		99					29	1900							
	4267		Rep	2.4	<5		0.5		53		10		51					14	2000							
R237	4268		S	0.3 x 0.3	<5		0.3		72		6		70					11	700							
R238	4264		C	1.5	<5		2.1		179		6		144		10			8	6000							
	4265		S	0.4	<5		1.9		129		10		266					7	8500							
R239	4266		Rep	3.0	<5		0.3		16		6		113					13	700							
R240	4243		S	0.1	8		0.3		62		15		65					24	330							
R241	4242		S	0.6	<5		0.6		8		6		16					2	70							
R242	4229		Rep	0.3	10		0.5		36		162		380					11	220							
R243	4239		S		<5		0.7		54		4		90					29	270							
R244	4230		C	0.5	<5		0.3		121		13		23		1		42	8	40		333		<10	1.11		
	4238		S		<5		5.5		98		32		453		19			8	1000							
R245	4223		S	0.9	<5		0.4		89		6		69		3		24	18	1100		97		<10	6.67		
	4235		Rep	1.2	<5		<0.1		25		4		52					8	1100							
R246	4226		C	1.2	<5		0.6		23		27		72		3		26	12	490		94		<10	3.68		
R247	4224		Rep	0.6	<5		1.0		90		4		468					24	440							
	4225		S	0.6	<5		1.3		347		4		68		44		339	86	30							
	4227		S	0.6	<5		0.2		32		4		35		4			6	740							
	4228		C	0.9	<5		0.1		15		4		28					4	210							

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
1618																						OC,	qz vein w/chl metased partings
1616																						OC,	qz-ser sc w/py to 5%
1619																						OC,	qz, ser, chl sc w/ py to 5%
1623																						OC,	iron skarn near gabbro-marble contact
4430			<5	5	<5	0.033																	silt, clay, gravel
4432			<5	10	<5	0.029																	silt, clay, 10% gravel
4433			<5	<5	<5	0.054																	silt, clay
4434			<5	<5	<5	0.041																	silt, clay, 10% gravel
4435			<5	<5	<5	0.068																	silt, clay
4431			<5	<5	<5	0.058																	silt, clay
1622																						OC,	qz veins in metased rocks in skarn zone
1624																						OC,	silica-rich beds in marble, low sulfides
1620																						OC,	qz vein, po to 3%
1621																						OC,	qz veins in silicic dacitic dikes, po to 2%
4050	375			10															5		2	OC,	pyroxenite, trace py/po
1630																						OC,	hnbd di/bt sc contact, mo, py
1631																						OC,	dacitic volc w/ml, cp, py
1632																						OC,	metadacite w/intense sil zone
4256																						TP,	phyllitic qz-mica-carbonate sc
4271																						TP,	qz-mica sc, felsic phyllite
4272																						TP,	chl carbonate sc w/fest, 5% py
4257																						TP,	qz-ser sc, sulf stringers
4274			6	20	10	0.033																TP,	pyritic carbonate mica qz sc
4255																						OC,	carbonate-mica sc w/qz vein
4269																						OC,	carbonate mica/graphitic sc
4270																						OC,	carbonate mica sc w/ca veinlets
4254																						TP,	qz vein w/chrome mica in marble
4267																						TP,	carbonate sc, py/po to 8%
4268																						OC,	carbonate mica sc, sulf stringer
4264																						TP,	qz bt sc w/intense fest, 5% py
4265																						TP,	qz-ser sc w/dissem py
4266																						OC,	garnet bt sc/mica sc/carbonate sc
4243																						TP,	qz/carbonate vein, chrome mica
4242																						TP,	marble w/dissem and stringer py
4229																						TP,	qz carbonate sc w/chrome mica
4239																						TP,	qz chl sc w/qz veins, py, cp
4230			<5	9	<5	0.039																TP,	qz vein in gs sc, trace py
4238																						TP,	black phyllite w/py stringers
4223			<5	15	10	0.066																TP,	fault gouge in qz-bt gneiss
4235																						TP,	shear zone in pelitic gneiss
4226			<5	23	9	0.05																OC,	qz-ser sc w/dissem py
4224																						OC,	sheared pyroxenite w/cp, py
4225																						OC,	sheared pyroxenite w/cp, py/po
4227																						TP,	qz-carbonate sc, py
4228																						TP,	qz carbonate sc w/py to 3%

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sample No.	Location	Sample type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
R248	4459	Shipwreck Point	Rep	1.5	<5		<0.1		92		24		81													
R249	4465		Rep	3.0	8		<0.1		60		6		68													
R250	4450		C	0.5	<5		0.3		450		10		69													
R251	4449		C	0.3	7		<0.1		162		16		114													
	4458		S		<5		0.3		124		41		354													
R252	4455		C	0.6	<5		<0.1		41		12		76													
	4456		S		<5		<0.1		9		3		10													
	4457		SC	1.8@0.15	<5		<0.1		50		3		63													
R253	5081	Moira Sound	Rep	30.5	<5		0.3		28		3		139													
Bokan Mountain Area																										
R254	6774	Peak 1941, E of Bokan Mountain	G		13		0.4		350		3		16		77		<10	6	<50		510	<100	<1	2.5		
McLean Arm Area																										
R255	5117	Stone Rock Bay	C	0.1	28		0.3		25		13		51													
	5118		C	0.2	42		0.4		37		23		20													
R256	5091		C	0.1	<5		<0.1		17		4		19													
	5092		Rep	6.1	<5		<0.1		46		10		35													
Nichols Bay Area																										
R257	5572	Nichols Bay, E shore	S		42		<0.1		53		24		25													
	5573		S		<5		<0.1		81		6		39													
	5574		Rep	0.3	22		<0.1		75		10		154													
	5575		S		<5		0.2		57		10		148													
	5576		S		13		0.5		30		43		44													
R258	5577		S		31		0.9		82		30		12													
R259	5102		C	0.8	<5		<0.1		18		4		145													
R260	5286	Nichols Bay, W side	Rep	0.1	<5		<0.1		131		3		24													
	5744		S		<5		<0.1		23		5		21													
R261	5586	Barrier Islands	S		17		0.3		83		27		92													
R262	5112		Rep	0.2	<5		0.2		122		11		115													
R263	5108		S	0.1	<5		1		102		22		158				295	26								
	5583		S		<5		0.8		72		29		139													
R264	5109		C	0.1	<5		0.3		62		20		45													
Mcleod Bay Area																										
R265	4029	Security Cove	C	0.5	18		<0.1		60		6		12													
	4030		C	0.9	15		0.3		46		7		58		2		67	19	97		127	<20	<10	3.89		
R266	4026		C	0.6	20		<0.1		6		6		39						160							
R267	4019		C	1.5	10		<0.1		7		4		75					6								
R268	4018		SC	3.05@0.3	<5		<0.1		257		4		65						570							
R269	1637		S	0.9	7		<0.1		16		3		77				35	24	256		63	<20	<20	4.53		
	4017		C	0.2	<5		0.2		7		7		41					4	100							
	4036		C	0.9	<5		<0.1		7		7		42					3	20							
R270	1638		S		478		2.3		14		6		9		3		14	29	172		127	<20	<20	2.47		
R271	1639		Rep	4.6	31		<0.1		19		5		11		4		7	9	384		89	<20	<20	2.84		
R272	4016		C	0.2	130		0.6		6		5		4				4	4	30							
R273	4005		C	1.5	34		<0.1		14		4		9		4		2	2	37		85	<20	<10	1.89		

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sam ple site	Sample description
4459																						OC,	qz-mica sc, w/mm scale folds
4465																						OC,	sil ar, green pl
4450																						OC,	sil chl sc
4449																						OC,	chl qz sc w/qz stringers
4458																						OC,	chl-qz sc in shear zone
4455																						OC,	gs, metavolc
4456																						OC,	metarhyolite w/py <1 %
4457																						OC,	metamafic dike
5081																						OC,	bands of chert 3cm thick
Bokan Mountain Area																							
6774		<5		5	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	0.3	<5				FL	
McLean Arm Area																							
5117																						OC,	msv py lens w/ qz
5118									6.9	13		<1	1.2	0.18		8.9	3					OC,	msv sulfide lens
5091									6.8	13		<1	0.6	<0.1		4.6	1					OC,	qz lens w/ sulf
5092									6	118		0.5	3.1	0.48		27.9	8.2					OC,	pink-green granite
Nichols Bay Area																							
5572																						OC,	qz vein,+-mudstone
5573																						OC,	mudstone w/ sulf
5574																						OC,	mudstone
5575																						OC,	mudstone
5576																						RC,	sulf & qz
5577																						OC,	fg silicic volc
5102																						OC,	qz-calc vein
5286																						RC,	sil gs w/py
5744																						OC,	lens of sulf-bearing gs
5586																						OC,	sulf + qz
5112																						OC,	py-rich band in volcanic
5108																						OC,	black slate w/ sulf
5583																						OC,	msv sulf + pl?
5109																						OC,	qz-ser sc w/dissem. py
Mcleod Bay Area																							
4029																						OC,	qz vein in basalt
4030	69	<1.0	7	<5	<5		<10		<1		7											OC,	metabasalt, trace py
4026							0.2															OC,	qz vein in fault
4019																						OC,	bt sc, py to 5%
4018																						OC,	metadacite, trace po
1637	93	<1.0	<5	<5	<5		<10		5		13											OC,	qz-ser sc w/fest, py
4017																						OC,	metadacite, abundant mag
4036																						OC,	chl sc w/ls
1638	11	<1.0	<5	<5	<5		<10		3		9											OC,	qz-ser sc w/py to 5%
1639	12	<1.0	<5	<5	<5		<10		7		14											OC,	qz-ser sc, py to 10%
4016																						OC,	qz vein w/2-5% py
4005	5	<1.0	<5	6	<5		<10		8		13											OC,	qz-ser sc w/py, cp

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sample No.	Location	Sample type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
R274	4425	Little Daykoo Creek	PL	0.1 yd3	824		0.2		25		15		131													
R275	4409		PC	2 pans	190		<0.2		22		12		90		2		28	22	540		192		<20	>10		
	4410		MM		74		<0.2		28		14		168		4		27	15	510		63		<20	4.55		
R276	4411		PC	2 pans	314		<0.2		19		11		90		2		29	23	430		209		<20	>10		
R277	4424		MM		591		<0.2		18		44		118		2		23	19	500		64		<20	8.32		
R278	7147	Bradfield Canal	S	0.1	<5		<0.1		11		7		14													
R279	7155	Skelokum Hot Springs	Rep		<5		0.7		<1		13		79		5		4	7	426		107	<20	<20	2.60		
		Mount Burnett Area																								
R280	7139	Sunshine Island	C	0.2	175		0.6		188		17		125													
		Helm Bay Area																								
R281	7320	Bugge Basin	C	0.3	10		<0.1		19		6		81													
R282	7156	Margaret Creek	S		12		1.6		285		24		108		45											
	7157		C	1.6	10		0.2		85		14		93		20											
R283	7166		S		8		<0.1		134		10		37													
R284	7167		S		6		0.7		361		17		29				28									
	7168		C	1.4	10		0.4		353		10		170				36									
R285	7158		Rep	6.1	<5		0.2		61		12		132													
R286	7227	Carroll Inlet	Rep		<5		0.3		41		15		34													
R287	7228		Rep		<5		0.4		27		15		81													
	7229		Rep		<5		0.6		110		12		312													
R288	7237		Rep	0.9	<5		<0.1		126		8		106													
	7238		Rep	0.8	<5		0.4		179		6		14									12	<2			
R289	7234		Rep	0.7	<5		1.0		108		15		15		3											
	7235		Rep	0.9	6		0.9		73		17		78		19											
	7236		Rep	0.5	<5		1.0		38		13		170													
R290	7195	George Inlet area/Bat Cove	S		<5		0.4		71		312		374													
	7198		SS		6		<0.2		194		5		87		<1		63	100	<1		122	<20	<20	6.30		
	7199		Rep		<5		0.3		<1		762		286													
	7204		SS		<5		<0.2		55		6		55		1		25	64	<1		65	<20	<20	4.74		
	7205		SS		<5		<0.2		51		5		57		2		12	20	<1		58	<20	<20	4.38		
R291	7202	George Inlet area/AK Min King	S		<5		<0.1		29		50		57													
	7203		S		20		0.3		17		31		39													
	7206		SS		<5		<0.2		144		5		57		<1		31	54	<1		106	<20	<20	5.89		
	7208		S	0.4	<5		<0.1		49		22		31													
	7209		S	0.3	<5		<0.1		11		20		26													
	7210		S		16		3.0		122		22		154				83									
	7212		SS		<5		<0.2		13		10		47		1		5	6	<1		19	<20	<20	1.91		
R292	7200	George Inlet area/Leask Cove	C	0.3	<5		0.2		6		321		191													
	7201		Rep		<5		<0.1		2		90		66													
	7207		SS		<5		<0.2		32		4		66		2		15	31	<1		46	<20	<20	2.97		
R293	8075	Ella Bay	C	0.5	<5		<0.1		4		<2		9													
	8348		G		<5		<0.1		32		<2		23													
R294	8073		Rep	1.8	<5		0.5		72		10		436		8		25	12	2700		112			3.84		

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
4425																							silt, clay, shallow gradient
4409			<5	<5	<5	0.028																	mixed sed, few vf flakes
4410			<5	14	<5	0.054																	silt/clay
4411			<5	<5	<5	<0.01																	sand, silt, clay, mag present
4424			<5	<5	<5	0.037																	silt, clay
7147									8	14	2	<1	<1	<0.2		2.0	<1					OC,	pegmatite, small mica books
7155	29	<1.0	<5	25	<5		<10				9											OC,	hotspring coating on qz di
Mount Burnett Area																							
7139																						OC,	fold-controlled qz veins, cp, py
Helm Bay Area																							
7320																						OC,	qz vein, gs sc, py <1%
7156																						OC,	br black pl, py to 8%, trace cp
7157																						OC,	br black pl/gp sc, py blebs to 5%
7166																						OC,	qz at contact of hnbd di-black sc,cp
7167																						RC,	alt hnbd di, po to 15%, cp
7168																						OC,	sil di, shear zone w/qz, po
7158																						TP,	bt sc w/qz, py to 3%
7227																						OC,	qz in metafelsite, dissem py to 5%
7228																						OC,	qz-musc-sillimanite sc w/py to 5%
7229																						OC,	carbonaceous marble
7237																						OC,	sil metavolc, py to 15%, trace sl
7238																						OC,	qz vein, adj to 7237
7234																						OC,	qz vein in chl sc, py to 1%
7235																						OC,	bleached py chl w/py to 15%
7236																						OC,	py alt metavolc, py to 15%
7195																						RC,	amphibolite garnet gneiss
7198	112	<1.0	8	<5	<5		<10				8												mixed sediments, gneiss bedrock
7199																						OC,	qz xcut amphibolite
7204	105	<1.0	5	<5	<5		<10				3												silt-clay, gneissic bedrock
7205	98	<1.0	<5	<5	<5		<10				3												silt-clay, metasedimentary bedrock
7202																						OC,	qz in fold hinge, py, cp
7203																						OC,	qz in mica sc w/py in foliation
7206	113	<1.0	6	<5	<5		<10				4												silt-clay
7208																						OC,	qz vein in porph gs, ilmenite
7209																						OC,	qz vein xcuts foliation, sulf to 3%
7210																						OC,	qz vein w/py-rich zone
7212	27	<1.0	<5	<5	<5		<10				4												silt-clay, bt sc bedrock
7200																						OC,	qz cutting bt sc, sl, cp, py
7201																						OC,	qz in arg/black pl, trace sl, py
7207	66	<1.0	<5	<5	<5		<10				3												silt-clay,garnet amphibolite bedrock
8075																						OC,	qz vein & dike
8348																						OC,	mica-qz gniess w/py
8073			6	<5	<5	<0.010																OC,	qz-mica sc

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sample No.	Location	Sample type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
	8074		Rep	1.8	<5		0.6		66		7		122													
	8347		Rep	4.9	<5		<0.1		10		3		11		1		5	2	1100		110		<20	0.89		
R295	6163	Ward Cove Post Office	C	0.2	<5		<0.1		7		<2		5													
Ketchikan Area																										
R296	5483	Karlson Motors, road cut	C	0.2	<5		<0.1		12		4		34		2											
	5484	2.3 km north of Carlana Creek	C	0.3	<5		0.2		43		5		75		7											
R297	5481	Beach	C	0.1	35		<0.1		23		<2		185		5											
	5482		C	0.9	<5		<0.1		50		6		160		4											
	5899		C	0.2	<5		<0.1		26		3		27		4											
	5900		C	0.3	6		0.3		112		7		146		7											
R298	5863	Forest Avenue	G	0.1	1229		0.9		760		40		3667		3											
R299	5479	Upper Miller Road	Rep	0.1	<5		<0.1		34		<2		15		2											
	5480		C	0.1	<5		0.2		17		17		154		3											
	5898		S		<5		<0.1		15		12		67		4											
R300	5424	Summit Terrace Road	C	0.6	<5		<0.1		27		3		40		3											
R301	5426	Bear Valley Mini Storage	SC	2.74@0.15	165		<0.1		173		<2		45		2											
	5427		CC	0.2	196		<0.1		188		4		15		6											
	5428		SC	3.51@0.15	88		<0.1		256		<2		33		4											
	5860		C	1.5	34		0.2		345		<2		38		15											
R302	5425	Forest Road	Rep		129		0.8		202		10		59		2											
	5859	Forest and Millar Ridge	S	3.1	386		2.6		231		23		208		4											
R303	5858	Millar Ridge Road, NE side	C	0.6	<5		<0.1		4		3		17		2											
R304	5437	Venetia Road	C	0.1	16		<0.1		119		6		217		3											
	5462		SC	7.93@0.15	23		<0.1		69		3		72		3		6	15	720		41		<20	3.64		
	5463		C	0.1	<5		<0.1		41		9		17		6											
R305	5903	Schoenbar School	Rep	0.3	30		<0.1		218		3		24		3											
	5904		C	0.2	38		<0.1		62		4		33		2											
R306	5438	Cape Fox stairway	Rep	3.1	17		0.5		97		68		340		2											
R307	5478	Park Avenue	C	0.1	14		<0.1		24		6		23		5											
	5897	913 Park Avenue	SC	3.81@0.1	41		0.3		60		7		150		2											
R308	5439	Cape Fox Road	Rep	0.2	24		0.2		37		11		71		3											
R309	5443	Cape Fox Lodge	Rep	2.4	13		0.3		64		4		75		3											
R310	5868		S		22		<0.1		74		20		401		15											
R311	5444	Tatsuda Market	C	0.3	6		<0.1		50		4		52		2											
	5445		C	0.6	24		<0.1		110		8		106		3											
	5873		C	0.4	<5		2		4		<2		8		3		6	2	40		226		<20	0.49		
	5874		C	0.4	35		0.2		78		7		99		2											
R312	5442	Ketchikan city dump	Rep	0.2	<5		0.3		104		<2		10		2											
R314	9369	Gravina Point	C	3.0	136		0.6		73		39		154													
	9370		C	0.3	24		0.3		91		31		101													
R315	9083		Rep		37		0.4		268		121		120													

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
8074																						OC,	qz-mica sc
8347			<5	<5	<5	<0.010																OC,	qz vein w/py in sc
6163																						OC	qz lens in sc
Ketchikan Area																							
5483																						OC,	qz vein w/sparse po
5484																						OC,	qz stringers & gray sc w/po
5481																						TP,	qz vein/lens w/po
5482																						TP,	fest slate/pl
5899																						TP,	qz vein w/ser in pl
5900																						TP,	black pl/slate w/py, qz stringers
5863																						FL,	msv sulf in pl
5479																						OC,	qz lens & sc w/py
5480																						OC,	qz vein/lens/stringer
5898																						MD,	qz rubble on dump
5424																						OC,	irregular, lensy qz vein
5426																						OC,	fest sil zone w/10% py
5427																						OC,	qz vein/lens w/py, ml, az
5428																						OC,	sil zone w/py, ml, az,
5860																						OC,	light gray metaqt w/dissem py
5425																						OC,	qz stringers and lenses in shear
5859																						OC,	sc w/py
5858																						OC,	qz lens hosted in weathered sc
5437																						OC,	qz vein w/py-bearing gs
5462			<5	131	<5	0.097																UW,	green and gray sc w/py
5463																						UW,	qz-calc vein
5903																						TP,	blue-gray sc w/qz and py
5904																						TP,	blue-gray sc w/qz & banded py
5438																						OC,	qz ser sc w/py
5478																						TP,	qz-carbonate lens
5897																						OC,	ser sc w/dissem py
5439																						OC,	qz & sil gs sc w/py
5443																						OC,	qz & qz mica sc w/py
5868																						FL,	br gs w/py & qz
5444																						OC,	qz vein w/sparse py
5445																						OC,	gray fest qz mica sc w/py
5873			<5	<5	<5	<0.01																TP,	qz vein
5874																						TP,	fest sc w/dissem py
5442																						RC,	fest py-bearing qz vein
9369																						OC,	fest greenschist w/po 5%
9370																						OC,	qz vein w/po 10%,cp 2%
9083																						OC,	fest chl sc w/qz stringers & minor gn,py

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sample No.	Location	Sample type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
R316	9084		RC		<5		<0.1		117		13		116													
R317	9125	Six Point area	Rep		<5		<0.1		11		8		40													
R318	8088		Rep	1.5	<5		<0.1		13		14		55													
R319	8089		Rep		52		3.1		877		135		117		7		32	23	10		124	<20	<20	7.72		
George Inlet Area																										
R320	7386	Peterson area	Rep		8		0.7		278		4		55				215									
Sealevel Area																										
R321	9000	Fish Creek area	Rep	1.2	<5		0.3		23		11		106		2		19	6	87		104	<20	<20	2.75		
R322	9030	Sealevel area	C	0.2	9		0.2		3		<2		2		<1		5	<1	3		252	<20	<20	0.32		
R323	9001		SC	5.0	<5		<0.1		18		9		122													
	9300		S		<5		<0.1		12		4		115		4		8	24	310		115	<20	<20	5.38		
R324	9031		SC	6.7@0.2	7		0.2		16		11		81		5		8	30	38		52	<20	<20	5.50		
	9324		C	0.1	6		0.1		10		6		48													
R325	8173	Goo Goo Extension	G		<5		0.5		19		12		182		42		25	19	47		109	<20	<20	5.38		
R326	8174	Goo Goo	Rep		7		0.1		2		6		3													
R327	9318	Sealevel area	C	.4x.1x.1	13		1.7		4		163		224		1		6	1	26		301	<20	<20	0.79		
R328	9021		Rep	0.11	<5		<0.1		3		10		24		<1		4	<1	13		217	<20	<20	0.43		
Moth Bay Area																										
R329	7239	Moth Bay	S		86		9.2		19333		12		116						250							
R330	8072	Alava Bay	Rep	0.3	<5		<0.1		16		<2		6													
South Gravina Area																										
R331	8104	Seal Cove	S		<5		<0.1		74		4		94		1		4	12	169		111	<20	<20	5.75		
R332	9061		SC	6.1@0.3	22		<0.1		105		24		74		4		7	18	15		93	<20	<20	6.45		
	9346		SC	6.1@0.3	7		<0.1		123		22		67													
	9347		SC	4.3@0.2	13		0.2		91		20		24		12		5	13	20		120	<20	<20	4.60		
R333	8103		S		<5		<0.1		102		77		102													
R334	8102		S		<5		<0.1		179		9		110		1		3	<1	73		144	<20	<20	2.59		
R335	9351		PC	1 pan	29		<0.2		76		15		116		<1		20	17	1067		184		<20	8.07		
R336	9078	Dall Bay area	Rep		18		<0.1		63		17		52		<1		16	14	646		46	<20	<20	7.56		
R337	9077		G		<5		<0.1		173		8		30													
R338	8395	Dall Bay	G		<5		<0.1		16		5		15		<1		13	14	940		84	<20	<20	6.24		
R339	9143	NW Nahenta Bay	Rep		<5		10.1		807		28		562													
	9144		Rep	12.2	<5		9.5		936		17		695		70		36	54	14		63	<20	<20	>10		
	9145		Rep		<5		8.9		747		142		3676		33		33	63	14		20	22	<20	8.73		
	9146		Rep		<5		9.2		801		158		4997		45		41	85	15		35	<20	<20	>10		
R340	8009	Carita	G		10		2.5		438		124		814						9900			24				
R341	8149	SW Gravina Island	SS		6		0.4		11		20		75		4		13	14	740		18		<20	2.58		
	8397		G		6		<0.1		135		5		59		<1		24	23	73		42	<20	<20	4.38		6628
R342	8148	Washington area	SS		<5		<0.2		8		3		26		<1		6	5	550		10		<20	1.16		
R343	9098	Mary Island	Rep		26		0.9		1014		6		75		<1		16	35	20		75	<20	<20	6.69		
R344	9092		Rep		<5		<0.1		87		8		68													
	9376		C	0.3	18		0.3		415		7		97		2		8	22	23		73	<20	<20	5.56		

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
9084																						OC,	slate/pl & chl sc w/minor py
9125																						OC,	calc veins in ls & shale
8088																						OC,	qz vein in pl
8089	7	<1.0	12	173	9		<10		<1		3											OC,	metavolc, includes br w/py
George Inlet Area																							
7386																						OC,	alt gabbro from roadcut, py 5-50%
Sealevel Area																							
9000	13	<1	<5	<5	<5		<10		6		14											OC,	fest, fel sc w/qz lenses
9030	<1	<1	<5	<5	<5		<10		<1		<1											OC,	fest qz vein in gd
9001																						OC,	fel metavolc w/minor dissem sulf
9300	218	<1	<5	12	<5		<10		<1		4											OC,	intermediate metavolc w/po 5%
9031	174	<1	<5	<5	<5		<10		<1		7											OC,	fel metavolc w/dissem sulfs
9324																						OC,	qz vein w/py 10%
8173	68	<1.0	<5	<5	<5		<10		14		16											RC,	graphitic mica sc
8174																						FL,	qz vein
9318	<1	<1	<5	<5	<5		<10		<1		<1											OC,	qz vein w/minor gn
9021	<1	<1	<5	<5	<5		<10		<1		<1											OC,	qz vein
Moth Bay Area																							
7239																						FL,	msv sulf float
8072																						OC,	qz vein in sc
South Gravina Area																							
8104	1	<1.0	<5	16	<5		<10		14		3											RC,	metavolc w/py
9061	33	<1	10	20	7		<10		2		3											OC,	fel metavolc w/dissem sulf,py,cp
9346																						OC,	fel (?) metavolc w/py 10%,cp 1%
9347	5	<1	<5	36	<5		<10		6		3											OC,	fel metavolc w/py 10%,cp 1%
8103																						RC,	gossan
8102	1	<1.0	<5	<5	<5		<10		10		28											OC,	gossan + metavolc
9351			<5	<5	<5																	B	minor heavy black sands
9078	12	<1	8	<5	<5		<10		<1		4											OC,	fest fault gouge
9077																						RC,	barite vein w/minor cp
8395	23	<1.0	8	<5	<5		<10		1		2											OC,	qz- & feldspar-rich intrusive w/hem + fault gouge
9143																						OC,	msv py 60% + ba lenses 30%, in dolomite
9144	1	<1	15	433	13		<10		<1		<1											OC,	py + ba lenses in fest dol
9145	17	7.5	22	224	27		<10		<1		<1											OC,	fest dolomite w/minor py + cp
9146	14	8.4	21	335	24		<10		<1		<1											OC,	msv py + cp lenses in fest dolomite
8009																			<5		3	OC,	metavolc w/py lenses
8149			19	47	20	0.049																	stream sediment
8397	170	<1.0	10	<5	<5		<10		2		9											OC,	gs
8148			<5	<5	<5	0.017																	stream sediment
9098	130	<1	<5	<5	<5		<10		<1		6											OC,	hornblendite w/py+po+mag
9092																						OC,	gneiss w/banded & dissem py 5%
9376	69	<1	<5	<5	<5		<10		1		7											OC,	fest gneiss w/py 15%

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sample No.	Location	Sample type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
R345	9141	Cat Island	S		25		<0.1		28		3		6		1		12	3	33		382	<20	<20	1.53		
R346	9138		S		<5		<0.1		215		4		56													
R347	8013	Pond Bay	G		<5		<0.1		48		<2		79				21	41			55			5.58		2.21
	8014		Rep	2.7	<5		<0.1		19		2		6													
	8307		Rep	2.4	<5		<0.1		<1		3		46		3		1240	2	1700		127		<20	0.74		
	8308		Rep	1.2	<5		<0.1		15		2		12				256							6.10		
R348	8025	Duke Island (Judd Harbor)	G		<5		<0.1		68		<2		19													
R349	9175	Blue Lake	Rep		10		0.5		252		31		307		<1		<10	35	1200		61	<100	2	8.80		
	9429		Rep		<5		0.2		9		15		33		2		<10	<5	720		230	<100	<1	0.70		
R350	9176		Rep		8		0.5		158		22		102		5		36	29	4100		170	<100	<1	7.40		
West Hyder Area																										
R351	6133	West Texas Glacier, N	C	0.5	11		1.6		93		122		220		<1		34	8	3000		270	<100	<1	3.7		
R352	6903	SW of Double Anchor	G		<5		0.7		99		80		71		4		<10	5	980		260	<100	4	2.1		
R353	6933	E side Chickamin Glacier	G	0.1	11		3		88		126		124		53		<10	120	690		260	<100	2	6.7		
R354	6700	Iron Cap, E	C	0.1	7		0.1		35		145		230		1		<10	<5	75		110	<100	62	2.2		
R355	6088	Iron Cap, NE	RC		<5		0.4		146		33		170		2		<10	12	1800		61	<100	<1	4.2		
R356	6252	Ibex saddle, W side	C	0.1	29		1.2		123		57		3610		<1		27	31	760		74	<100	2	8.3		
R357	6065	Texas Creek Road	C	0.2	66		0.3		15		108		<100		4		<10	<5	120		580	<100	<1	1.9		
R358	9199	Casey Glacier Sphalerite	Rep		81		0.5		85		38		238		<1		<10	18	1300		92	<100	2	3.90		
R359	8190	Jumbo (Texas Creek) area	G		81		2.3		476		24		2000		2		14	43	500		150	<100	<1	4.7		
R360	8189		G		<5		0.6		36		30		120		27		<10	10	970		90	<100	<1	6.8		
R361	8194	Northstar area	C	0.3	26		1.1		11		350		<1		<1		<10	5	92		250	<100	2	1.4		
	8195		C	0.2	46		2.4		18		1120		110		<1		15	18	<50		340	<100	1	3.3		
R362	9206	Glacier area	C		<5		<0.1		14		4		17		2		13	<5	170		360	<100	<1	0.90		
	9448		C	0.3	<5		0.3		23		73		90		2		<10	<5	280		350	<100	1	0.50		
	9449		S		<5		0.9		380		81		195		3		44	39	330		340	<100	1	3.20		
R363	9207	Banded Mountain, W	Rep		<5		<0.1		27		3		16		4		<10	<5	90		520	<100	<1	1.00		
R364	9208		Rep		<5		0.3		90		5		53		49		28	21	1300		240	<100	3	5.30		
	9217	Galena	Rep		9		8.5		26		916		145		8		<10	<5	250		250	<100	<1	1.30		
	9218		S		<5		0.9		76		22		73		4		32	12	1000		380	<100	<1	2.30		
R365	9148	Marmot Basin area	C	0.4	<5		<0.1		10		8		12		3		<10	<5	100		450	<100	<1	0.60		
	9149		SC	40.1@0.1	<5		0.5		91		17		84		145		19	18	1500		170	<100	<1	4.70		
R366	9151		Rep		<5		0.3		15		6		11		3		<10	<5	91		390	<100	<1	1.10		
	9152		Rep		<5		0.1		51		7		61		3		54	30	780		160	<100	<1	7.10		
R367	9150		C	1.6	<5		<0.1		18		6		23		5		<10	<5	210		490	<100	<1	0.80		
	9415		C	0.6	<5		0.2		75		13		99		5		49	18	2700		280	<100	2	5.90		
R368	9413		C	0.3	<5		0.3		138		10		101		10		<10	27	2000		130	<100	3	5.70		
	9414		C	1.3	<5		0.3		139		18		137		4		35	21	2400		180	<100	2	6.20		
R369	8247	Banded Mountain, W	G		48		2.0		80		56		<100		1		<10	<5	<50		390	<100	<1	1.5		
	8493		G		<5		0.1		9		15		<100		30		10	<5	<50		450	<100	1	0.7		
R370	8492		G		8		0.3		40		25		110		29		<10	<5	940		240	<100	4	2.3		
R371	8245		G		<5		0.8		251		28		<100		3		<10	8	1400		380	<100	3	9.1		
	8246		SC	19.5@0.6	8		0.3		69		22		150		6		<10	5	1100		340	<100	3	5.9		
	8491		G		<5		0.1		28		18		<100		12		12	<5	140		480	<100	5	2.0		
R372	8244		Rep		7		0.5		228		56		<100		2		<10	<5	300		480	<100	<1	0.9		

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sam ple site	Sample description
9141	4	<1	<5	36	<5		<10		<1		<1											FL,	qz w/coarse py 5%
9138																						OC,	mafic metavolc w/minor py
8013	371			9																		OC,	ultra-mafic (gabbro?) w/mag
8014																			8		5	OC,	qz di to gd
8307			<5	<5	<5	0.028																OC,	fel dike in metagabbro host
8308																			7		<1	OC,	ultra-mafic (gabbro?)
8025									<5	<10	3											RC,	hnbd plagioclase pegmatite
9175		<5		3	0.6		<10	7.2	9	20		<0.5	2	<0.2	0.7	1.5	1.6	98				FL,	bearing fest marble
9429		<5		1.9	0.3		<10	3.3	18	30		<0.5	<2	<0.2	1.5	25	8.2	220				FL,	qz monz w/mo(?)
9176		<5		2.9	0.6		<10	1.9	16	28		<0.5	2	0.2	1.1	3.4	3.3	130				FL,	bt paragneiss w/po + py
West Hyder Area																							
6133		<5		3.3	0.6		<10	0.8	16	30		<0.5	2	0.4	1	3	2	51				OC,	ar w/2% dissem sulf
6903		<5		11	0.5		<10	0.5	10	16		<0.5	<2	<0.2	0.5	3.6	1.3	52				MD	fest qz vein w/ 5% sulf
6933		<5		18	0.9		<10	0.5	13	14		<0.5	<2	<0.2	<0.5	14	14	47				RC	sil band w/ po,py,gray sulf in gd
6700		<5		164	1.8		<10	<0.5	6	<5.0		0.7	4	0.5	<0.5	<0.2	<0.2	12				OC,	calc vein w/20% qz br
6088		<5		7.8	0.7		<10	1.3	12	26		0.5	3	0.3	0.8	3.1	1.8	120				OC,	ar w/rare sulf (py or po)
6252		97		7.1	1.5		<10	0.9	11	17		0.7	3	0.3	<0.5	1.4	1.1	17				OC	alt, sil an w/ very fg sl
6065		<5		2.7	2.3		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.2	0.2	9				OC,	barren qz vein in Texas Creek gd
9199		<5		174	0.9		<10	0.8	7	10		<0.5	<2	<0.2	<0.5	1	0.7	86				OC,	qz-calc w/minor py in sheared ar & gw
8190		12		22	0.7		<10	1.0	4	<5		<0.5	<2	<0.2	<0.5	0.9	0.7	93				OC,	qz-chl sc w/minor py & cp
8189		<5		3	5		<10	0.9	11	13		<0.5	2	<0.2	0.8	1.8	1.1	73				FL,	ar to pl w/py
8194		<5		3.6	0.8		<10	<0.5	4	8.1		<0.5	<2	<0.2	<0.5	1.6	0.5	15				OC,	qz vein in gw
8195		<5		9.2	1.6		<10	<0.5	59	140		1.1	6	0.5	<0.5	1.5	1.7	7				OC,	qz vein in gw
9206		<5		2.2	0.5		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	6				OC,	qz-calc vein, minor chl
9448		<5		5.1	0.2		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	5				OC,	qz vein w/minor fest
9449		<5		14	0.5		<10	<0.5	2	6.9		<0.5	<2	<0.2	<0.5	0.5	0.3	13				OC,	qz vein w/py 5%
9207		<5		3.9	0.5		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5				FL,	fest qz w/minor po & py
9208		<5		1.7	0.2		<10	2.8	17	27		0.8	3	0.3	0.7	5.1	2.9	86				FL,	paragneiss w/minor po + py
9217		<5		0.5	0.3		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.4	0.2	10				OC,	qz-calc lens w/minor po
9218		<5		1.2	0.2		<10	0.5	12	18		0.5	<2	<0.2	<0.5	2	1.9	29				FL,	qz + calc w/po in ar
9148		<5		3.1	4		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	5				OC,	qz vein w/minor py
9149		<5		3.2	0.7		<10	2	18	23		0.6	<2	<0.2	<0.5	2.6	10	89				OC,	qz veins in metased w/py 2%
9151		<5		1.5	0.7		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	<0.2	0.4	<5				OC,	calc veins w/minor py,mo
9152		<5		1.7	0.5		<10	2.1	10	18		0.5	3	0.3	0.6	1.7	1.1	34				OC,	metased w/minor dissem py & po
9150		<5		2	0.5		<10	<0.5	3	<5		<0.5	<2	<0.2	<0.5	0.6	0.4	10				OC,	milky qz w/very minor py
9415		<5		4.3	0.3		<10	<0.5	52	100		1	3	0.3	5.3	6.8	7	58				OC,	qz-actinolite sc w/py 3%
9413		<5		52.6	0.3		<10	2.2	27	42		<0.5	2	0.3	0.7	2.4	1.7	68				OC,	qz-calc veins in alt greenschist w/py 2%
9414		<5		1.5	0.1		<10	0.9	16	24		0.8	2	<0.2	0.8	2.5	1.8	97				OC,	qz-actinolite sc + qz veins, w/po 2%,py 2%
8247		<5		5.1	0.2		<10	<0.5	<2	<5		<0.5	<2	0.3	<0.5	2.3	0.8	11				OC,	fest qz lens/stringer
8493		<5		0.5	<0.1		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5				OC,	qz vein
8492		<5		0.5	<0.1		<10	0.8	31	49		0.9	7	1.0	0.8	16	5.9	72				OC,	leucocratic rock w/qz lenses
8245		<5		1.2	0.1		<10	4.5	22	34		0.6	3	0.4	0.5	6.2	2.8	170				RC,	fest, qz-bt sc w/po
8246		<5		0.5	0.2		<10	3.7	20	32		0.6	2	0.3	0.8	5.4	2.6	150				OC,	fest sc w/qz stringers
8491		<5		0.5	<0.1		<10	1.3	4	6.6		<0.5	<2	<0.2	<0.5	1.3	1	39				OC,	qz vein in sc
8244		<5		1.4	0.2		<10	<0.5	5	8.8		<0.5	<2	<0.2	<0.5	1.1	0.4	26				OC,	qz lenses/stringers in sc

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sample No.	Location	Sample type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
	8248		G		<5		<0.1		37		18		110		8		<10	<5	200		320	<100	21	3.4		
	8490		G		<5		0.2		31		45		120		2		24	<5	610		470	<100	17	2.2		
R373	9203	Banded Mountain, E	S		9		1.2		377		21		709		13		58	39	180		180	<100	4	6.70		
	9204		G		<5		0.5		202		39		97		3		<10	10	1500		250	<100	6	2.40		
	9205		SC	1.2@0.2	6		2.2		1020		34		216		4		<10	66	5940		250	<100	<1	>10		
	9446		Rep		7		2.2		132		23		54		8		<10	50	200		290	<100	11	8.30		
	9447		Rep		<5		0.4		127		18		67		9		<10	20	1800		170	<100	7	4.10		
R374	8278	Hyder Lead	C	0.2	<5		<0.1		15		29		<100		<1		<10	<5	120		80	<100	1	1.1		
	8279		Rep		190		23.7		2600		560		590		<1		<10	39	170		130	<100	4	7.7		
	8527		C	0.3	16		2.1		797		30		<100		17		28	57	1100		310	<100	2	4.8		
	8528		C	0.3	<5		1.4		272		64		<100		156		<10	20	430		390	<100	<1	2.6		
R375	8257		Rep		<5		1.3		74		612		170		13		17	12	1400		92	<100	<1	6.8		
	8258		G		7		1.6		46		862		<100		2		<10	6	180		510	<100	<1	1.2		
	8506		G		<5		0.9		97		314		210		19		<10	11	1700		92	<100	<1	6.9		
R376	9441	Casey Glacier Sphalerite	C	0.8	6		0.2		9		46		585		<1		<10	<5	200		580	<100	<1	1.60		
R377	9432	Juneau	Rep		6		0.8		166		29		317		<1		<10	35	1800		100	<100	<1	8.40		
R378	9209	Casey Glacier	G		293		1.1		200		38		271		4		<10	22	1100		67	<100	3	5.40		
R379	6281	Texas Glacier, E snout	C	1.5	11		<0.1		11		23		118		<1		<10	9	1200		140	<100	5	3.4		
	6931		G	0.1	42		32.2		989		6187		381		141		13	<5	88		440	<100	<1	1.4		
	6932		Rep	0.6	108		0.7		72		137		424		3		<10	9	750		170	<100	3	3.3		
									East Hyder Area																	
R380	9477	Cantu	PC	5 pans			3.4		131		318		372		2		31	28	IS		46		32	6.98		
R382	8207	Ninety-six area	C	0.5	<5		1.1		41		21		<1		<1		15	<5	380		250	<100	<1	1.2		
	8208		C	0.6	<5		0.2		17		32		120		4		<10	<5	1000		250	<100	<1	1.6		
	8451		Rep	0.2	7		0.5		82		58		140		8		16	7	1900		290	<100	1	1.9		
	6086		C	0.5	<5		0.1		18		65		150		7		<10	<5	1300		340	<100	2	1.6		
	8451		Rep	0.2	7		0.5		82		58		140		8		16	7	1900		290	<100	1	1.9		
R383	6109	Carto	C	0.4	56		0.4		50		28		<100		<1		<10	<5	87		400	<100	<1	2.6		
R384	6110		SC	1.98@0.1	18		0.1		31		18		<100		2		<10	<5	140		520	<100	<1	0.9		
R385	6721		C	0.2	17		0.3		39		13		<100		1		13	<5	580		280	<100	2	3.4		
R386	6182	Canyon vein	Rep	2.1	58		2.1		65		519		64		1		13	<5	950		220	<100	2	0.7		
	6798		Rep	1.2	22		5.4		143		2777		139		4		<10	<5	770		210	<100	12	1.5		
R387	6228	Fish Creek quarry	C	0.1	7		1		283		49		60		2		<10	11	1800		140	<100	1	4		
	6229		G		<5		0.1		29		121		13		4		<10	<5	1500		260	<100	<1	0.9		
	6865		G		16		1.4		213		298		91		7		<10	15	1400		120	<100	<1	8.5		
R388	6230	Titan Trail vein	RC	0.2	34		<0.1		6		18		19		2		11	<5	80		370	<100	<1	0.6		
R389	6231	Titan Trail vein 2	Rep	0.3	79		0.4		253		5		11		3		21	15	74		510	<100	<1	1.8		
R391	8198	J & L area	Rep		6		1.1		260		75		170		<1		<10	7	2800		90	<100	<1	2.6		
	8199		Rep		<5		0.3		56		55		<1		1		<10	<5	97		350	<100	<1	0.3		
	8200		Rep		6		0.2		74		35		220		<1		<10	19	1900		120	<100	2	6.2		
	8201		PC	1 pan	10		<2						300		<3		<23	25	<280		340	<100	5	>10		
	8202		S		<5		0.2		158		23		110		53		<10	<5	1300		170	<100	<1	2.1		
	8446		C	1.5	15		0.2		59		68		230		<1		<10	22	2000		81	<100	2	6.7		

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
8248		<5		0.5	<0.1		<10	0.9	9	16		0.6	4	0.6	<0.5	3.6	2.5	33				FL,	qz blocks + qz sc
8490		<5		0.5	0.1		<10	1.8	9	16		<0.5	<2	<0.2	<0.5	2.6	1.2	84				OC,	sc w/qz veins & lenses
9203		<5		1.9	0.4		<10	2.9	10	10		0.6	2	0.3	1.1	1.9	2.4	45				FL,	gd w/dissem po & minor veined po,cp,mo
9204		<5		<0.5	0.1		<10	<0.5	21	32		<0.5	<2	<0.2	0.7	7	3.9	30				FL,	gd(?) w/minor po,py, & cp(?)
9205		<5		1.4	0.1		<10	0.5	30	44		<0.5	<2	0.2	0.7	10	6	21				OC,	mafic part of metamorphosed gd w/po,py,cp
9446		<5		1.7	0.2		<10	0.6	15	23		<0.5	<2	<0.2	<0.5	2.8	3.4	24				FL,	qz veins in gd w/py + po 15%
9447		<5		<0.5	0.3		<10	1.3	12	15		<0.5	<2	<0.2	0.9	7.9	14	71				OC,	di w/qz vein,py 2%,po 1%
8278		<5		1.7	0.1		<10	<0.5	<2	<5		<0.5	<2	0.4	<0.5	<0.2	<0.2	19				OC,	calc-qz vein w/very minor py
8279		11		3	1		19	<0.5	17	28		0.9	5	0.6	<0.5	<0.2	<0.2	<5				OC,	qz-calc vein w/py + minor gn, cp,po
8527		<5		6.5	0.7		<10	1.2	11	13		<0.5	<2	<0.2	<0.5	3.2	1.1	41				OC,	qz lens w/cp
8528		<5		1.8	0.4		<10	<0.5	14	23		<0.5	<2	<0.2	0.9	13	5.3	47				OC,	qz vein or qz segregation in dike
8257		<5		5.4	0.9		<10	<0.5	12	19		<0.5	<2	0.3	1.1	2	1.4	83				OC,	metasediment w/minor py
8258		<5		2.8	1		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	7				FL,	qz w/minor py
8506		<5		8.2	0.6		<10	<0.5	12	19		<0.5	2	0.4	0.8	2.1	1.3	76				OC,	metavolc w/py
9441		<5		1.4	0.4		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	15				OC,	qz vein w/minor fest
9432		<5		13	0.9		<10	1.4	14	26		0.8	2	0.3	0.6	2.1	1	74				RC,	gw w/po 1%,py<1%,cp<1%
9209		<5		115	1.6		<10	0.8	14	17		<0.5	2	0.4	<0.5	1.9	1.1	44				FL,	sil & calcareous br w/banded po
6281		<5		8	1.5		<10	2.9	29	51		<0.5	<2	<0.2	0.5	7.2	4.2	97				OC	alt sil fest gd
6931		<5		26	24.4		<10	0.7	3	7.1		<0.5	<2	<0.2	<0.5	1.2	1.4	34				FL	qz feld intrusive w/ cp blebs, ml
6932		31		5.3	1.6		<10	1.4	27	58		<0.5	<2	<0.2	<0.5	3.3	3.9	61				OC	red sil clay alt rock w/ py, ml
East Hyder Area																							
9477			<5	417	6	0.252																	very minor black sands
8207		<5		2.9	0.5		<10	<0.5	3	8.3		<0.5	<2	<0.2	<0.5	0.7	0.4	22				OC,	qz vein in metavolc(?)
8208		<5		10	0.9		<10	<0.5	6	13		<0.5	<2	<0.2	<0.5	1.8	1.2	39				OC,	qz veins/stringers in metasediment & gd
8451		<5		24	1.5		<10	<0.5	5	9.1		<0.5	<2	<0.2	<0.5	1.2	0.8	53				OC,	qz w/ py
6086		<5		12	1.2		<10	0.9	7	12		<0.5	<2	<0.2	<0.5	2.3	1.3	51				OC,	qz vein
8451		<5		24	1.5		<10	<0.5	5	9.1		<0.5	<2	<0.2	<0.5	1.2	0.8	53				OC,	qz w/ py
6109		<5		111	3.1		<10	<0.5	<2	<5.0		<0.5	<2	<0.2	<0.5	0.3	0.2	6				OC,	msv, vuggy qz vein
6110		<5		75.1	2.4		<10	0.6	<2	<5.0		<0.5	<2	<0.2	<0.5	0.4	0.3	9				OC,	barren qz vein
6721		<5		57.8	2.4		<10	1.4	4	12		<0.5	<2	<0.2	<0.5	1.3	0.8	33				OC,	qz vein
6182		<5		2.7	2.1		<10	0.7	14	19		<0.5	<2	<0.2	<0.5	31.2	11	100				OC	msv qz vein
6798		<5		3.4	3.7		<10	<0.5	21	32		<0.5	<2	<0.2	0.9	14	4.7	55				OC	sil zone
6228		<5		1.9	0.9		<10	0.8	17	31		0.7	3	<0.2	0.5	7.1	3.2	70				TP	gd gneiss
6229		<5		0.5	0.9		<10	1	11	13		<0.5	<2	<0.2	<0.5	20.4	3.8	80				TP	leucocratic gd gneiss
6865		<5		2.9	0.8		<10	4.7	39	57		<0.5	<2	<0.2	0.7	6.4	6	82				TP	sil band w/ py
6230		<5		34	0.4		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.3	0.2	<5				OC	qz br w/ no sulf
6231		<5		39	0.7		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	<0.2	<0.2	<5				FL	angular qz boulder w/ sulf
8198		<5		1.6	0.3		<10	6.4	52	100		<0.5	<2	<0.2	1.2	18	5.5	170				OC,	fault gouge in granite to gd
8199		<5		0.5	0.1		<10	<0.5	<2	<5		<0.5	<2	<0.2	<0.5	0.4	0.3	12				OC,	qz vein in fault in granite
8200		<5		2.8	0.5		<10	0.8	58	130		0.8	<2	<0.2	1	4.9	2.3	73				OC,	mag-bearing dike
8201		<5		1.8	0.8		<23	1.3	430	782		3.1	7	<0.2	12	235	86.5	55					pan concentrate
8202		<5		5.9	0.2		<10	1.5	28	62		<0.5	<2	<0.2	1.9	21	20	190				FL,	granite w/sulf
8446		<5		4.7	0.3		<10	1.6	67	170		1	3	0.2	1.2	5.1	2.7	92				OC,	aphanitic chl-rich dike

Table A-3. Analytical results from reconnaissance samples.

Map No.	Sample No.	Location	Sample type	Sample size (m)	Au	*	Ag	*	Cu	*	Pb	*	Zn	*	Mo	*	Ni	Co	Ba	*	Cr	Sn	W	Fe	*	Ti
	8447		PC	4 pans	64		<2						470		<1		<24	42	<280		390	<100	8	>10		
R392	8077	Walker Cove	S		<5		0.2		186		<2		35		20											
R393	8076		S		<5		<0.1		26		<2		11		3		15	5								
R394	8351	Alamo	SS		<5		<0.2		89		7		79		2		37	15	780		51		<20	3.28		
	8352		S		<5		<0.1		21		<2		51		2											
R395	8349	Walker Cove	G		<5		<0.1		46		4		10		10								<2			
	8350		Rep	2.0	<5		<0.1		2		<2		23		4								<2			
R396	8078		RC		<5		2.6		112		4		5		10		12	2	380		349		<20	1.12		
	8079		S		<5		0.3		84		6		166		12		25	6	1400		282		<20	3.37		
	8353		S		<5		<0.1		15		<2		3		7											
R397	8059	Marten River	PC	1 pan	193		<0.2		3		19		80		7		16	18	350		164		<20	>10		
R398	8336		G		18		0.9		111		4		119		18		55	10	1800		342		<20	2.45		
R399	8060		PC	2 pans	8		<0.2		21		12		84		13		17	21	490		159		<20	8.94		
R400	8338	Red River	G		<5		0.3		27		4		165		19		29	5								
R401	8334	Very Inlet	S		<5		<0.1		35		3		9		7		18	7	270		294		<20	1.63		
R402	8332		Rep		<5		<0.1		16		<2		<1													
R403	8053		RC		<5		<0.1		<1		<2		216													
R404	8052		S		13		<0.1		<1		3		73		1026		5	<1								
R405	8335		S		<5		<0.1		5		12		9		3		13	2								
R406	8330		Rep		<5		<0.1		12		<2		8		7		10	2	40		317		<20	0.76		
R407	8333		Rep		6		<0.1		<1		<2		2													
R408	8324	Nakat Bay	Rep	6.1	<5		<0.1		<1		<2		8		<1		3	<1	900		183		<20	0.48		
R409	8323		Rep	0.3	<5		<0.1		<1		<2		<1		5		5	<1	540		229		<20	0.29		
R410	8043		C	2.6	<5		<0.1		14		5		18													
R411	8042	Sitklan Passage Pegmatites	Rep		<5		<0.1		<1		<2		5													
R412	8040		Rep		<5		<0.1		<1		<2		4													
	8041		Rep	4.6	<5		<0.1		4		<2		7													
R413	8026	Kanagunut Island	G		<5		<0.2		124		5		70		3		30	18	770		140		<20	3.96		
	8027		SS		<5		<0.2		14		5		30		1		5	4	40		233		<20	5.34		
	8313		G		<5		<0.1		13		<2		11													
R414	8028		SS		<5		<0.2		13		6		29		5		6	4	20		250		<20	5.80		
R415	8029		SS		<5		<0.2		10		6		36		<1		4	4	20		217		<20	6.51		
R416	8030		G		<5		<0.2		14		7		17		<1		5	2	30		281		<20	0.68		

Table A-3. Analytical results from reconnaissance samples.

Sample No.	V	Cd	Bi	As	Sb	Hg	Te	Cs	La	Ce	Y	Tb	Yb	Lu	Ta	Th	U	Rb	Pt	*	Pd	Sample site	Sample description
8447		<5		1.5	0.5		<39	0.7	449	776		2.4	4	<0.2	11	257	87.6	<15					stream sediments
8077																						FL,	gneiss w/py & po
8076																						FL,	qz segregations in gneiss w/py
8351			<5	<5	<5	0.011																	area of Cu-Au prospect
8352																						FL,	gniess w/py, gp
8349																						OC,	qz-rich sc or gneiss w/minor gp
8350																						OC,	gp sc/gneiss
8078			<5	6	<5	<0.010																RC,	qz vein
8079			<5	<5	<5	<0.010																FL,	gp gneiss & sc w/py
8353																						OC,	qz w/py, gp
8059			<5	<5	<5	<0.010																	pan concentrate
8336			<5	<5	<5	0.013																FL,	fest rock w/py
8060			8	<5	<5	<0.010																	pan concentrate
8338																						FL,	qz bt sc
8334			<5	<5	<5	<0.010																OC,	qz vein w/py
8332																						OC,	qz w/py
8053									4.4	9.2		<1	<1	<0.1		1.6	<1					OC,	qz plag pegmatite
8052																						OC,	qz vein w/py & mo
8335																						OC,	qz w/py
8330			<5	<5	<5	<0.010																OC,	qz w/minor sulf
8333																						OC,	qz
8324			<5	<5	<5	<0.010			<0.5	<2		<1	<1	<0.1		<0.5	<1					OC,	pegmatite
8323			<5	<5	<5	<0.010			<0.5	<2		<1	<1	<0.1		<0.5	<1					OC,	muscovite plag qz pegmatite
8043									2.6	4.7		<1	<1	<0.1		0.8	<1					OC,	granitic pegmatite dike
8042									1	<2		<1	<1	<0.1		<0.5	<1					OC,	plag qz mica pegmatite
8040									0.9	<2		<1	<1	<0.1		<0.5	<1					OC,	plag qz muscovite pegmatite
8041									0.9	<2		<1	<1	<0.1		<0.5	<1					OC,	pegmatite
8026			<5	<5	<5	0.010																OC,	qz vein w/po
8027			10	<5	<5	<0.010																OC,	garnet beach sands
8313																						OC,	sulf-bearing qz vein in sc
8028			<5	<5	<5	<0.010																OC,	garnet beach sands
8029			10	<5	<5	<0.010																OC,	garnet beach sands
8030			<5	<5	<5	<0.010																OC,	qz vein/boudin

Table A-4. - Velikanje and Riverside placer and pan concentrate sample analyses.

Map No.	Sample number	Sample type	Sample size	Weight of gold	Gold particle size surface area	g/m^3
374-1	8228	PL		0.87 mg		.011
374-1	8229	PL		41.08 mg	1.9 x 1.6 mm	0.54
374-1	8230	PC	1 pan	0.04 mg		0.0084
374-1	8249	PL		6.56 mg	0.9 x 0.8 mm	0.085
374-1	8250	PL		10.38 mg	1.4 x 0.9 mm	0.14
374-1	8282	PL		0.68 mg	0.9 x 0.4 mm	0.0089
374-1	8283	PC	4 pans	1.12 mg	0.8 x 0.6 mm	0.059
374-2	8251	PL		13.91 mg	1.4 x 0.9 mm	0.18
374-2	8616	PC	2 pans	0.06 mg		0.0063
374-2	8617	PC	4 pans	26.26 mg	2.2 x 1.6 mm	1.37
374-2	8618	PC	4 pans	12.08 mg	1.3 x 0.8 mm	0.63
417-1	8620	PC	2 pans	0.04 mg		0.0042
417-1	8621	PC	2 pans	0.09 mg		0.0094
417-2	8619	PC	4 pans	0.53 mg		0.028
417-2	8622	PC	1 pan	0.15 mg		0.031

EXPLANATION OF TABLE A-4

Placer samples were collected by passing 0.077 m^3 of material across a 1.22-m sluice box. The resulting sample was panned to further concentrate the heavy portion. Pan concentrate samples were collected by reducing 1 to 4 heaping 0.4-m pan(s) of material (approximately 0.0048 to 0.019 m^3) to concentrate a heavy fraction.

Analyses of pan concentrate and placer samples from the Velikanje and New W placer properties (fig. 65) were analyzed by the Bureau, Juneau, Alaska. The weights of "gold" listed above include varying amounts of silver, as the color index of the gold particles differ and electrum is common in the area. Fineness determinations were not made. Gold weights refer to the weight of a bead derived from a mercury separation of gold from a sediment concentrate (following the method of Wells, 1973), and of gold(-silver) particles hand-picked from the sediment. "Gold particle size" refers to the surface area of the largest gold(-silver) particle hand-picked from the sample.

APPENDIX B. SUMMARY INFORMATION FOR ALL MINES, PROSPECTS, AND OCCURRENCES

PROSPECT TABLE ABBREVIATIONS

MAP NO.:

Refers to prospect and sample numbers depicted on figure 5.

LOCATION:

Quad #, sheet #, 1/4 section, township, range

LAND STATUS:

N Native
S State
OF Open Federal
CF Closed Federal
P Private (mineral survey number listed)

DEPOSIT TYPE: (with commodity abbreviations)

V Vein
PV Polymetallic vein
Mag Seg Magmatic segregation
S Skarn
P Porphyry
VMS Volcanogenic massive sulfide
Peg Pegmatite
PL Placer
Geo Geothermal

WORKINGS:

T(s) Trench(es)
P(s) Pit(s)
C(s) Cut(s), opencut(s)
# Adit(s): lengths; (caved lengths in paren.)
# Shaft(s): depths; (flooded depths in paren.)

PRODUCTION:

NA Not Applicable

BUREAU WORK:

M Mapped
S Sampled
R Reconnaissance, recon sampling
NF Not found
NE Not examined

SELECT REFERENCES:

Numbers refer to items listed in the bibliography

MDP (mineral development potential): All mines, prospects and occurrences examined are classified according to the following criteria, based on resources and grades of mineralization.

H High grades and probable continuity of mineralization exist. The property is likely to have economically mineable resources under current economic conditions. A high potential exists for developing tonnage or volume with reasonable geologic support for continuity of grade.

M Either a high grade or continuity of mineralization exists, but not both. Mineralization is confined by geology, structures and/or grades are overall low and tend to stay that way. It could serve as a material source if economics were not a factor, but is presently uneconomic at existing conditions.

L The property exhibits uneconomic grades and/or little evidence of continuity of mineralization. There is little or no obvious potential for developing ore resources or it is an insignificant source of the material of interest.

ND Not determined.

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
1	Salmon Bay 21170052	117B3, Sec 19, 30-32 65S 79E; Sec 1 64S 79E	S	V: REE, Th, Cb	OC	NA	Indicated resources: 154.5 mt Cb, 1,000 mt REE and 5.3 mt Th in 694,000 mt (598); veins to 3 m thick, over 300 m long; carbonate-hem veins in gw, slate	S	167, 333, 598	L
2	Angus Lillie/Hump 21170025	117A5, NW13 66S 77E	OF	S: Mo	T, P, OC	NA	4.6% Mo across 1.2 m (333); average 0.16% Mo across 17 m (252)	M, S	98, 159, 252, 333	L
3	Sutter Lakes 21170153	117A5, Sec 13 66S 77E	OF	S: Mo	T, P, OC	NA	1,430 ppm Cu, 1,035 ppm Mo	S	252, 333	L
4	Shakan (Alaska Chief) 21170023	117A5, NE23 66S 77E	P: MS 1450A/B	PV: Mo, Cu	Adit: 174m; T, P (14)	NA	Probable ore: 12,455 mt @ 1.31% Mo; possible ore: 3,727 mt @ 2.08% Mo; (567); 9,100-18,200 mt ore @ 1.5% MoS_2 (582); br fissure vein in hnbd di	M, S	252, 333, 526, 567, 582	M
5	El Cap Gold 21170069	117A4, SE23 66S 78E	OF, MS 2526	V: Au	T, P (8); Adit: 3.8m (open)	NA	Select sample - metallic sieve analysis contained 2,027 ppm Au, > 50 ppm Ag; native Cu; vein exposed for 153 m	M, S	333	M
6	Devilfish Bay 21170029	117A4, NW3 67S 78E	OF	S: Cu, Fe, Au	C, OC	NA	Representative sample contained 3,695 ppm Cu across 4.6 m	S	167, 252, 333	L
7	Blashke Islands 21170001	117A3, Sec 20, 29 66S 81E	OF	Mag Seg: Cr, Cu, Ni	OC	NA	Anomalous Cu, Cr, Ni, minor PGM; high-grade sample contained 6,198 ppm Cu, 400 ppm Cr, 707 ppm Ni, 542 ppb Pd, and 163 ppb Pt (190); Ural Alaska-type zoned ultramafic	NE	257, 300, 441	L
8	McCullough/Lake Bay Copper 21190043	119D3, NW14 68S 80E	OF	PV: Cu	Shafts (2): 19m, 1.5m, (flooded); T, P (3)	4-ton test shipment	Cu values to 2.09% across 1.2 m, more commonly to 1.1%; br vein to 3 m thick	M, S	112, 333, 442, 581	L
9	Blue Jay 21190042	119D4, NW34 68S 79E	OF	?: Fe	NA	NA	Not examined	NE	632	ND
10	Rush Peak 21190306	119C2, SE9 72S 83E	OF	PV: Cu	T, P	NA	Select sample w/ >0.5% Cu, nil Au; chip sample across 1.22 m contained 2,619 ppm Cu, nil Au; stockwork	M, S	333	L
11	Kathy 21190134	119C2, SE8 72S 84E	OF	? : Fe	NA	NA	Not examined	NE	632	ND
12	North Pole Hill 21190307	119C2, Sec 7, 18 72S 84E	OF	Mag Seg: Cu, Au, Fe	P (several)	NA	Au values reported to 6.9 ppm (40); min in gabbro; sulf include bornite, cp	R	40, 359, 473	L
13	Salt Chuck 21190135	119C2, NE17 72S 84E	OF	Mag Seg: Pd, Pt, Cu	Adits (3): >400m on 3 levels, 9m, 35m; glory hole, mill	2.820 mt Cu, 1.73 mt Ag, 639 kg Pd, 365 kg Au from 296,363 mt ore	244,545 mt geologic ore reserve w/0.6% Cu, 0.45 ppm Au, 5.55 ppm Ag, 0.1 ppm Pd (366); min along pyroxene-gabbro contact; Alaska-type ultramafic	R	201, 268, 327, 366, 379, 542, 570	M

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
14	Rush & Brown 21190006	119C2, SE18 72S 84E	OF	V, S: Cu, Fe, Au, Ag; Fe-Cu skarn	Adit: 461m (open); glory hole, inclined shaft (several levels)	1,960 mt Cu, 1.5 mt Ag, 255 kg Au	45,000 mt; all classes; shear vein and glory hole; 1-4.25% Cu, 1-4 ppm Au, 8-20 ppm Ag; msv sulf shear vein	M, S	267, 458, 569, 601, 602, 608, 639	M
15	Venus 21190133	119C2, 72S 84E Sec SE19	P: MS 2048	V: Cu, Zn, Ag	Adit: 23m (open); T, P (4)	NA	Continuous chip sample across 1.83 m contained 1.7% Cu, 0.2% Zn, and 40.2 ppm Ag; inferred reserves of nearly 7,200 mt ore, variable grade; msv sulf vein in gs	M, S	428, 601, 602, 639	L
16	Paul Young 21190308	119C2, SW19 72S 84E	OF	PV: Cu	T, P, C	NA	Cp, py in arg	NE	115, 473	ND
17	Copper Center 21190309	119C2, NE22 72S 84E	S	S: Cu, Fe	Shafts (4): 3m to 9m deep	NA	Select sample contained 11.8 ppm Au, 69 ppm Ag, 4.72% Cu. (601)	S	412, 601, 608	L
18	Big Five 21190310	119C2, SE5 72S 85E	N	S:Fe, Cu	Adit: 15m w/4m winze	NA	NA	NF	639, 643	L
19	Iron Cap/Tolstoi 21190115	119C2, SW4 72S 85E	N	S: Fe, Cu	Adit: 30m; T, P (12)	NA	Estimated reserves of 90,000 mt @ 40% Fe and 0.25% Cu, trace Ag, Au	S	186, 333, 436, 601, 639	L
20	Wallace 21190311	119C2, NE9 72S 85E	OF	S: Fe, Cu	Short adit	NA	small exposures	NE	601, 639, 643	L
21	Haida 21190136	119C2, SW23 72S 84E	S	S: Cu, Fe, Au	Adit: 50m (open); shaft, T, P (16)	Small amounts sent to Hadley Smelter (601)	Cu values to 3.83%, Fe to 57%, Au to 3,840 ppb, Ag to 8.9 ppm	M, S	90, 333, 601, 639, 643	L
22	Charles 21190312	119C2 NW25, 72S 84E	S	S: Cu, Fe, Au, Ag	C: 6m	NA	NA	NE	639, 643	ND
23	Brown & Metzdorf 21190313	119C2, NE35 72S 84E	S	S: Cu, Ag, Au, Mo	Adit: 69m (caved at 23m); shafts (2)	20 mt grading 3 ppm Au, 60 ppm Ag, 14.28% Cu	Bureau samples average 3.8% Cu, <1 ppm Au, 20 ppm Ag, and 0.05% MoS_2 (601)	NE	90, 427, 601, 639	ND
24	MRA 21190314	119C2, NW36 72S 84E	S	S: Cu	Adits (2): 18m, 2.5m (open)	NA	Small amounts of Cu in skarn; select sample contained 5.39% Cu, 86 ppb Au	M, S	NA	L
25	Alarm 21190315	119C2, NW36 72S 84E	P: MS 925	S: Cu, Fe	Adits (2): 24m, 32m (open)	NA	Select sample contained 5.64% Cu and 5,213 ppb Au	S	601, 643	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
26	It 21190137	119C2, SW36 72S 84E	P: MS 925	S: Cu, Fe, Ag, Au	Adits (5): 120m (caved), 59m, 46m, 43m, 42m; 3 glory holes, T, P	1,840 mt Cu, 870 kg Ag, 136 kg Au	Bureau samples contained up to 22.9% Cu, 97 ppm Ag, 7,660 ppb Au; average ore grade was 3.99% Cu, 2.3 ppm Au and 16.4 ppm Ag	M, S	333, 601, 639, 643	L
27	Poorman 21190003	119C2, NW12 73S 85E	OF, patent application pending on MS2412	S: Fe, Cu	Adits (3): 27m, 8m (open), 1 caved; shafts (4)	NA	Bureau drilling indicates 52.4% Fe, 0.25% Cu, 1 ppm Au, and 2 ppm Ag; select values to 1.1% Cu, 2,031 ppb Au, 63.86% Fe	M, S	266, 270, 542, 601, 608	M
28	Iron King 21190005	119C2, SW12 73S 85E	N	S: Cu, Fe, Au	T, P (4)	NA	Average analyses reveal 2% Cu, 40-50% Fe, and appreciable Au (241)	NE	241, 595, 601	M
29	Copper Queen 21190316	119C2, SW17, SE18, 73S 86E	P: MS 558	S: Cu, Au	Adits (2): 38m, 14m (open); shaft; 11m	NA	Values to 3,628 ppm Cu, 626 ppb Au, 6.7 ppm Ag	M, S	70, 333, 639	L
30	Uncle Sam 21190317	119C2, NW20 73S 86E	P: MS 537	S; Cu, Fe	Adits (3): 105m, 50m, 1 caved; shafts (2), T, P (4+)	12 mt Cu	Average grade from production: 2.2% Cu; representative samples contained up to 3.14% Cu, 39% Fe, 12.3 ppm Ag, and 529 ppb Au	M, S	601, 639	L
31	Rich Hill 21190130	119C2, NE21 73S 86E	N	S: Cu, Ag, Au	Adits (3): 203m, 41m, 6m (open); glory hole, T, P	43 mt Cu, 16 kg Ag, 2.4 kg Au	Values to 6.32% Cu, 17.6 ppm Ag, and 1,696 ppb Au across 1.22 m	M, S	241, 333, 601, 639	L
32	Tacoma/Peacock 21190131	119C2, SW22 73S 86E	N	S: Cu, Fe, Mo	Adits (3): 18m, 14m, 9,m; T, P	NA	Not visited	NE	70, 639	ND
33	Hole-In-The-Wall 21190132	119C1 NW23 73S 86E	N	S: Cu, Fe	Adits (2): 30m, 8m; T, P	NA	Not visited	NE	90, 639	ND
34	Hadley Smelter 21190318	119C1, SW13 73S 86E	N	Cu smelter	Mag/sulf piles, granulated slag, clinker, ruins	smelted >90,000 mt ore between 1906-1908	clinker contains to 5.1% Cu, 10.8 ppm Ag, and 2,555 ppb Au	S	458, 601, 639	NA
35	Mamie 21190319	119C1, SE23, SW24, NE25, 73S 86E	P: MS 603	S: Cu, Fe, Ag, Au	Adits (3): 670m, 15m (open), 1 caved; 3 glory holes, shaft	2826 mt Cu, 659 kg Ag, 107 kg Au	Average grade from production: 1.81% Cu, 4.3 ppm Ag, 0.7 ppm Au; Bureau sample values to 3.35% Cu, 9.2 ppm Ag, 2,926 ppb Au	M, S	333, 458, 601, 639	M
36	Peacock 21190320	119C1, NE26 73S 86E	P: MS 552	S: Cu, Fe	Adits (5): 43m, 40m, 16m, 51m, 66m (all open); glory hole (2), 2 short cuts	Small tonnages mined (601)	Bureau samples contained up to 6.98% Cu, 31.7 ppm Ag, and 957 ppb Au; average for deposit is much lower	M, S	241, 368, 601, 639	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
37	Rico 21190321	119C1, SE23, NE 26 73S 86E	P: MS 1026	S: Cu, Fe	Adit: 31m (open); T, P	NA	Bureau samples contain up to 2.37% Cu and 46% Fe; USGS estimates are 0.5% Cu, and 45-50% Fe (601)	M, S	241, 601	L
38	Stevenstown 21190322	119C1, NE26 73S 86E	P: MS 568, 726, 727	S: Cu, Fe	Adits (2): 168m, 173m (open); glory holes (2+)	932 mt Cu, 467 kg Ag, 62 kg Au	Average grade from production: 2.88% Cu, 9 ppm Ag, 1 ppm Au (601); Bureau samples contained to 7.33% Cu, 24.4 ppm Ag, 3,620 ppb Au	M, S	90, 241, 601, 639	L
39	Mount Andrew 21190004	119C1, NW26 73S 86E	P: MS 552, 1026, 1028, 1033	S: Cu, Fe, Ag, Au	Adits (3): 589m, 465m (open), 152m (partially caved); 4 glory holes	1,973 mt Cu, 849 kg Ag, 71 kg Au	Average grade from production: 3.09% Cu, 12.4 ppm Ag, 0.9 ppm Au (601); USBM drilling revealed 0.32% Cu, and 47.8% Fe (649). Nordine calculated reserves of 5.78M mt w/ 45.61% Fe and 0.46% Cu (372). Samples contained to 7.55% Cu, 26.3 ppm Ag; Cu, Fe, Ag, Au in historic mine workings; Fe, Cu in compound ore body to the south	M, S	241, 372, 568, 601, 639, 649	M
40	Goodluck/Mayflower 21190323	119C1, NE26 73S 86E	P: MS 552	S: Cu, Fe	Adits (4): 92m, 53m, (open), 2 caved; T, P (3)	Stopes exist, no recorded production	Values from Bureau samples average 1.11% Cu, 4 ppm Ag, and 37% Fe	M, S	241, 333, 601	L
41	Cachelot-Big Six 21190103	119C1, NW11 74S 87E	OF	V: Cu, Au, Ag	T, P, C(s)	NA	Random sample contained 14 ppm Ag, and 4.8 ppm Au (70)	NE	70	ND
42	Noyes Island 21190046	119C5, C6, 73S, 77E	OF	V: Cu, Ni, Mo in sc	NA	NA	Reported: cp w/ minor Ni in qz near intrusive contact; also Mo in schists	R	38, 526, 643	L
43	San Juan Bautista Island 21190079	119B4, 31,32, 74S, 80E	OF	P: Cu	NA	NA	Di to gd w/ minor dissem py, cp; reported minor skarn w/ cp; py, sl vein	S, R	124	L
44	St. Ignace Island 21190021	119B5, 74S, 75S, 79E	OF	V: Ba	NA	NA	Reported barite in fissure veins in ls, cng & volc rocks	NF, R	83, 89	L
45	Veta Bay 21190290	119B5, SW25, 75S, 77E	OF	V: Ag, Au. Cu	NA	NA	30-m shoreline exposure of qz-sulf vein w/ py, cp, hosted in shear in granite; only one sample: 385 ppm Ag, 1.3 ppm Au, 0.2% Cu over 0.15m	S	NA	L
46	Dalton Hot Springs 21190048	119B5, SW25, 75S, 77E	OF	Geo	NA	NA	Approximately 110 degrees F	R	87	L
47	Port San Antonio 21190049	119B5, SE30, 75S, 78E	OF	V: Au, Ag, Zn, Pb	1 Adit: 23m	NA	Low metal values; 0.3-.05-m qz vein w/ py/po in sil ar/argilaceous qt	M, S, R	38, 403, 643	L
48	Baker Island 21190020	119B5, 32,33, 75S, 78E	OF	P: Mo	C(s)	NA	4 diamond drill holes; sampling indicates approximately 0.025-0.045% MoS_2; 0.35-3.5M mt possible reserve; average of Bureau samples: 0.044% MoS_2	S	394, 396, 403, 409, 526, 582	L
49	Fortaleza South 21190145	119B5, 24, 76S, 77E	OF	?: Cu	NA	NA	Sulf in metased, sampled by USGS	NE	125, 139	L
50	Pelegroso 21190171	119C4, NW15, 73S, 81E	N	Dike REE	P	NA	10-15-m syenite sill intrudes banded marble, exposed in road pit and may be traceable to south; contains minor radioactives & REE	S, R	584, 632	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
51	Black Lake 21190291	119C3, 1,2, 73S, 82E	N	PV: Cu	NA	NA	Cu found in py-rich lenses in sheared metavolc and in hn adjacent to di intrusion; best sample: 1.2m @ 0.5% Cu; silicified br pipe in area with br py, minor metal values	S, R	241	L
52	Saxe 21190123	119C3, 23, 73S, 82E ?	N	V: Au, Ag, Pb, Zn	C	NA	Sulf-bearing qz vein in gs; Sealaska, Inc. has recently been interested in the min in this area	NE	38, 87	L
53	Constitution 21190292	119C3, 16, 73S, 83E	CF	V: Au, Ag, Cu, Pb, Zn	2 Adits: 40m, ? (NF)	NA	Reported: average 0.4 m qz vein in mafic volc w/ py, cp, gn, sl	NF	70, 90, 643	L
54	Swenning 21190139	119C3, 15, 73S, 83E ?	CF	V: Ni	NA	NA	Reported: 0.5 m vein exposed for approximately 60 m, containing up to 2% Ni	NF	422, 426	L
55	Independent 21190293	119C3, 20, 73S, 83E	CF	V: Au, Pb, Zn	2 Adits: (NF); C(s)	NA	Qz-calc vein w/ gn, py, sl	NF	70, 426, 643	L
56	Dew Drop 21190294	119C3, NE2873S, 83E	OF	PV: Au, Ag, Pb, Zn	1 Adit: 6.4m	NA	Narrow, high-grade sulf lenses in qz vein in metavolc; sulf include py, gn, sl, cp, tetrahedrite?; Ag values to 0.95%	M, S	641, 643	L
57	Lucky Nell 21190121	119C3, SW28, 73S, 83E	OF	PV: Au, Ag, Pb, Zn	5 Adits: 22m, 19m, 32m, 143m, 8m	$2450 combined	Approximately 0.3-1-m qz vein with Au in sulf, exposed for about 175 m vertically and 600 m horizontally	M, S, MT	70, 90, 246, 444, 620	M
58	Pin Peak 21190295	119C3, 73S, 82E, 83E	OF	?: Cu	NA	NA	Drilling in 1971 on low-grade Cu min in alt volc	R	584	L
59	Lone Jack 21190296	119C3, S5, 73S, 84E	CF	V: Au, Ag, Cu	1 Adit: (caved); T	NA	Qz veins in di w/ py, cp; in places vein parallel to mafic dike	S	420, 643	L
60	Flagstaff 21190113	119C2, 16,17, 73S, 84E	CF	V: Au, Ag, Pb, Cu	5 Adits: 330m, 11m, 30m (2 caved: 50m, 45m)	8kg Au, 61.6 kg Ag, 1.3 mt Cu, 2.7 mt Pb	Industry exploration in 1980's; vein hosted by gd to di and adjacent to diabase dike; vein average about 0.5m wide; average of all Bureau samples, Au: "main vein": 3.2 ppm; "cross vein": 1.5 ppm; Bureau metallurgical testing done	M, S, MT	246, 253, 401, 548, 575, 581, 618, 642	L
61	Buckhorn 21190297	119C3, SW17, 73S, 84E	CF	V: Au, Ag	2 Adits: 17m, 4m; T(s)	NA	Qz veins w/ py in gd; in places vein follows mafic dike; best sample: 0.9m @ 2.2 ppm Au	M, S	385, 642, 643	L
62	Lucky Jim 21190298	119C3, SE20, 73S, 84E	CF	V: Au, Ag, Pb, Cu	1 Adit: 2.4m; T(s), C(s)	NA	Qz veins w/ py, cp, gn; in gd; generally minor Au values	M, S	90, 253, 643	L
63	Puyallup 21190065	119B3, E31, 73S, 84E	OF	V: Au, Ag	5 Adits: 26m, (4 caved: >800m in 4 adits)	maximum: 325 kg Au, 255 kg Ag	Free-milling Au in ore shoots within 0.1-0.8-m qz vein in slate; approximate average grades: Au 29 ppm, Ag 23 ppm	M, S	70, 90, 253, 407, 581, 643	M
64	Crackerjack 21190299	119B3, 31, 73S, 84E; 6, 74S, 84E	P, MS 1527 A&B	V: Au, Ag	6 Adits: 333m, 87m, 123, 43m, 178m, (1 caved); T(s)	NA	0.3-1.6-m qz vein(s) adjacent to porphyry dike in black slate; highest grades in shoots along veins; average of 97 vein samples: 9.4 ppm Au, 78 ppm Ag	M, S	253, 413, 426, 643	M
65	Cascade 21190300	119B3, W1, 74S, 83E	OF	V: Au, Ag	2 Adits: 90m, 50m (both caved)	900+g	0.6-m average qz vein in gs w/ free Au, Ag, py, sl, cp & gn	M, S, R	90, 434, 618, 641, 643	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
66	Dawson 21190064	119B3, NE7, 74S, 84E	OF	V: Au, Ag	5 Adits: 76m, ?, (105m in 3 adits); T(s), trench	204 kg Au, 162 kg Ag, minor Pb & Cu	Aproximate resource: 48,000 mt at 34 ppm Au, 68 ppm Ag; based on industry drilling in mid-1980's & historic production	M, S	75, 90, 347, 351, 352, 401	M
67	Harris River 21190301	119B3, SW7, 74S, 84E	P, MS 1408	V: Au, Ag	1 Shaft: 210m + 800m of drifts & raises (flooded)	(see Dawson)	Auriferous qz veins in black slate, associated with mafic dike; select sample up to 9.5 ppm gold	M, S	90, 253, 545, 620, 634	M
68	Burke and Lang 21190127	119B2, 33?, 73S, 84E	CF	V: Au	NA	NA	Reported: 6-m-wide qz vein	NF	78, 253	L
69	Stella 21190126	119B2, 34, 73S, 84E ?	N?, OF?	V: Au, Ag, Pb, Zn	1 Adit: 40m (NF)	NA	Same as "Monday" claim?; qz vein adjacent to dike in slate w/ py, gn, sl	NF, R	70, 194, 384, 643	L
70	Kina Cove 21190066	119B2, 5, 74S, 85E	N	?, S: Cu, Zn	NA	NA	Dissem cp in recrystallized ls; qz vein with sulf in skarn; low metal values	R	38, 246, 473	L
71	Sunny Day 21190107	119C2, NE25, 73S, 85E	OF	S (?): Cu, Pb, Zn, Au, Ag	1 Adit: 60m; T(s)	NA	Msv sulf lenses within and adjacent to porphyritic dike(?); py, po, cp; gs, hn, and minor marble host rocks; minor ep	M, S	634, 642, 643	L
72	Baker Point 21190108	119C2, SW30, 73S, 86E	OF	Mag Seg: Fe	1 Adit: 15m (NF)	NA	Mag lenses in metavolc near granitic pluton	S, R	38, 473	L
73	Shelton 21190086	119B2, 28, 74S, 84E, ?	OF	V: Cu, Au, Ag	1 Adit w/ winze: 50m (NF)	NA	Reported: up to 2-m vein/shear zone w/ qz-calc and minor py, cp w/ some Au and Ag	NF, R	70, 581, 642, 643	L
74	Big Harbor 21190072	119B3, SW9, 75S, 82E	N	VMS: Cu, Zn, Au, Ag	3 Adits: 140m, 18m, 9m; 1 shaft: 35m; T(s)	120 mt @ 6-7% Cu?	USGS production records site 6-7% Cu; 8 drill holes (1958); mapping and sampling by Bureau in 1960; recent work by Cominco	M, S	331, 388, 458, 581	M
75	Cable Creek 21190302	119B3, NE19, 75S, 83E	OF	VMS: Cu, Zn, Au, Ag	C	NA	Lenses of msv py, cp, sl, in Wales Group metavolc exposed in roadcut; high-grade sample: 2.5% Cu, 1.0% Zn, 0.8 ppm Au	S	NA	L
76	Nancy 21190082	119B3, 75S, 83E	OF	PV: Cu	C(s)	NA	7.5-m-wide shear zone in gs; sil w/ dissem py, cp; qz veins/stringers w/ sulf	NE	38, 150, 581	L
77	Marble Heart 21190081	119B3, 75S, 83E ?	OF	V: Pb	1 Shaft: 6m; 1 adit, (NF)	NA	"Galena vein" in crystalline ls	NF	38, 70, 253,	L
78	Dolly Varden 21190080	119B3, SW25, 75S, 83E	OF	V: Cu, Au, Ag	1 Adit: 30m	NA	Adit does not undercut mineralized zone of qz veins w/ Cu, Au, Ag in marble	M, S	70, 246, 253, 643	L
79	Khayyam 21190036	119B2, NE7, 76S, 86E	OF	VMS: Cu, Zn, Au, Ag	8 Adits: about 600m total,;T(s), P(s)	4.0kg Au, 53kg Ag, 80,630kg Cu	Reserve estimate: 85,000 mt, 2.94% Cu, 0.79% Zn, 1.3 ppm Au, 17 ppm Ag; held fall 1993 by Kennecott	1940's: M, S, trenchin g 1990: S, MT	29, 70, 192, 643	M
80	Stumble-On 21190303	119B2, NE8, 76S, 86E	OF	VMS: Cu, Zn, Au, Ag	2 Adits: 68m, 56m; T(s), P(s)	NA	Stratiform Cu-Zn msv sulf lenses in schistose Wales Group rocks; held fall 1993 by Kennecott	M, S	29, 70, 192, 643	M

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Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
81	Luscombe 21190068	119B1, 13,14, 75S, 86E	OF	Mag Seg: Fe, V	NA	NA	Up to 65% acid soluble Fe; average approximately 10-15% Fe; magnetite lenses in ultramafic; percussion drilling, magnetometer survey, mapping, and sampling by Bureau in 1940's	M, S	22, 584	L
82	Sultana 21190188	119B2, SW12, 76S, 84E	P MS743	S: Cu	2 Adits: 8m, (40m, caved)	NA	Masses and dissem of sulf in calc-silicates; mag, po, py, minor cp	M, S, R	70, 584, 639	L
83	Gould Island 21190089	119B-2, SE15 76S 84E	N	S: Cu, Pb, Zn, Ag, Wollastonite	Adit: 21m (caved); shaft: 3m (flooded); T, P	NA	Sample from trench yielded 802 ppb Au, 6.7 ppm Ag, 1.74% Cu, 1.39% Zn	M, S	251, 331, 639	L
84	Deer Bay Exhalite 21190304	119B2, NE20, 76S, 84E	N	VMS: Au, Ag, Cu, Zn	1 Adit: 53m	NA	Stratabound py, cp, sl in qz-sericite-chl sc; best sample: 0.9 m @ 2.1 ppm Au, 6.8 ppm Ag, 0.7% Cu in qz-sericite sc	M, S	241	L
85	Campbell 21190324	119B-2, SE21 76S 84E	N	S: Cu, Fe	Adit: 15m (partially caved)	NA	1,380 ppm Cu, 175 ppm Zn, 1.5 ppm Ag, (251)	NF	251	ND
86	Houghton 21190104	119B-2, SE22 76S 84E	OF	S: Cu, Ag, Au	Adits (3): 30m, 60m, (open), 25m, (caved); T, P	2184 kg Cu, 1.6 kg Ag	Samples contained up to 2,630 ppb Au, 46.5 ppm Ag, 10.44% Cu	M, S	251, 331, 639	L
87	Mt. Jumbo 21190325	119B-2, SW22 76S 84E	N	S: Cu, Ag	Adit: 3.3m (open)	NA	1.2% Cu, 4.3 ppm Ag, and 246 ppb Au across 4.57 m	M, S	251	L
88	Magnetite Cliff 21190326	119AB-2, SE27 76S 84E	P: MS562	S: Fe, Cu	Adits (4): 20m, 16m, 11m, (1 NF)	NA	Reserves are: 376,000 mt @ 45.2% Fe, 0.73% Cu (299)	M, S	251, 299	L
89	Upper Magnetite 21190327	119A-2, NE27 76S 84E	P: MS562	S: Fe, Cu	OC	NA	Reserves estimated at 45,500 mt (299)	NE	251, 299	L
90	Gonnason 21190328	119A-2, SE27 76S 84E	P: MS562	S: Fe, Cu	OC	NA	Channel sample contained 50.6% Fe, 0.94% Cu along 25-m line (263)	NE	251, 299	L
91	Jumbo 21190002	119A-2, NE34 76S 84E	P: MS 562, 1542, 1545	S: Cu, Au, Mo	Glory hole; adits (14+); several 1,000's m workings	4,634 mt Cu, 3.3 mt Ag, 268 kg Au	Average grade from production: 4.1% Cu, 24.5 ppm Ag, 2 ppm Au (hand sorted); Cu to 2.8%, Au to 4,526 ppb, Ag to 14.6 ppm, Mo to 1,322 ppm	M, S	251, 299, 306, 331, 639, 647	L
92	Copper Mountain 21190057	119A-2, SE34, SW35 76S 84E; NE4 77S 85E	P: MS 419, 886, 1006, 1023	S: Cu, Ag, Au	Adits (18), T, P (21)	102 mt Cu, 391 kg Ag, 5.5 kg Au	Average grade from production: 1.9% Cu, 61 ppm Ag, 0.85 ppm Au (632); select samples: 39.48% Cu; low-grade ore: 1,196 ppm Cu	M, S	70, 251, 331, 639	L

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Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
93	Green Monster 21190091	119A-2, SW29, NW32 76S 85E	P: MS 649	S: Cu	Adits(2): 20m, 24m; T, P	NA	Samples contained up to 6.93% Cu, 40.2 ppm Ag, 1,869 ppb Au across 1.13 m	M, S	251, 323, 331, 639	L
94	Deer Bay 21190305	119A3, NE1, 77S, 84E	N	VMS(?)	1 Adit: 4.6m	NA	Minor metal values in qz veins/lenses parallel to foliation in qz-mica sc; best values from 8 samples: 210 ppb Au, 1.6 ppm Ag, 400 ppm Cu	S, R	NA	L
95	Corbin 21190059	119A-2, SE33 76S 84E	N	VMS: Cu, Zn, Ag	Adit: 103m (open), 14m (caved); shaft: 31m (flooded)	9.7 mt Cu, 12 kg Ag	Values to 3.25% Cu, 4.15% Zn, 24 ppm Ag, 1,395 ppb Au across 1.22 m	M, S	251, 331, 639	M
96	Copper Bluff 21190329	119A-2, NW1 77S 85E	P: MS1524	S: Cu, Fe	Adit: 23m (open); T, P	NA	7,150 ppm Cu, 4.5 ppm Ag, and 251 ppb Au across 1.22 m	M, S	MS plat	L
97	Gould (Hetta Inlet)/Iron Crown 21190087	119A-2, SW3, NW10 77S 85E	N, P: MS1023	S: Cu, Ni	Adits (2): 6m w/11m cut (open), 35m (NF); T, P (2)	NA	2,012 ppm Cu across 0.76 m; 1,340 ppm Ni from msv po boulder	M, S	331, 639, 643	L
98	Hetta Mountain 21190098	119A-2, sec 10, 11, 14, 15 77S 85E	P: MS 884A, 1522A, 1523A	S: Cu, Ag	Adits (6): 2.5m, 3m, 6m, 7m, 9m, 10m; T, P (several)	NA	Sample values to 4.17% Cu, 43.8 ppm Ag, 572 ppb Au and 0.18% Zn across 0.43 m	M, S	251, 331, 346, 639	L
99	Het (Hetta Lake) 21190109	119A-2, NW18 77S 86E	OF	S: Cu	OC	NA	Values to 1,035 ppm Cu, 1.6 ppm Ag across 1.83 m; other samples contained to 1,251 ppm Cu	S	250, 254, 331	L
100	Friendship 21190094	119A-1, SW4 77S 87E	OF	PV: Cu, Au	Shaft: 4.5m (flooded); T, P (flooded), C	NA	Au values ranged from 2.57 to 15.6 ppm; Cu reached 3.91%	M, S	70, 251, 331	L
101	Ruby Tuesday/ Polymetal 21190093	119A-1, SE5 77S 87E	OF	VMS: Zn, Cu, Pb	Adit: 91m	NA	Polymetal: 11.1% Zn, 3.1% Pb, trace Ag (196); Fish: 16.5% Zn, 8.4% Pb, 1.36% Cu and 27.9 ppm Ag	R	196, 251, 380	M
102	Moonshine 21190090	119A-2, SE24 77S 86E	OF	PV: Cu, Zn, Ag	Adits (2): 488m (caved at 293m), 61m (caved); shaft 27m; glory hole	Minor (251)	1.22-m chip samples with up to 59 ppm Ag, 6.76% Pb, and 13.6% Zn; high-grade contains to 4,668 ppm Ag, and 74.7% Pb	M, S	643, ?, 251, 458, 331	L
103	Hope-Cholmondeley 21190092	119A-2, NE25 77S 86E	OF	PV, replacement: Zn, Pb, Ag	Adit: 8m, (open); T, P (4); shaft: 6m	NA	0.91-m-thick pod in adit contained 143 ppm Ag, 17.5% Zn, and 8.71% Pb	M, S	251, 331, 642	L
104	Divide Head 21190074	119A1, SE36, 76S, 86E	N	dissem py, cp in gs	Road cut	NA	Sample contained 123 ppb Au and 3,345 ppm Cu	R,S	NA	L

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Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
105	East Cholmondeley 21190251	119A1, NW10, 77S, 87E	N	VMS	Road cut	NA	5 samples of msv and dissem pyrite in qz-ser sc contained up to 186 ppb Au and 175 ppm Cu	R,S	244	L
106	Divide Head South 21190252	119A1, SW9, 77S, 87E	N	dissem py and cp in dike	Road cut	NA	Sample contained 1,586 ppm Cu	R,S	NA	L
107	Borrow Pits 21190253	119A1, SW14, 77S, 87E	N	V: REE	P(s)	NA	Up to 34 ppm U, 1,000 ppm Ce, 494 ppm La	R,S	NA	L
108	Dora Lake Narrows 21190149	119A1, NW25, 77S, 87E	N	Dike REE	NA	NA	Inferred resource of 2.6 mt at 0.5% REE; up to 51 ppm Mo	R,S	25	L
109	Dora Lake, West 21190254	119A1, SE23, 77S, 87E	OF	Mag Seg	NA	NA	Eudialyte vein, up to 326 ppm Dy and 808 ppm Ce	R,S	NA	L
110	Kitkun Bay 21190255	119A1, S29, 77S, 88E	OF	V:Pb, Zn	NA	NA	Sample contained 1,278 ppm Pb and 1,922 ppm Zn	R,S	NA	L
111	Equator 21190095	119A1, SE32, 76S, 88E	OF	SB: Cu	Adit: 19m	NA	Sulf-bearing min marble zone traced for 15 m; a 1.5-m sample contained 79 ppb Au, 16,128 ppm Cu	M,S	643	L
112	Saco 21190256	119A1, SE32, 76S, 88E	OF	V: Cu	Adit: 12m	NA	From 366 ppm to 5.68% Cu	M,S	643	L
113	Gladstone 21190138	119A1, NW6, 77S, 89E	OF	V: Au ,Cu	Adit: 11m	NA	From 238 ppm to 4% Cu; up to 1,029 ppb Au	M,S	643	L
114	Kael Pit 21190257	119A1, SE7, 77S, 89E	OF	SB: Au, Cu	P	NA	Cu-Au-bearing qz-dolomite br zone up to 5 m wide; 2.5-m sample w/ 1.55 ppm Au and 2,018 ppm Cu	R,S	244	M
115	7 Mile Gold 21190258	119A1, SE8, 77S, 89E	N	SB: Au, Cu	P	NA	Cu-Au-bearing qz-dolomite br zone up to 10 m wide. 1.8-m sample contained 566 ppb Au; select sample contained 13.3 ppm Au and 2.18% Cu	R,S	244	M
116	Kael-7 Mile Trend 21190259	119A1, 9,8,7, 77S, 89E	OF,N	SB: Au, Cu	P(s), C(s), T(s)	NA	Au-Cu-min qz-marble-dolomite br zone extending for at least 5.6 km and includes the Kael and 7-Mile Au prospects; spotty min; Bureau samples contained up to 5,354 ppb Au and 2,591 ppm Cu	R,S	244	M
117	Roy Creek 21190260	119A1, SW9, 77S, 89E	N	V: Au, Cu	C	NA	Narrow vein; best min portion contained 154.5 ppm gold and 2.24% Cu	R,S	244	L
118	Windy Cove 2120191	120A6, SW3, 77S, 89E	N	SB: Au, Cu	Adit: 9m; P, C	NA	Cu-Au-bearing qz and sil dolomite zone; exposures scattered across 300 m; 1.8-m sample w/ 5.199 ppm Au, 1.26 ppm Cu	M,S	244	L
119	Jesse Lake Vicinity 21190261	119A1, S20, 77S, 89E	N	S: Au, Cu, Zn	P(s), C(s)	NA	Up to 6,243 ppm Au, 351 ppm Cu; Sealaska, Inc. samples up to 6,280 ppm Cu and 8,630 ppm Zn	R,S	244	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
120	Washington 21190096	119A1, SW22, 77S, 88E	OF	V: Au	C(s)	NA	Up to 27 ppb Au	R,S	70	L
121	Croesus 21190062	119A1, NW33, 77S, 88E	OF	V: Au	Adits: 98m, 6m, 40m; shaft: (caved)	NA	Vein exposed intermittently for 137 m along strike; up to 21.39 ppm Au.	M,S	70	L
122	San Juan 21190262	119A1, NE32, 77S, 88E	OF	V: Au	Adit: 59m; shaft: (caved); T	NA	Up to 860 ppb Au from adit; shaft dump: 6,680 ppb Au	M,S	643	L
123	Paul Lake, West 21190263	119A1, SW34 ,77S, 88E	OF	?: Pb, Zn	NA	NA	Float sample, 24 ppb Au, 5,209 ppm Pb, 9,673 ppm Zn	R,S	643	L
124	Golden Fleece 21190102	119A1, NW31, 77S, 89E	P,MS540, 1581	V: Au, Ag	Adits: 130m, 59m; raise: 68m	Mill and stopes indicate production. Unreported.	Partly mined out vein exposed for 46 m along strike averages 6.8 ppm Au	M,S	70, 90	L
125	Alpha 21190264	119A1, NW32, 77S, 89E	N	V: Cu	Adit: 1.5m; shaft: (plugged); T(s)	NA	Up to 62 ppb Au, 1.8% Cu.	M,S	643	L
126	James Lake, West 21190265	119A1, SE31, 77S, 89E	N	V: Au	Adit: 10m; C(s), T(s)	NA	Qz vein, 4 m thick traced 182 m; sulf-rich sample 8.06 ppb Au; meassured samples less than 54 ppb Au	M,S	NA	L
127	Valparaiso 21190100	119A1, SE36, 77S, 88E	P, MS766	V (SB): Au	3 levels of undergoround workings (700m); shafts, crosscuts, drifts, stopes, raises	22.71 kg Au,16.2 kg Ag more production than reported	330 m of vein exposed that averages 6.7 ppm gold across 1.5 m; partly stoped out	M,S	200, 374	M
128	James 21190266	119A1, SE36, 77S, 88E	P, MS766	V: Au	Adit (caved)	NA	Dump sample contained 88.46 ppm Au	R,S	249	L
129	Paul Lake 21190097	119A1, SW31, 77S, 89E	P, MS760	V (SB): Au	Adits: 55m, 8m, 3m; C(s)	NA	Vein traced on surface and underground for 67m averages 10.6 ppm Au across 0.76 m; drilling indicates vein extends 1,036 m; of this 640 m has an inferred 320,000 mt that averages 7.54 ppm Au across 0.97 m.	M,S	374	M
130	Moonshine 21190267	119A1, SE31, 77S, 89E	P, MS789	V: Au, Ag	Adits: 18m, 22m; winze: (flooded); C(s)	Not reported	Main vein exposed 32 m; up to 396 ppb Au; narrow 18-m long vein at stope back contained from 24.8 to 2,167 ppm Au	M,S	NA	L
131	Jumbo 21190268	119A1, NE6, 78S, 89E	P,MS1058	V: Au	Adit: 41m; shaft, borrow pit	NA	Vein up to 9 m thick intermittently traced for 244 m; sample across 16 m contained 1,515 ppb Au	M,S	NA	L
132	Amazon 21190269	119A1, NE6, 78S, 89E	P, MS790	V: Au	Shaft: (flooded) C(s)	Not reported	Vein rubble exposed at flooded shaft contained 4.90 ppm Au; dump sample: 9.33 ppm Au; diamond drill hole at 3.0 ppm Au across 2.4m	M,S	374	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
133	Boston 21190270	119A1, NW5, 78S, 89E	P, MS1056	V: Au, Ag	Adit: (caved); shafts both partly caved	NA	Vein up to 3.7m thick traced intermittently for 162 m; averages 2.7 ppm Au	M,S	374	L
134	Cape Horn 21190271	119A1, NW6, 78S, 89E	P, MS1055	V	Adit: 8m	NA	Up to 12 ppb Au, 421 ppm Cu	M,S	NA	L
135	Paul Lake, South 21190272	119A1, SW1, 78S, 88E	N	VMS?: Cu	C	NA	6,464 ppm Cu	R,S	NA	L
136	Stockton Quartz 21190273	119A1, SE6, 78S, 89E	P, MS587	V	Shaft: (flooded); T(s)	NA	26 ppb Au	R,S	NA	L
137	Moss Point 21190274	119A1, SE7, SW8, 78S, 89E	OF	VMS	Adit: 6m	NA	9 samples contained up to 165 ppb Au and 529 ppm Cu	R,S	249	L
138	Dora Lake 21190275	119A1, NE35, 77S, 87E	N	PV (SB): Au, Pb, Zn	Borrow pit	NA	18-m wide stringer zone w/ from 10 to 1,109 ppb Au; select sample: 5.48 ppm Au, 4.89% Pb, 21.74% Zn	M,S	NA	L
139	Near Dora Lake 21190276	119A1, NE35, 77S, 87E	N	PV: Au, Zn	NA	NA	63 ppb Au, 786 ppm Zn	R,S	NA	L
140	Borrow Pit 21190277	119A1, NE35, 77S, 87E	N	?	Borrow pit	NA	498 ppb Au, 422 ppm Cu	R,S	NA	L
141	Lucky Boy 21190067	119A1, NW16, 77S, 87E	N	PV: Au, Ag, Cu, Pb, Zn	Adit: 112m; winze: (flooded); raise	Test shipment, attempt to mill ore	Vein traced for 120m; samples contained from 84 to 6,017 ppb Au, up to 47.0 ppm Ag, 1.18% Cu, 1.1% Pb, 27.65% Zn; Robertson (399) estimates 1,360 mt at 3% Zn	M,S	399	L
142	Lady of the Lake 21190278	119A1, SW 25, 77S, 87E	N	PV: Au, Pb, Zn	Adit: (caved); C(s), P(s)	NA	Vein exposed intermittently for 73 m; 1.5 m at 1.37% Pb and 9.01% Zn; Robertson (399) estimates average 0.33% Zn, 1% Pb and minor Au, Ag	M,S	399	L
143	Cymru 21190061	119A1, SW5, 78S, 88E	OF	SB, PV: Ag, Cu	Adits: 63m, 36m, 20m; shafts: partly open; stopes, P(s), C(S),	68,615 kg Cu, 46,22 kg Ag, 0.87 kg Au	Intermittent Cu min exposed for 365 m; 4.3-m sample at 1,700 ppm Cu; 0.3-m sample at 19.08% Cu and 258.9 ppm Ag	M,S	90, 638	L
144	Bluebird 21190060	119A1, SW16, 78S, 88E	OF	V: Au	Shaft: (flooded); T(S), P(s)	NA	Vein traced for 22 m; measured samples contained from 6 to 228 ppb Au; grab sample: 65.18 ppm Au	M,S	643	L
145	Bluebird, East 21190279	119A1, SE16, 78S, 88E	OF	V: Au	NA	NA	Dissem py in granite prophyry (643)	NF	643	L
146	Hope 21190060	119A1, E16, 78S, 88E	OF	V: Au	Adit: 27m; T	NA	Vein traced 27 m; samples range from 739 to 3,105 ppb; select sample: 50.99 ppm Au	M,S	643	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
147	Moira Copper 21190280	119A1, SE29, 78S, 88E	P, MS744	VMS	Adit: 4.5m; shaft: (flooded); C(S), T)S)	NA	Cu min exposed intermittently for 304 m; up to 1,732 ppb Au, 47.2 ppm, Ag and from 851 ppm to 6.57% Cu.	M,S	NA	L
148	Snow Flake 21190281	119A1, SW27, 78S,88E	P, MS1436 MS644	NA	Tunnel: 28m	NA	Water diversion tunnel	R,M	NA	L
149	Niblack 21190050	119A1, NW33, 78S, 88E	P, MS1438 MS644	VMS: Au, Ag, Cu	Shafts: 98m, ? (flooded); Underground workings: (flooded)	18,000 mt at 4.9% Cu, 2.3 ppm Au, 34.2 ppm Ag	Dump samples up to 7.561 ppm Au, 29.5 ppm Ag, 8.76% Cu, 1,437 ppm Zn; Cominco drilled 6 holes in 1973; data not available	R,S	248, 319	M
150	Mammoth 21190282	119A1, E33, 78S, 88E	PM MS1437 MS553	VMS: Cu	Adits: 11m, 4m, 2m	NA	Up to 302 ppb Au, 1.44% Cu	M,S	319	M
151	Edith M 21190283	119A1, W34, 78S, 88E	OF	VMS	Adit: 73m	NA	6-m sample at 83 ppb Au, 232 ppm Zn	R,S	319	M
152	Beach 21190284	119A1, W34, 78S, 88E	OF	VMS	Adit: 12m	NA	Up to 43 ppb Au, 225 ppm Zn	R,S	NA	M
153	Lindsey 21190285	119A1, SW34, 78S, 88E	OF	VMS	C(s)	NA	Sample contained 915 ppb Au, 225 ppm Zn	R,S	NA	M
154	Lookout 21190286	119A1, SW34, 78S, 88E	P, MS553	VMS: Au, Cu, Zn	Adits: 18m, 54m; C(s)	NA	Samples from 25 to 2,002 ppb Au, 87 to 12,250 ppm Cu and 122 to 16,900 ppm Zn; diamond drilled	R,S	319	H
155	Broadgauge 21190287	119A1, S34, 78W, 88E	P, MS1009	VMS	Adits: 10m, 1.5m, 1.5m	NA	From 32 to 209 ppb Au, up to 519 ppm Cu	R,S	NA	M
156	Trio 21190288	119A1, S34, 78S, 88E	P,MS1009	VMS: Cu	Adit: 15m	NA	From 25 to 215 ppb Au, up to 7,874 ppm Cu, 418 ppm Zn	R,S	NA	M
157	Copper Cliff (Dama) 21190289	119A1, SE34, 78S, 88E	OF	VMS: Cu, Zn	Adit: 172m; C(s)	NA	From 17 to 843 ppb Au, up to 1.84% Cu, 2,203 ppb Zn	R,S	NA	L
158	Manhattan Moonshine 21190028	119A-4, NW19 78S 81E	N	PV: Ag, Pb, Zn	T, P (NF)	NA	Bureau samples contained up to 1.7 ppm Ag, 112 ppm Cu, 584 ppm Zn	S	38, 75, 331	L
159	Yellowstone 21190029	119A-4, SW23 78S 80E	OF	PV: Ag, Zn, Cu	Adit: 15m (flooded); T, P (5)	NA	Highest values reached 7.89% Zn, 1.8% Cu, 11.9 ppm Ag, nil Au; min associated w/dikes	M, S	36, 331, 638	L
160	Shellhouse 21190033	119A-4, NW5 79S 81E	N	S: Cu	Adit: 15m (caved); T, P	NA	2 samples average 0.3% Cu, Au to 142 ppb	M, S	78, 331, 442	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
161	Coco Harbor 21190330	119A-4, NW4, NW5 78S 81E	OF, N	S: Mo, Cu	OC	NA	Best values: 601 ppm Cu across 0.82 m; 2,382 ppm Mo across 0.3 m-wide qz vein	S	331, 333	L
162	Silver Star 21190032	119A-4, NW16 79S 82E (?)	OF	PV: Zn, Cu, Pb, Ag, Au	Adit: 15m w/drifts	NA	NA	NF, location uncertai n	38, 78	ND
163	Gould-Sukkwan 21190053	119A-3, SE16 79S 84E	OF	PV: Cu, Zn	OC, C(s)	NA	Sample values to 1,187 ppm Zn, 485 ppm Cu	S	115, 331	L
164	Lakeside 21210021	121D-3, NE 28 79S 84E	OF	Mag Seg, PV: Cu, Ni, Au, Ag	Shaft: 30m, w/2 15-m drifts, (flooded)	Minor 1917-18; (442)	Samples contained up to 1.57% Cu, 0.28% Ni, 892 ppm Co	M, S	78, 331, 442, 614	L
165	Marion (Nutkwa Lagoon) 21190088	119A-2, SE32 78S 86E	CF	V: Au	Adit: 120m w/15-m winze (caved)	0.16 kg Au, 0.09 kg Ag, 16.3 kg Pb	Highest values underground were 22.6 ppm Au, 13.7 ppm Ag (429); Bureau surface samples contained to 3,828 ppb Au, 12.6 ppm Ag and 0.56% Zn across 0.1 m	M, S	429, 581, 112	L
166	Copper City (Red Wing) 21190054	119A-2, SW4 78S 85E	CF	VMS: Cu, Zn, Ag, Au	Shafts (2): 100m (flooded); adit: 50m (partially caved)	77 mt Cu, 146 kg Ag, 10.6 kg Au	3.3% Cu, 2.81% Zn, 66 ppm Ag, and 5,658 ppb Au across 0.91 m in underground stope; higher grades obtained from surface samples (251).	M, S	90, 251, 331, 639	M
167	Nutkwa Inlet 21190331	119A-2, NE26 78S 85E	N	V: Cu	OC	NA	1,022 ppm Cu, 218 ppm Zn, 1.1 ppm Ag across 0.91 m	S	331	L
168	Keete Inlet 21190055	119A-2, NW29 78S 86E	OF	VMS: Cu, Zn	Inclined shaft: (flooded)	NA	Values to 1.75% Cu, 7.1 ppm Ag, and 291 ppb Au across 0.61 m	M, S	112, 78, 331	L
169	Lime Point 21190122	119A-2, NE5 79S 85E; SE32 78S 85E	P: MS 1430	Replacement : $BaSO_4$	Adits (2): 9m, 2m; OC	test shipment (181)	Samples from adits ranged from 22% to 96.6% $BaSO_4$; reserve estimate - 13,000 mt (193)	M, S	112, 181, 193, 331, 581	L
170	Hozer 21190332	119A-2, SW1-NW12 79S 85E	OF	VMS: Zn, Cu	OC	NA	Samples contained to 7,662 ppm Zn, 987 ppm Cu, 302 ppb Au	R	331	L
171	Forrester Island 21210014	121D-5 NW30 81S 81E; NE24 81S 79E	CF	P: Mo	OC	NA	Mo values to 700 ppm, Cu to 200 ppm from grab samples (122)	NE	122, 147	NA
172	Gold Harbor 21210094	121D-4, SW14, NW23 80S 82S	OF	S: Mo, Cu, Ag	OC; 2 zones	NA	Values as high as 150 ppm Ag, 0.4% Cu, 0.4% Mo (select sample)	M, S	205, 331	L
173	Mount Vesta 21210007	121D-3, NW20 80S 83E	P: MS 648A	PV: Ag, Cu, Pb, Au, Bi, Sb	Adits (3): 27m (open), 2 NF	NA	Samples yielded 889 ppm Ag, 1.2% Cu, 3.34% Pb, 1,139 ppb Au across 0.08 m	M, S	141, 331, 643	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
174	Grace Harbor 21210016	121D-3, NE29 80S 83E	N	PV: Cu	OC	NA	Sample across 0.06-m vein contained 0.56% Cu	S	NA	L
175	Lucky Strike 21210015	121D-3, NW31 80S 83E	N	V: Cu	OC	NA	Cu min in shear zone	NF, R	38, 78	L
176	Port Bazan - Cone Mountain 21210095	121D-3, NW25 81S 83E	OF	PV: Ag, Pb	OC	NA	Select sample across 0.15 m contained 93.6 ppm Ag, 1,756 ppm Pb	S	NA	L
177	Coning Point 21210096	121D-2, SE13 81S 85E	N	PV: Zn, Cu, Pb, Ag	OC, rubble	NA	Select sample contained 5.03% Zn, 0.6% Pb, 0.92% Cu, and 20.4 ppm Ag	S	40, 239, 331	L
178	Lake Seclusion 21210097	121D-3, SE21 81S 85E	N	PV: Ag, Cu, Pb, Zn, Au	T, P, OC	NA	Select sample contained 1,427 ppm Ag, 4,217 ppb Au, 1.38% Cu, 7,036 ppm Zn across narrow vein	S	239, 331	L
179	H.F. Foster/ Coning Inlet 21210019	121D-3, SE21 81S 85E	N	V: Cu, Zn, Pb	T, P (NF)	NA	Roehm's samples contained to 10.2 ppm Ag, 1.2% Cu, 1.22% Zn, and 0.55% Pb (442)	NF	222, 439, 442	ND
180	LI 21210098	121D-3, NE10, NW11 82S 85E	OF	PV: Ag, Cu, Pb, Zn	OC	NA	95.7 ppm Ag, 9,600 ppm Cu, 3.62% Pb, 8.41% Zn, 614 ppb Au, across 1.22 m	S	333, 364	L
181	Alaska Lode 21210025	121D-2, NW3 80S 85E	P: MS 1003	(?): Cu, Au	Shafts (3), C(s)	NA	No record of activity, patented in 1916	NE, access denied	584	ND
182	Geiger 21210047	121D1, NW8, 80S, 88E	OF	Dike REE	P(s)	NA	Indicated and inferred 15,600 mt Cb_2O_5, 940 mt ThO_2, 1.530 mt U_3O_8 ,14.700 mt Y_2O_3 181,000 mt ZrO_2, 33,200 mt REO, 612 mt Ta_2O_5 (599)	R	599	L
183	NW Bokan Mountain 21210073	121D1, NW17, 80S, 88E	OF	Peg REE	NA	NA	Occurrence too small to represent a significant resource	NE	599	L
184	South Arm, Moria Sound 21210006	121D1, NW18, 80S, 88E	OF	PV: Cu	C	NA	0.2-m sample contained 34 ppb Au, and 2.48% Cu	R,S	599	L
185	Sunday Lake 21210072	121D1, SW17, 80S, 88E	OF	Shear, REE	P(s), T(s)	NA	24,500 mt at 0.27% REE	R	599	L
186	I&L No. 1 & Wennie 21210074	121D1, NW20, 80S, 88E	OF	Shear, REE	C	NA	Too small for significant resource	NE	599	L
187	Little Jim 21210060	121D1, NW2, 80S, 88E	OF	Peg, REE	NA	NA	Too small for significant resource	NE	599	L

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Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
188	Little Joe 21210075	121D1, NW2, 80S, 88E	OF	Peg, REE	NA	NA	914-m by 0.9-m zone with REE; very low grade	NE	599	L
189	Bokan Mountain Summit 21210076	121D1, SW2, 80S, 88E	OF	V: REE	NA	NA	Too small for significant resource	R,S	599	L
190	Irene D 21210077	121D1,NE2, 80S, 88E	OF	Peg, REE	NA	NA	Values too low to constitute resource	NE	599	L
191	Purple Pieper 21210056	121D1, NW28, 80S, 88E	OF	Peg, REE	NA	NA	Too small for significant resource	R,S	599	L
192	ILM 21210059	121D1, NE20, 80S, 88E	OF	Peg, REE	T(s)	NA	Inferred 685 mt Cb_2O_5, 63.5 mt U_3O_8, 422 mt Y_2O_3, 12,400 mt ZrO_2, 1,470 mt REO (599)	NE	599	L
193	I&L 21210055	121D1, NE20, 80S, 88E	OF	Dike REE	P(s)	NA	Indicated and inferred, 163 mt Cb_2O_5, 218 mt ThO_2, 18 mt U_3O_8, 6,740 mt ZrO_2 (599)	R	599	L
194	Dotson Shear 21210078	121D1, S22, 80S, 88E	OF	Shear, REE	C(s)	NA	Too low grade to be considered resources	R	599	L
195	Ross Adams 21210003	12131, NW27, 80S, 88E	OF	Mag. Seg., shear	P, stopes, crosscuts	79,500 mt at 0.76% U^3O^8	Indicated, 1,520 mt ThO_2, 562 mt U_3O_8, 1,320 mt Y_2O_3, 1,070 mt ZrO_2, 290 mt REO (599)	R	599	L
196	Dotson 21210079	121D1, NW26, 80S, 88E	OF	Dike, REE	P(s), T(s)	NA	Indicated and inferred, 9,480 mt Cb_2O_5, 5,298 mt ThO_2, 1,050 mt U_3O_8, 12,800 mt Y_2O_3, 20,400 mt ZrO_2, 18,700 mt REO (599)	R	599	L
197	Kendrick Bay Placer 21210080	121D1, S26, 80S, 88E	OF	Placer REE	NA	NA	Sampling did not determine resource	NE	599	L
198	Cheri 21210049	121D1, NW35, 80S, 88E	OF	Dike, REE	T(s)	NA	Indicated and inferred, 5,750 mt Cb_2O_5, 1,460 mt ThO_2, 676 mt U_3O_8, 8,260 mt Y_2O_3, 19,230 mt ZrO_2, 21,610 mt REO, 1,270 mt BeO (599)	R	599	L
199	Upper Cheri 21219981	121D1, NW35, 80S, 88E	OF	Dike, REE	P(s)	NA	Inferred, 431 mt Cb_2O_5, 109 mt ThO_2, 59 mt U_3O_8, 694 mt Y_2O_3, 2,000 mt ZrO_2, 1,790 mt REO (599)	R	599	L
200	Shore 21210082	121D1, NW31, 80S, 89E	OF	Dike REE	NA	NA	No significant resource, 2.5% REE	NE	599	L
201	Goeduck 21210083	121D1, NW31, 80S, 89E	OF	Dike REE	P(s)	NA	Indicated and inferred, 11,500 mt Cb_2O_5, 2,210 mt ThO_2, 1,230 mt U_3O_8, 27,600 mt Y_2O_3, 41,800 mt ZrO_2, 32,000 mt REO, 2,740 mt BeO (599)	R	599	L

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Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
202	Nelson and Tift 21220005	122D6, 13, 81S, 90E	OF	S: Au, Ag, Cu, Pb	C(s), T(s)	108.26 kg Au, 19.72 kg Ag, 32.3 mt Cu, 3.2 mt Pb from 2,271 mt of ore	Sulf lens mined out and no others in sight; select sample contained 104.4 ppm Au and 10.48% Cu	M,S	426	L
203	Apex 21210008	121D1, E1, 82S, 89E	OF	P: Au, Ag, Cu	Adits: 98m, 17m, 5m	NA	76-m by 305-m area with 1,800,000 mt that averages 0.51% Cu, 0.34 ppm Au, 227 ppm Ag,	M,S	583	M
204	Hillside and Wano 21210084	121D1, NW1, 82S, 89E	P	PV: Au, Cu	Adits: 3m, 2m, (caved); C(s)	NA	select dump sample contained 2.79% Cu, 7,150 ppb Au	M,S	NA	L
205	Veta 21210039	121D1, SW6, 82S, 90E	OF	?: Au, Cu	Shafts: (both flooded); C(s), P(s)	NA	Dissem sulf in sil carbonate alt gs; samples contained from 94 to 7,258 ppb Au and from 1,833 ppm to 6.41% Cu	M,S	337	L+
206	Johnson and Gouley 21210011	121D3, SE2, 82S, 89E	OF	PV: Cu	NA	NA	3-m long qz-calc vein up to 0.04 m thick contains from 1.25% to 7.54% Cu	R,S	583	L
207	Stone Rock Bay, North 21210085	121D1, SW8, 82S, 90E	OF	P: Cu, Mo	P(s), diamond drill holes	NA	Select samples of sil monz contained up to 214 ppb Au, 6,206 ppm Cu, and 259 ppm Mo	R,S	NA	L+
208	Stone Rock Bay, East 21210023	121D6, S28, 82S, 90E	OF	Dike REE	NA	NA	Up to 1,445 ppb Au, 7,800 ppm Cu, 1,080 ppm U_3O_8, 14,400 ppm Ce, 7,230 ppm La	R,S	24	L
209	Stone Rock Bay, Central 21210086	121D1, SW8, 82S, 90E	OF	V: Au, Cu, Mo, Pd	Adit: 21m; shafts: (both flooded)	NA	Vein up to 208 ppb Au, 6,949 ppm Cu, 928 ppm Mo, 315 ppb Pd	M,S	NA	L+
210	Stone Rock Bay, West 21210087	121D1, SE7, 82S, 90E	OF	P: Cu, Mo	Adit: 3.7m	NA	Up to 113 ppb Au, 238 ppm Cu and 17 ppm Mo	M,S	NA	L
211	AC 21210042	121D1, NW15, 82S, 89E	OF	P: Cu, Mo	P(s)	NA	NA	NF	393	L
212	Bug 21210036	121D1, S13, 82S, 89E	OF	P: Cu, Mo	P(s)	NA	Bureau rock samples up to 369 ppm Cu, 234 ppm Zn, 1,100 Ba, 588 Ce; Cities Services soil sampling in 1976 gave up to 440 ppm Cu, 130 ppm Mo, 0.93 ppm Au.	R,S	393	L
213	Huaja Cliff 21210088	121C1, NW32, 82S, 90E	OF	Mag Seg: Cu, Pt, Pd	NA	NA	Mafic intrusive with dissem po, cp contains up to 1,283 ppm Cu, 25 ppb Pt and 21 ppb Pd	R,S	NA	L
214	Lucile 21210035	121C1, S20, 82S, 89E	OF	PV: Pb, Zn	Adits: 5m, 5.5m; shaft: (flooded)	NA	Up to 9 ppb Au, 415 ppm Cu, 3,870 ppm Pb, 4,865 ppm Zn	M,S	38	L
215	Nichols Bay Shaft 21210089	121C3, NE29, 82S, 89E	OF	VMS: Zn	Shaft: (flooded)	NA	10.7 m of sil an averages 0.55% Zn	M,S	208	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
216	Nichols Bay, East Shore 21210090	121C1, S234, 82S, 89E	OF	PV: Pb, Zn, Cu	C(s)	NA	9.1 m of sil syenite contains 541 ppb Pb; select sample of qz-carbonate vein contained 172 ppb Au, 1,400 ppm Cu, 9,813 ppm Pb and 3,213 ppm Zn	R,S	NA	L
217	Nichols Bay Southeast 2120001	121C1, NE3, 83S, 89E	OF	PV: Cu	NA	NA	Up to 1,282 ppm Cu	R,S	NA	L
218	Nichols Bay West Side 21210091	121C1, NE4, 83S, 89E	OF	VMS	NA	NA	Up to 84 ppb Au, 261 ppm Cu, 405 ppm Zn	R,S	208	L
219	Barrier Islands North 21210092	121D2, SW29, 81S, 87E	CF	VMS: Zn	NA	NA	Up to 306 ppm Zn, 435 ppm Ni, 110 ppm Co	R,S	208	L
220	Barrier Islands 21210093	121D2, SW23, 81S	CF	VMS: Ag, Pb, Zn	NA	NA	Up to 144 ppb Au, 10.8 ppm Ag, 1,475 ppm Pb and 1,338 ppm Zn	R,S	208	L
221	Security Cove 21210099	121C-3, NE21 82S 84E	OF	VMS: Zn, Pb, Ag, Ba	OC	NA	1.5-m sample contained1.9% Ba, 1,652 ppm Zn; others had to 6.3 ppm Ag	M, S	40, 458	L
222	Datzkoo Harbor 21210100	121C-3, SW20, NE30 82S 85E	OF	V, MS: Au, Ag	Adits (2): 61m, 81m (both caved); OC	NA	Values to 12 ppm Au, 57 ppm Ag reported (612); Bureau samples contained to 241 ppb Au, 1.6 ppm Ag	S	333, 364, 612, 614	L
223	McLeod Bay/Virginia claims 21210101	121C-3, NE6 83S 85E	OF	V: Au, Ag, Cu, Pb, Zn	Shafts (2): <6m; T, P (2)	NA	Representative sample from trench across 4.6 m contained 33.9 ppm Ag, 4,827 ppb Au	M, S	78, 90, 458, 642, 643,	L
224	Koo/Precious 21210045	121C-3, W2, 83S 85E	OF	VMS: Zn, Cu	NA	NA	Zn values to 5,945 ppm and 6,503 ppm; Cu to 385 ppm and 483 ppm	S	333, 458, 584	L
225	McLeod Bay/Elk claims 21210005	121C-3, SW4, NW9 83S 85E	OF	V: Au, Ag, Cu, Pb, Zn	Adits (2): 53m (open), 78m (caved); T, P (2), drill pads	NA	Visible gold found; select samples average 96 ppm Au, 415 ppm Ag, w/ Cu, Pb, Zn; many barren qz veins	M, S	78, 90, 458, 642, 643	L
226	Lucky Chance 21180028	118A-5, NE4 66S 89E	OF	V	Adit: 17m	NA	18 ppb Au, 0.9 ppm Ag across 1.83 m; Roehm reports to 5.4 ppm Au (442)	M, S	48, 442	L
227	Burroughs Bay 21200163	120D-4, SW2, NW11 68S 91E	CF	P: Mo	OC, drill holes	NA	Mo values average 157 ppm across 5.5 m intervals; high value was 372 ppm across 5.5 m	S	48, 584	L
228	Alaskite Nose 21190249	119D-1, SE 9 70S 87E	OF	PV: Ag, Pb, Zn	Shaft: 4m; OC	NA	Select sample contained 88.5 ppm Ag, 2.35% Pb and 0.3% Zn across 0.4 m	M, S	48	L
229	Vixen Inlet 21190111	119D-1, NE16 70S 86E	OF	V: Cu	T, P (2)	NA	Cu values to 109 ppm; Ag values to 1.3 ppm	M, S	48, 584	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
230	Mount Burnett Drainages 21190333	119D-1, SE16 70S 86E	OF	Mag Seg, PL: PGE, Au	Stream channels	NA	1 placer sample w/ 19.44 ppm Pt; 5 placer/pan concentrate samples with 2,777 to 4,809 ppb Pt; 4 placer/pan concentrate samples w/ 2,016 to 4,887 ppb Au	S	48	M
231	Mount Burnett Chromite 21190001	119D-1, Sec 27, 28 70S 87E	OF	Mag Seg: Cr, PGE	OC	NA	Average Pt values in chromite @ 0.093 ppm (127); Cr >18% across 0.4 m (300); Ural Alaska-type zoned ultramafic	R	156, 190, 300, 469, 596	L
232	Union Bay Iron 21190112	119D-1 Sec 19, 24, 25, 30 70S 86E	OF, P: MS 2202, 2203	Mag Seg: Fe	OC	NA	Estimated reserve of 900M mt @ 18% to 20% Fe, 2% Ti (369); Ural Alaska-type zoned ultramafic	S	127, 300, 469	L
233	Wixon 21190141	119C-1, SW29 71S 87S	OF	V: Au	C(s)	NA	Select sample w/ 4,698 ppb Au, 2.4 ppm Ag	M, S	48, 404, 614	L
234	Sleeping Beauty 21190247	119C-1, SE29 71S 87E	OF	V: Au	Adit: 10.5m (open); T, P (4)	NA	Chip samples w/ 2,255 to 7,737 ppb Au; 13.61 ppm Au across 0.61 m	M, S	48, 402, 410	L
235	Portland 21190114	119C-1, SE29 71S 87E	OF	V: Au	Adit: 146m (open); shaft: 11m (flooded); T, P	2.5 kg Au, 1.2 kg Ag, 11 kg Cu	Weighted average: 5,962 ppb Au across 1.48 m along 82-m strike length	M, S	48, 402, 424,	L
236	Freegold 21190138	119C-1, NW1 72S 87E	OF	V: Au	Adits (3): 529m, 18m, 13m (open); shafts (2): (flooded); T, P (30)	NA	Main adit weighted average: 2,056 ppb Au across 1.04-m width along 20-m strike length; select sample across 0.76 m contained 17.31 ppm Au, 7.7 ppm Ag	M, S	48, 153, 239, 402, 415	L
237	Gold Standard (Upper) 21200002	119C-1, SW172S 87E	OF	V: Au	Adits (2): 305m (caved/flooded), 23m (open); shaft: 46m (flooded); T, P	310 kg+ Au, 33 kg+ Ag	Au values to 23 ppm; upper adit weighted average: 3,713 ppb over 0.73 m for 40 m; Folwarzny vein contains 5,550 ppb Au across 0.43 m	M, S	48, 90, 416, 498, 643	M
238	Lakeview 21190334	119C-1, SW11 72S 87E	OF	V: Au	T, P (9)	NA	Weighted average Au: 3,103 ppb over width of 0.53 m and length of 170 m	M, S	48, 153	L
239	Gold Standard (Lower)21200002	120 C-6, SE1 72S 87E	OF	V: Au	Adit: 436m (open); glory holes (2)	see above	West workings - weighted average: 9.1 ppm Au over 5.2 m; East workings - weighted average: 36.3 ppm over 6.9 m; to 173.4 ppm Au across 1.22 m	M, S	48, 90, 402, 498, 643	M
240	Lone Jack/Helm Bay 21200227	120C-6, SE1 72S 87E	OF	V: Au	Adit: 3m (open)	NA	7,590 ppb Au, 2.9 ppm Ag, across 0.1 m	M, S	48	L
241	Snowstorm 21200138	120C-6, NE12 72S 87E	OF	V: Au	Adits (2): 2m, 1m (open); T, P	NA	Au values from <5 ppb to 9,697 ppb (across 0.46 m)	M, S	48	L
242	Last Chance/Helm Bay 21200174	120C-6, NW7 72S 88E	OF	VMS (?): Cu	Adit: 21m (open)	NA	Au and Cu values to 16 ppb and 101 ppm, respectively; exhalative Cu	M, S	48	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
243	Beulah 21200175	120C-6, NE12 72S 87E	OF	V: Au	Adit: 21m (open); T, P (9)	NA	Au values: 1,376 ppb across 2.13 m; representative sample contained 3,303 ppb Au	M, S	48	L
244	Puzzler 21190250	119C-1, NE11 72S 87E	OF	V: Au	Adit: 51m (open); T, P	NA	Highest Au value: 51 ppb across 1.52 m	M, S	48, 643	L
245	Hoffman/Alexandra 21190246	119C-1, NE14 72S 87 E	OF	V: Au	Adits (2): 9m (open), 14m (not found)	NA	2,642 ppb Au across 0.15 m	M, S	48, 141, 643	L
246	Annie 21200176	119C-1, NE13, 72S 87E	OF	V: Au	Adits (2): 128m 120m (open); shafts (2)	7.9 kg Au	Upper adit: Au to 954 ppb; lower adit: weighted average: 4,265 ppb over 4.9 m	M, S	48, 383, 643	M
247	Lone Jack/Gold Mountain 21200177	120C-6, NW18 72S 88E	OF	V: Au	Adits (2): 12m, 24m (open)	NA	Upper adit - weighted average: 1,499 ppb Au over 1.37 m for 10 m	M, S	48, 383, 402	L
248	Novatney 21190245	119C-1, SE 13 72S 87E	OF	V: Au	T, P (2)	NA	Au values to 2,830 ppb, Ag to 4.1 ppm across 0.64 m	M, S	48, 577, 621	L
249	Mountain Top 21200003	120C-6, NE24, 72S 87E	OF	V: Au	Shafts (2): (flooded); T, P	NA	Highest Au value: 1,570 ppb across 0.61 m	M, S	48, 643	L
250	Jewel 21200178	120C-6, NE24, 72S 87E	OF	V: Au	Adit: 54m (open); T, P (2)	NA	Weighted average: 4,988 ppb Au across 0.65 m along 31-m strike length	M, S	48, 643	L
251	Rainy Day 21200136	120C-6, NE20 72S 88E	OF	PV: Au, Ag, Pb	Adit: 32m (caved); T, P (6)	NA	Weighted average: 4,575 ppb Au, 8.1 ppm Ag over 0.58-m width exposed in trenches	M, S	48, 70, 402, 643	L
252	Keystone 21190244	119C-1, NW24 72S 87E	OF	V: Au	Adit : 213m (140m open)	NA	Weighted average of 2,409 ppb Au across 1.44-m width; Ag less than 1 ppm	M, S	48, 293, 383, 643	L
253	American Eagle 21190243	120C-6, NE 24 72S 87E	S: MS 2011	V: Au	Adit: 112m (open)	NA	Weighted average of 3,160 ppb Au across 1.13 m in 6 samples - 2 veins	M, S	48, 75, 383	L
254	Old Glory 21200134	119C-1, E24 72S 87E	S: MS 2011	V: Au	Adits(5): 793m, 23m, 55m, 3m, 61m (4 open)	0.3 kg Au, 0.8 kg Ag	Main adit - weighted average: 1,151 ppb Au over 1.56-m width and 30-m length	M, S	48, 75, 256, 272, 383, 434, 643	L
255	Last Chance/Gold Mountain 21200133	119C-1, SE 24 72S 87E	S: MS 2011	V: Au	Adits (2): 7m, 31 m (open)	NA	5,232 ppb Au across 1.77 m on vein; select dump sample w/ 15 ppm Au	M, S	48, 70, 643	L
256	New Adit 21200228	120C-6 NW19 72S 88E	OF	V: Au	Adit: Unknown length (293)	NA	Au values to 26.9 ppm across 0.6 m qz vein (293)	NF	293	L
257	Mary T 21200006	120C-6, NE 30 72S 88E	S	V: Au	Shaft: 3m (flooded); T, P (2)	NA	Au values to 1,844 ppb, Ag to 4.8 ppm, Cu to 6,325 ppm	M, S	48, 256, 643	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
258	US 21200179	120C-6, NE 30 72S 88E	S	V: Au	Adit: 6m (open)	NA	Highest Au value 5,571 ppb	M, S	48, 294, 643	L
259	Blue Bucket (Smugglers Adit) 21200137	120C-6, SE30 72S 88E	S	VMS/V: Au, Cu	Adit: 5.5m (open)	NA	Weighted average: 2,162 ppb Au over 5.5 m; 3.4 ppm Au over 12 m along 38-m strike length (256); exhalative min	M, S	48, 256, 272, 294	M
260	Caamano Point 21200008	120C-6, NW25 73S 88E	OF	Replacement : Sb	Shafts (3): 4.5m, 13 m w/ 31m of drifts, ?; T, P (6)	NA	Irregular stibnite bodies in ls; 972-kg sample contained 44.8% Sb (171)	R	171, 198, 431, 460, 471	L
261	Francis 21200229	120C-6, NE24 72S 89E	OF	V: Au	OC(s)	NA	Float sample contained 7,900 ppb Au	S	48	L
262	Indian Point 21200073	120C-6, SE 24 72S 89E	OF	V: Au	OC(s)	NA	Select sample contained 5,840 ppb Au, 384 ppm Cu	S	48	L
263	Perk	120C4, 73S, 94E	CF	VMS(?): Cu, Zn	NA	NA	reported: mapping, sampling, drilling in 1969-70; py, cp in alt qz-ser-sc; reconnaissance sampling: 0.35% Cu, 0.13 % Zn	R	584	L
264	Hump Island 21200076	120C-6, SE 20 72S 89E	OF	P: Cu, Mo	OC(s)	NA	12 Cu values between 1,090 and 3,080 ppm; 2 Au values from 2,519 to 3,837 ppb; Mo to 236; min may extend west to Betton Island	M, S	48, 293	M
265	Typhoon 21200124	120B6, 36, 74S, 89E; 31, 74S, 90E	S	V: Au	NA	NA	qz w/ py xcut slate	NE	70	L
266	Easter 21200011	120B6, SE36, 74S, 89E	S	V: Au	P	NA	auriferous quartz veins in gs sc w/ aspy, py; minor metal values; best sample: select sample w/ 1,976 ppb Au	M, S	70	L
267	Ready Mix 21200192	120B6, SE15, 75S, 90E	P	?	Quarry	NA	Di-metasediment contact zone contains qz lenses; up to 1,176 ppb Au	R,S	NA	L
268	Carlanna Creek Quarry 21200193	120B6, NW23, 75S, 90E	P	P: Mo	Quarry	NA	Mo as wisps, fracture coatings, and dissem in sil qz monz; up to 3,295 ppm Mo	M,S	NA	M
269	Carlanna Creek Vicinity 21200194	120B6, NW23, 75S, 90E	P	?	NA	NA	Pan concentrate from Hoadley Creek contained 3.058 ppm Au	S	NA	L
270	Hoadley 21200008 21200019	120B6, SW14, 75S, 90E	P	V: Au	Shaft and short adits covered by condominium	Small production	Vein w/ spotty values reportedly traced for tens of m; vein rubble contained 88.25 ppm Au across 0.46 m	R,S	617	L
271	Hoadley Creek, Upper 21200195	120B6, NW23, 75S, 90E	P	V: Au, Cu	Adit: 23m	NA	Sulf vein w/ up to 1.044 ppm Au and 4695 ppm copper	M,S	NA	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
272	Hoadley Creek, Lower 21200196	120B6, NW23, 75S, 90E	P	V: Cu	Adit: 3m	NA	Qz lens contained 1,101 ppm Cu	M,S	NA	L
273	Hoadley Creek, Trapdoor 21200197	120B6, NW23, 75S, 90E	P	V: Au	Adit: 22m	NA	Qz vein, up to 7,237 ppm Au	M,S	NA	L
274	Hoadley Creek 21200198	120B6, NW23, 75S, 90E	P	P: Au	NA	NA	Dissem po, py in qz di; up to 21.6 ppm Au	R,S	NA	L
275	White Cliff 21200129	120B5, SW24, 75S, 91E	P, MS787	?	Adit: 3m	NA	No ore metal min	M,S	NA	L
276	Forest Avenue Quarry 21200199	120B4, 7, 75S, 94E	P	VMS?	Quarry	NA	Sil volc; up to 222 ppb Au, 2,429 ppb Cu, 111 ppm Mo	R,S	NA	L
277	Prison Parking Lot 21200200	120B6, SW19, 75S, 91E	P	VMS?	C	NA	0.7-m sample of sil volc w/ 2.067 ppb Au	R,S	NA	L
278	Nevada Lode 21200182	120B6, SW19, 75S, 91E	P	VMS?	Shaft: (plugged), C	NA	2.44-m sample of sil gs w/ 1,282 ppb Au, 5,705 ppm Cu	M,S	NA	L
279	American Legion Quarry 21200201	120B6, NE30, 75S, 91E	P	?: Zn	Quarry	NA	Up to 2,235 ppm Zn	R,S	NA	L
280	Cape Fox 21200202	120B6, NE30, 75S, 91E	P	?	Adit: 8m; shaft: plugged	NA	Up to 20 ppb Au	M,S	NA	L
281	Black Swan 21200069	120B6, NE30, 75S, 91E	P	?: Cu	T	NA	Up to 555 ppm Cu	S	NA	L
282	Laundromat 21200203	120B6, NE30, 75S, 91E	P	?	Adit: 5m	NA	11 ppb Au	M,S	NA	L
283	Jim's Cut 21200183	120B6, NW32, 75S, 91E	P	P: Cu, Mo	C	NA	22.8-m sample w/ 163 ppb Au, 2,632 ppm Cu, 115 ppm Mo	R,S	NA	L
284	Gold Nugget 21200117	120B6, NW3, 76S, 91E	P, MS 1475	PV: Au, Ag, Pb, Zn	Shafts: (both flooded); C	NA	Ladder vein system; 0.26-m sample w/ 14.05 ppm Au, 7.9 ppm Ag, 829 ppm Pb and 1,585 ppm Zn	M,S	643	L
285	South Quarry 21200204	120B6, NW3, 76S, 91E	P	PV: Au, Ag, Pb, Zn	C	NA	0.12-m sample w/ 8.140 ppm Au, 31.5 ppm Ag, 1.03% Pb and 2.08% Zn	S	NA	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
286	Goldstream 21200016	120B6, 5,6, 76S, 91E	P	V: Au, Ag; VMS?: Pb, Zn, Au	3 Shafts: 13m, ?, ? (flooded); T(s)	8.1 kg Au, 15 kg Ag	Qz veins and min sc, w/ py, sl, gn, aspy; reported free Au; up to 1.2 m @ 4.7 ppm Au	M, S	70, 90, 434, 643	L
287	Southeast Gravina Island 21200214	120B5, NW8, 76S, 91E	S	VMS: Au, Ag, Pb, Zn	NA	NA	Shoreline exposure of talc-chl sc w/ recrystallized dissem py; sl, gn associated w/ qz-rich layers parallel sc foliation; select sample: 11.66 ppm Au, 148 ppm Ag, 3.70% Pb, 4.85% Zn	S		L
288	Heckman 21200017	120B5, SW8, 76S, 91E	S	VMS: Au, Pb, Zn	1 Shaft: 12m (flooded); T(s)	NA	Sulf dissem & in qz stringers parallel to sc foliation: py, sl, gn; up to 3.1m @ 6.2 ppm Au, 1.6% Zn	M, S	70, 643	L
289	Six Point 21200010	120B6, 10,11,14,15, 75S, 89E	S	V: Au, Cu	1 Shaft: NF	NA	Reported: py and cp in qz along contact between diabase dike and slaty ls; shaft not found; sampled banded sulf, py, po, in sil metased/dolomite br; minor metal values	NF, S, R	33, 70, 643	L
290	White Knight 21200009	120B6, 22,27, 75S, 89E	OF	V: Cu, Au	1 Adit: 15m (NE)	NA	Reported: small masses of cp, po, py in gs; also qz w/ py in diabase in slate	NE	33, 70, 643	L
291	Ire 21200131	120B6, 34,35, 75S, 89E	OF	P: Cu	C(s)	NA	Cp and py in alt intrusive w/ithn metavolc; some drilling	S, R	18, 584	L
292	Dent Cove 21200215	120B6, 23,24, T76S, 89E	OF	PV: Cu	1 Shaft: (flooded); T(s)	NA	Sheared intrusive and volc rock w/ cp, py veinlets and dissem; maximum: 2.7m @ 1.3% Cu	M, S	33	L
293	Mahoney 21200024	120B-5, NE25 74S 91E	OF	PV: Zn, Pb, Ag	Adit: 193m (open); T, P (5)	33 mt Zn, 18 mt Pb, 1.3 mt Cu, 12 kg Ag, and 0.3 kg Au	Samples from first 36 m into adit average 3.2% Pb, 7.6% Zn and 25.5 ppm Ag across 0.34 m; msv sulf vein	M, S	48, 399, 440, 441, 450, 458,	L
294	Londevan 21200023	120B-5, NE6 75S 92E	OF	PV: Ag, Zn, Pb	Adit: 1,326m (open-bad air)	NA	Values to 238 ppm Ag, 1.84% Zn across 1.07 m; main shear zone was inaccessible due to bad air	M, S	48, 75, 198, 594	L
295	Alaska Lead and Silver 21200168	120B-5, NW8 75S 92E	N	PV: Ag, Pb, Zn, Au	Adits (2): 80m w/27-m stope, 11.3m (open); modern mill	Unknown quantity produced in early 1970s	Weighted average: 21.6 ppm Ag, 685 ppm Pb, 2,731 ppm Zn across 0.59 m along 64-m strike length w/ 24-m vertical extent	M, S	48, 584	L
296	Peterson 21200022	120B-5, SW17 75S 92E	P: MS 1579	PV: Ag, Cu, Zn	Adits (3): 8m (open), 2 NF	NA	Values to 6.2 ppm Ag; 1,066 ppm Cu; 2,469 ppm Zn	M, S	48, 75, 642, 643	L
297	Tyee 21200029	120B4, 6,7, 75S, 94E	OF	V: Au, Zn, Pb	NA	NA	Reported: 1.2-m qz vein w/ py, sl, gn and minor Au; hosted by intrusive	NE	643	L
298	Massachusetts 21200030	120B4, NW8, 75S, 94E	OF	V: Au	1 Adit: 25m (caved); 1 shaft: NF; T(s)	NA	Qz vein in metavolc w/ py, gn, sl; min adjacent veins; probable extension of Sealevel area min; best sample: 0.9 m @ 11.1 ppm Au, 134 ppm Ag	M, S	70, 643	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
299	Baltic 21200028	120B4, 7, 75S, 94E	OF	V: Au, Zn	1 Shaft: 12m (NE); 2 Adits: (NE)	NA	Reported: qz vein w/ py, sl, and minor Au	NE	70, 643	L
300	Seabreeze 21200216	120B4, NW18, 75S, 94E	P, MS423	V: Au	2 Adits: 21m, (1 caved); T(s)	NA	Northeastward extension of Sealevel vein trend; similar min to Sealevel, but lower gold values found; best sample: 2.6 m @ 2.0 ppm Au	M, S	70, 403, 584, 643	L
301	Sealevel 21200026	120B4, NW18, 75S, 94E	OF	V: Au	2 Shafts w/ drifts: 365m (flooded); 2 adits: 9m, (1 caved); T(s)	NA	Qz veins w/ mainly free Au, and py, gn, sl, in mafic metavolc; min in ore shoots along veins; Au also in pyritized volc adjacent veins	M, S	70, 90, 318, 403, 452, 643	L
302	Goo Goo 21200217	120B4, NW18, 75S, 94E	P, MS 1598	V: Au	1 Adit: (caved); 1 shaft: (flooded); T(s), P(s)	1.4 kg Au	Au w/ py, gn, sl in 1,500m+ qz vein in mafic metavolc; volc also min adjacent vein; best 1946 sampling: 24 m x 2.3 m @ 5.8 ppm Au; 7.6 m x 1.4 m @ 7.1 ppm Au; average of 31 1993 samples: 1.1 ppm Au	M, S	185, 408, 549	L
303	Goo Goo Extension 21200218	120B4, NW18, 75S, 94E	P, MS 1598	V: Au	1 Adit: 560m (caved); T(s), P(s)	included w/ Goo Goo	Extension of min of the Goo Goo claim; production and sample results given for Goo Goo include Goo Goo Extension	M, S	185, 408, 549	L
304	Gold Banner 21200219	120B4, NW18, 75S, 94E	P, MS535	V: Au, Ag	4 Adits: 67m, 39m, (2 caved); 1 shaft: 6+m; 1 glory hole: 12mx5mx22+m; T(s)	minimum: 0.3 kg Au, 0.2 kg Ag	Au w/ py, plus minor gn and sl in persistant qz vein in mafic metavolc; volc also min adjacent vein; average of 47 samples: 1.0 ppm Au	M, S	406	L
305	Wild West 21200220	120B4, NW18, 75S, 94E	OF	V: Au	1 Adit: (partially caved); 2 shafts: 7m, 6+m; T(s), P(s)	NA	NE-trending, gold-bearing qz veins hosted by metavolc similar to elsewhere in Sealevel area; similar alt zones adjacent veins; best sample: 0.2 m at 23.2 ppm Au	M, S	70, 318, 643	L
306	Sealevel Creek 21200221	120B4, NW18, 75S, 94E	OF	V: Au	NA	NA	Auriferous qz vein south of main Sealevel min area; similar alt zone adjacent vein; select sample: 5,369 ppb Au	S	NA	L
307	Moth Bay 21200025	120B-5, NW7 76S 92E	P: MS 1590	VMS: Zn, Cu	Adits (2): 244m, 23m w/ winze (open); T, P	NA	Ore reserves: 91,000 mt @ 7.5% Zn, 1% Cu (measured and indicated Zn-Cu-ore); plus 12,360 mt @ 2.3% Cu, 0.5% Zn (measured and indicated Cu-ore) (399)	R	398, 399, 441, 597	M
308	Alava 21200098	120A4, 33, 76S, 94E; 5, 77S, 95E	CF	Mag Seg: Fe, Ti	NA	NA	Mag-bearing hornblendite; 1961 report: approximately 10% to 12% acid soluble Fe; 1991 samples: 1.97% Ti average; minor S	1961: M, S, magneto meter survey 1992: S	21	L
309	Southwest Bostwick Inlet 21200222	120A6, NW16, 77S, 91E	OF	VMS: Zn	NA	NA	Shoreline exposure of msv py and sl lenses at contact between metarhyolite and ar; up to 3.5 m @ 1.6% Zn	S	33	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
310	North Paula 21200223	120A6, SE17, 77S, 91E	OF	PV: Cu, Au	1 Adit: 3.8m; 1 shaft: (flooded); T(s)	NA	Seams and clasts of cp and py in sil br w/in metavolc; best sample: 1.7m @ 1.1% Cu	M, S	324, 573	L
311	Seal Cove 21200015	120A6, 17,20, 77S, 91E	P, MS725; OF	PV: Cu, Au	4 Adits: 145m, 20m, 7m, (600m partially caved); 3 shafts: 6m, 4.5m, ?, (flooded); P(s), T(s)	NA	Shear-hosted Cu min; sil shears in trondjemite and gs; best drill intercept: 8.7m @ 0.56% Cu: best sample: 7.6m @ 0.76% Cu	M, S	33, 70, 324, 573	M
312	Concord Group 21200224	120A6, 19,20, 77S, 91E	OF	PV: Cu	2 Adits: 3.5m, (1 caved); 1 shaft: 6m (flooded); T(s)	NA	Shear-hosted Cu min; samples: 1.8m @ 1.4% Cu, 4.9m @ 0.44% Cu, 11.6m @ 0.24% Cu	M,S,R	33, 70, 643	L
313	Dall Bay Area 21200225	120A6, 29, 77S, 91E	OF	PV: Cu, Au	1 Adit: (caved); T(s), C(s)	NA	Un-named workings explore Cu min associated w/ sil shear zones in trondhjemite; best sample: 8.5m @ 1.1% Cu, 1.8 ppm Au	M, S, R	33	M
314	Dall Bay 21200014	120A6, 29, 77S, 91E	P, MS339; OF	PV: Cu, Au	2 Shafts: 15m, 9m, (flooded); T(s), P(s), C(s)	NA	Cu min associated w/ sheared, sil zones in alt trondjemite; best sample 23 m @ 1.4% Cu	M, S	33, 70, 324, 573	M
315	Black Jack 21200145	120A6, NW32, 77S, 91E	OF	V: U_3O_8	P(s)	NA	Narrow (cm-scale) vein of radioactive material (pitchblende?) in serpentinized basalt or gabbro	NE	628	L
316	Carita 21200012	120A6, 25, 77S, 90E	P, USS 2658, OF	PV: Cu	1 Adit: 15m (NF)	NA	Sulf, py, and cp, in siderite-hem-matrix br hosted by carbonate, gs, and alt trondjemite	M, S, NF, R	70, 116, 443, 643	L
317	Washington 21200013	120A6, NW31, 77S, 91E	S	V: Cu	1 Adit: 6m (NF)	NA	Py, cp in qz along shear	NF, R	70	L
318	Edge Point 21200056	120A4, SW1, 79S, 94E	OF	Mag Seg: Cu	NA	NA	Lenses and dissem po, py, cp in hornblendite; drilled in early 1970's; best sample: 1.4% Cu over 6 m; discontinuous min	S, R	476	L
319	Cat Island 21200055	120A4, NE16, 79S, 94E	OF	Mag Seg: Cu; P(?): Cu	T, P	820 mt	Up to approximately 1m x 0.3m lenses of msv sulf (py, cp) in hornblendite; sample across lens: 1.4% Cu; also sil metaplutonic(?) w/ banded py, cp; high grade: 0.4% Cu	M, S	90, 458, 476	L
320	Percy Islands Ultramafic 21220004	122D5, NE7, 80S, 92E	OF	Mag Seg: Cr, Ni	NA	NA	Minor Cr, Ni in mag-rich hornblendite and clinopyroxenite; Alaska-type zoned ultramafic	R	289	L
321	Duke Island (Hall Cove) 21220002	122D5, NE15, 80S, 93E	OF	Mag Seg: Cr, Ni	NA	NA	Originally prospected for iron in mag-rich ultramafic; minor Cr, Ni associated w/ peridotite-dunite core; Alaska-type zoned ultramafic	R	38, 287, 289, 476	L
322	Duke Island (Judd Harbor) 21220003	122D4, SW29, 80S, 94E	OF	Mag Seg: Cr, Ni	NA	NA	Originally prospected for Fe; minor Cr, Ni associated w/ peridotite-dunite core; Alaska-type zoned ultramafic	R	38, 287, 289, 476	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
323	Boundary 21180083	118B3, 9, 64S, 94E	CF	PL: Au	T(s)	NA	1968-70, set up 14-m sluice box, approximately 300 m^3 of gravel sluiced in 1970	S	584, 643	L
324	Unuk River Gold 21180082	118B3, 8,9,17, 64S, 94E	CF	V: Au, Ag	NA	NA	Lode prospect reported in 1908 in Coast Range intrusive	NF	643	L
325	West Side Chickman Glacier 21180199	118A1, NE7, 67S, 98E	CF	V: Au, Ag,Cu	NA	NA	Float from 6-m thick qz band in cliff assayed 11.01 ppm Au, 311 ppm Ag and 0.6% Cu.	M,S	NA	L
326	Cathedral 21180009	118A1, NE8, 67S, 98E	CF	PV: Au, Ag, Pb, Zn	T(s)	NA	Vein contains up to 1.44 ppm Au, 225 ppm Ag, 6.68% Pb and 32.1% Zn	M,S	45	L
327	Chickamin 21180013	118A1, NW9, 67S, 98E	OF	PV	NA	NA	NA	NF	45	L
328	West Texas Glacier 21180090	118A1, SE9, 67S, 98E	OF	PV: Au, Ag, Pb, Zn	NA	NA	Vein 64 m long contains up to 4.52 ppm Au, 228 ppm Ag, 10.31% Pb, and 9% Zn	M,S	NA	L
329	Solo 21180004 21180045	118A1, E9, 67S, 98E	OF	PV: Au, Ag, Pb	Adits: 9m under ice, 2m	450 kg at $2000, 32 kg at $630	Eocene deposit; ore zone under glacier; narrow qz veins contain up to 37.51 ppm Au, 774.5 ppm Ag	M,S	619	M
329	Solo Pecos 21180100	118A1, SE9, 67S, 98E	OF	PV: Pb, Ag, Au	P(s), T(s)	NA	Eocene deposit; narrow qz veins contain up to 32.36 ppm Au, 294.2 ppm Ag and 65.43% Pb	M,S	45, 281	M
330	Silver King 21180101	118A1, NW16, 67S, 98E	OF	PV: Au, Ag, Pb, Zn	P	NA	Eocene deposit; narrow vein contains up to 14.61 ppm Au, 867.8 ppm Ag, 32.16% Pb and 17% Zn	M,S	88	L
331	Stampede 21180019	118A1, N21, 67S, 98E	OF	PV: Pb, Zn	P	NA	Dump sample contained 8.69% Pb and 10.43% Zn	S	45	L
332	Morning Star 21180102	118A1, N21, 67S, 98E	OF	PV	NA	NA	NA	NE	45	L
333	Lakeside 21180103	118A1, SW16, 67S, 98E	OF	PV: Ag, Cu, Zn	C(s)	NA	Dump sample contained 757 ppb Au, 546.9 ppm Ag, 4.02% Cu, and 2.74% Zn	S	88	L
334	Blasher 21180006	118A1, SE16, 67S, 98E	OF	PV: Au, Ag, Cu, Pb, Zn	Adits: 4m, 35m	Test shipment stockpiled but not shipped	Eocene deposit; qz-sulf vein 43 m long averages 0.56 ppm Au, 151 ppm Ag, 0.93% Cu, 1.15% Pb and 1.25% Zn; one sample assayed 700 ppm Mo	S	45	L
335	Double Anchor 21180018	118A1, 16, 67S, 98E	OF	SB; Au, Ag, Pb, Zn	Adits: 13m, 2.1m, 1.8m, 0.9m	NA	Jurassic deposit age overprinted by Eocene age; vein segment 90 m long averages 0.5 ppm Au, 41 ppm Ag, 1.5% Pb, and 0.4% Zn across 37 cm	M,S	45	M
336	Dog Hole 21180091	118A1, NW16, 67S, 98E	OF	SB; PV: Au, Ag, Pb, Zn	Adit: 2m	NA	Jurassic deposit; sil volc and ar contain up to 1.273 ppm Au, 30.1 ppm Ag, 0.84% Pb and 2.17% Zn	M,S	NA	L

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Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
337	Dog Hole Vicinity 21180104	118A1, SW10, 67S, 98F	OF	VMS and PV: Au, Ag, Pb, Zn	NA	NA	Samples of sil volc contained up to 4.304 ppm Au, 84 ppm Ag, 9.755% Pb, and 4.87% Zn.	S	NA	L
338	Hummel 21180032	118A1, N15, 67S, 98E	OF	PV: Pb, Zn	NA	NA	Narrow qz vein w/ sl and gn reported	NF	88	L
339	Hummel Area 21180105	118A1, NE15, 67S, 98E	OF		NA	NA	Sil carbonate zone contains 4.78% Zn	S	NA	L
340	Mid Iron Cap 21180106	118A1, S11, 67S, 98E	OF	SB; Au, Ag, Pb, Zn	NA	NA	Qz-carbonate band contains up to 1.823 ppm Au, 1,297 ppm Ag, 26.08% Pb, 2.02% Zn and 1% As	S	NA	L
341	Iron Cap, West 21180037	118A1, NW11, 67S, 98E	OF	SB: Ag, Pb	NA	NA	Sil an band w/ up to 27.7 ppm Ag, 6.18% Pb	S	NA	L
342	Iron Cap 21180092	118A1, NE11, 67S, 98E	OF	SB: Ag, Pb, Zn	T	NA	Jurassic deposit; lenses and disseminations of qz carbonate in ar; samples up to 42.9 ppm Ag, 7,270 ppm Pb and 4.76% Zn	M,S	NA	L
343	Silver Bell Extension 21180107	118A1, NE11, 67S, 98E	OF	PV: Cu	NA	NA	Qz-carbonate lens w/ 734 ppm Cu	S	NA	L
344	Silver Bell 21180108	118A1, NE11, 67S, 98E	OF	PV: Au, Ag, Cu, Pb, Zn	C	NA	Eocene deposit; vein contains up to 467.3 ppm Ag, 1.667% Cu, 36.84% Pb and 17.2% Zn	M,S	NA	L
345	Iron Cap, SW 21180037	118A1, S11, 672, 98E	OF	PV: Pb	NA	NA	Samples up to 2,630 ppm Pb; float sample up to 5.37% Pb and 7.3% Zn	S	NA	L
346	Silver Star Vicinity 21180109	118A1, SE11, 67S, 98E	OF	PV; Ag, Pb, Zn	NA	NA	Scatttered samples contained up to 37.8 ppm Ag, 3,486 ppm Cu, 4,879 ppm Pb and 6,523 ppm Zn	S	NA	L
347	Silver Star 21180110	118A1, SE11, 67S, 98E	OF	PV	NA	NA	NA	NF	88	L
348	Ibex Saddle 21180111	118A1, SE1, 67S, 98E	OF	SB: Ag, Pb, Zn	NA	NA	Jurassic deposit; sil an w/ up to 565 ppb Au, 40.7 ppm Ag, 2,705 ppm Cu, 2.59% Pb and 7.54% Zn	S	NA	L
349	Ibex 21180112	118A1, NW7, 67S, 98E	OF	PV: Au, Ag, Cu, Pb, Zn	Adit: 37m	NA	Eocene deposit; vein contains up to 3.095 ppm Au, 338.7 ppm Ag, 9,915 ppm Cu, 17.26% Pb and 5.13% Zn	M,S	88	L
350	Silver Coin 21180113	118A1, NW7, 67S, 98E	OF	PV: Au, Ag, Cu, Pb	Adit: 18m	NA	Vein contains up to 4.061 ppm Au, 161 ppm Ag, 1.96% Cu, 9.62% Pb.		NA	

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
351	Homestake 21180031	118A1, NW7, 67S, 98E	OF	PV: Au, Ag, Cu, Pb, Zn	Adit: 4.6m	850 kg hand-cobbed ore in 1925. Gross value $116.80/ton	Vein contains up to 14.46 ppm Au, 877 ppm Ag, 3.21% Cu, 25.75% Pb, 0.77% Zn	M,S	88	L
351.5	Morning and Evening Star 21180114	118A1, NW7, 67S, 98E	OF	?	NA	NA	NA	NE	88	L
352	Casey Glacier Sphalerite 21180136	118A1, 23,24, 67S, 97E	OF	PV: Zn, Pb, Ag, Au, Cu	NA	NA	Msv, dissem, and banded sulf in sil br in an; sulf include sl, gn, cp, py; mainly float sampling, minor outcrop found; up to 12.5 ppm Au, 681 ppm Ag, 16.0% Pb, 19.0% Zn	S		L
353	Jumbo (Texas Creek) 21180038	118A1, 23,24, 67S, 98E	OF	PV: Au, Pb, Cu	NA	NA	Reported: shear-hosted br veins in metased w/ py, gn, cp, sl in shoots	R	88	L
354	Nothiger 21180024	118A1, 13,24, 67S, 98E; 18, 19, 67S, 99E	OF	V: Pb, W	1 Adit: 3.7m (NF)	NA	Qz veins and stringers in shear in gd w/ gn, py; qz vein w/ gn in gd	NF	88	L
355	Glacier 21180025	118A2, 67S, 97E	CF	V: Ag, Au, Cu	1 Adit: 2.4m (NF)	NA	Qz veins in metavolc-metased w/ py, po, cp, and minor gn	NF, R	45, 88	L
356	Metcalf and Findley 21180002	118A2, 67S, 97E	CF	PV?: Cu, Pb, Zn, Mo ?	2 Adits: (NF)	NA	Most work in Hyder area reported to be on this claim in 1931 and 1932	NF	45, 514, 516, 517	L
357	Goat 21180085	118A2, NE33, 67S, 97E	CF	V: Cu, Ag	NA	NA	Po-bearing qz-calc veins in metased-metavolc; minor metal values	S, R	40, 45	L
358	Galena 21180087	118A1, 25, 67S, 97E	CF	PV: Ag, Pb, Mo	NA	NA	Reported: several sets of narrow qz veins in metased-metavolc w/ minor metal values	R	45	L
359	Edelweiss 21180020	118A2, SE25, 67S, 97E	CF	PV: Ag, Pb	C(s)	NA	0.3-m qz vein w/ py and gn exposed by cuts over approximately 50 m; hosted by metavolc; select sample w/ 740 ppm Ag, 7.75% Pb	M, S	45, 88, 499	L
360	Upper Marmot Basin 21180086	118A2, SE26, 67S, 97E	CF	V: Mo, Ag, Pb	NA	NA	Stockwork of qz veins w/ irregular py, mo + minor gn, cp; in metased near intrusion; average of 37 samples: 212 ppm Mo	M, S	45	L
361	Lower Marmot Basin 21180137	118A2, NW36, 67S, 97E	CF	V: Mo, Ag, Pb	NA	NA	Stockwork of qz and qz-calc veins w/ irregular py, mo + minor gn, cp, sl; in metased near intrusion; average of 14 samples: 281 ppm Mo	M, S	45	L
362	Jumbo (Banded Mountain) 21180038	118A2, NW36, 67S, 97E	CF	PV: Au, Ag, Pb, Zn	1 Adit: (caved); T(s)	NA	Narrow high-grade sulf shoots in qz-calc vein(s); sulf include gn, sl, aspy, py; high grade: 46 ppm Au, 239 ppm Ag, 5.3% Pb, 2.7% Zn	S, R	45, 88, 499	L
363	Banded Mountain, East 21180138	118A2, SE25, N36, 67S, 97E	CF	PV: Ag, Pb, Mo	NA	NA	Qz and qz-calc veins w/ mo, gn, py and po, hosted by metased and metavolc; representative samples w/ up to 0.6% Mo, 0.6% Pb and 44 ppm Ag	S, R	NA	L

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Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
364	Greenpoint 21180027	118A1, NW31, 67S, 98E	CF	V: Pb, Mo	P, C	NA	Gn, mo, po, py, minor cp in qz-calc veins/lenses; hosted by alt banded hn; only minor metal values	S	45	L
365	Heckla 21180029	118A1, SW31, 67S, 98E	CF	V: Ag, Pb, Zn, Cu, Au	C(s)	1.8 mt test shipment	0.1-1.0-m qz veins w/ py, gn, mo, sl, cp; hosted by banded hn; scattered lenses of sulf w/ Ag + minor Au; high grade: 0.1m @ 400 ppm Ag, 1.4% Cu, >9% Zn, 7.0 ppm Au	M, S	45, 353, 499	L
366	Hummel Canyon 21180007	118A1, 20, 67S, 98E	CF	?: Cu, Pb, Zn, Mo, Ag	1 Adit: 3.4m (NF)	NA	Pyritic sil zone in hn; reported negligible metal values	NF	45	L
367	Hyder Lead 21180033	118A1, 21,22, 67S, 98E	OF	PV: Au, Ag, Pb, Cu, Zn	3 Adits: 90m, 4m, 58m; C(s)	NA	Qz veins in metased-metavolc and gd w/ sparse sulf lenses of py, gn, cp, sl; select sample of sulf lens: 4.36 ppm Au, 621 ppm Ag, 72.5% Pb	M, S	83, 88, 499, 619, 646	L
368	Engineer 21180097	118A1, SW23, 67S, 98E	OF	PV: Au, Ag, Cu, Pb	2 Adits: 35m, 24m; T(s)	test shipments: ~45 mt	0.3-1.2-m qz vein in gd w/ included blocks of metased; vein exposed over 100 m; vein includes sparse, narrow msv sulf shoots of py, cp, gn w/ Au, Ag; highest grade sample: 0.4 m @ 26.3 ppm Au and 63.4 ppm Ag	M, S	88, 303, 619	L
369	Juneau 21180040	118A1, NW26, 67S, 98E	OF	V: Ag, Au, Cu, Pb	T(s). C	NA	Qz veins w/ po, py, cp, gn in metased-metavolc; some dissem and msv sulf (po) lenses in metased-metavolc associated w/ shears; best vein: 5.2 ppm Au, 153 ppm Ag, 16.5% Pb; msv po: 4.2 ppm Au	S	88	L
370	Keno 21180041	118A1, SE27, 67S, 98E	OF	PV: Au, Ag, Cu, Pb, Zn	1 Adit: 37m; C(s)	NA	0.15-1.3-m qz vein in alt gd w/ py, gn, cp in spotty lenses within vein; highest Au: 10.7 ppm	M, S	83, 88, 301, 499, 619	L
371	Sunset 21180139	118A1, NE35, 67S, 98E	OF	PV: Au, Ag, Pb	C(s)	NA	Parallel, <1-m qz veins w/ py, gn, minor cp in alt gd; msv sulf in thin shoots along veins; high grade sulf shoot: 47.0 ppm Au, 906 ppm Ag, 37% Pb	S	88, 499	L
372	Swennings Greenpoint 21180023	118A1, SE33, 67S, 98E	CF	V: Ag, Pb, Zn, Cu	NA	NA	Reported: 1.2-m thick sulf band in 2.4-m qz vein in metased-metavolc; sulf include gn, sl, cp, py; only 4.5-m exposure	NF, R	499, 619, 644	L
373	Cantu 21180011	118A1, SW11, 67S, 99E	OF	PV: Au, Ag, Pb, Zn, Cu	4 Adits: 13m, 8m, 3.4m, (9m, reported); C(s)	test shipments: ~ 29 mt	Qz veins in gs w/ sl, gn, tetrahedrite, po, py; good Au values reported from inaccessible vein on cliff face; float from cliff face vein: 27.7 ppm Au	M, S	88, 106, 197, 302, 304	L
374	Velikanje Placer 21180140	118A1, NW14, 67S, 99E	OF	PL: Au	T(s), C(s)	NA	Pan concentrate and placer samples of river terrace sediments; highest sample: 1.37 g/m^3	M, S	48	M
375	Charles Nelson and Pitcher 21180012	118A1, S2 14, 667S, 99E	OF	?	NA	NA	NA	NF	609	L
376	West Base Line 21180093	118A1, NW13, 67S, 993	OF	?	Adit: 5m	NA	Sheared metased w/ py, sl and cp	M,S	NA	L
377	Derby 21180115	118A1, NW23, 67S, 99E	OF	VMS: Au, Ag, Pb, Zn	T	NA	Up to 2.436 ppm Au, 72 ppm Ag, and 2.86% Zn	M,S	NA	L

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Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
378	Top 21180022	118A1, NW23, 67S, 99E	OF	PV, VMS: Au, Ag, Zn	T, C	NA	Up to 48.03 ppm Au, 100.8 ppm Ag, and 10.3% Zn	M,S	NA	M
379	The 96 21180048	118A1, SW23, 67S, 99E	OF	PV: Ag, Pb, Zn	Adit: 33.5m	small test shipment of hand-cobbed ore	Up to 152.9 ppm Ag, 11.39% Pb, 17.6% Zn	M,S	88	L
380	Border, Lower 21180008	118A1, SW24, 67S, 99E	P:MS1535	PV: Zn	Adit: (caved)	NA	Dump sample, 1,490 ppm Zn	S	88	L
381	Border, Upper 21180116	118C3, 15, 73S, 83E ?	P:MS1535	VMS?: Zn	Adit: 21m	NA	10.37-m sample, 1,500 ppm Zn	M,S	88	L
382	Virginia 21180066	118A1, SW24, 67S, 99E	P:MS1478	NA	Adit	NA	NA	NF	88	L
383	East Stoner 21180117	118A1, NE25, 67S, 99E	OF	PV: Ag, Zn	Adit: (caved); P, T	NA	Dump sample, 508 ppb Au, 66.17 ppm Ag, 2.32% Zn	M,S	NA	L
384	Stoner 21180059	118A1, NE25, 67S, 99E	OF	PV, VMS?: Au, Ag, Pb, Zn	Adits: 5m, 43m	NA	Eocene deposit; may be Jurassic w/ Eocene overprint; a 3.05-m sample: 1,400 ppm Pb, 600 ppm Zn; select sample 9.212 ppm Au	M,S	NA	L
385	Stoner Clegg-O'Roark 21180118	118A1, NE25, 67S, 99E	OF	VMS?: Au, Pb	Adit: 20m	NA	Up to 672 ppb Au, 646 ppm Pb	M,S	88	L
386	Cliff Zone 21180119	118A1, NE25, 67S, 99E	P:MS1418	VMS?	C	NA	Up to 52 ppb Au, 1.8 ppm Ag, 251 ppm Pb	S	NA	L
387	Lower Stoner 21180120	118A1, NE25, 67S, 99E	P:MS1418	VMS?: Au, Zn	NA	NA	408 ppb Au, 1,575 ppm Zn	S	NA	L
388	Iron Ridge 21180036	118A1, NE26, 67S, 99E	P:MS1499	VMS?: Au, Cu	C	NA	Up to 86 ppb Au, 1,994 ppm Cu	S	112	L
389	Lowest Daly-Alaska 21180121	118A1, NE26, 67S, 99E	OF	VMS?: Au, Ag, Cu, Zn	C	NA	Up to 8.72 ppm Au, 15.1 ppm Ag	S	NA	L
390	Lower Daly-Alaska 21180122	118A1, NW25, 67S, 99E	P:MS1418	VMS?: Au, Ag, Zn	Adit: 4.5m; shaft: (flooded)	NA	Jurassic deposit; 15.24-m sample contained 959 ppb Au, 5,900 ppm Zn	M,S	88	M
391	Upper Daly-Alaska 21180017	118A1, SW25, 67S, 99E	P:MS1477	MVS? PV?: Au, Ag, Pb, Zn	Adits: 38m, (caved); T, P	NA	Eocene deposit (May be Jurassic w/ Eocene overprint); 1.2-m sample w/ 2.694 ppm Au, 903.4 ppm Ag, 1.1% Pb, and 2.49% Zn	M,S	88	M

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Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
392	Mill Rock 21180123	118A1, SW25, 67S, 99E	P:MS1477	VMS? PV?: Au, Ag, Pb, Zn	Adit: 6m; C	NA	Grab sample w/ 4.532 ppm Au, 281.8 ppm Ag, 1.85% Pb, 2.67% Zn	M,S	NA	L
393	Alaska Premier 21180001	118A1, SW25, T67S, 99E	P:MS1477	VMS?: Au, Ag, Zn	Adit: 76m; T	NA	Jurassic deposit; 10.67-m sample w/ 3,500 ppm Zn; up to 73.1 ppm Ag and 2.69% Zn	M,S	88	M
394	Cripple Creek 21180016	118A1, SE26, T67S, 99E	OF	PV	Adit: 14m; C, T, P	NA	NA	NF	88	L
395	Eureka 21180094	118A1, NW36, 67S, 99E	OF	VMS? PV: Au, Ag, Zn	Adits: 68.5m, 6m, 5m; T, C	NA	Eocene deposit; 0.1-m sample contained 68.33 ppm Au, 89.83 ppm Ag, 9% Zn	M,S	88	L
396	Marmot Gossan 21180124	118A1, NE35, 67S, 99E	OF	VMS?: Zn	C	NA	Grab sample: 1,365 ppm Zn	S	NA	L
397	Bluebird 21180125	118A1, SE35, 67S, 99E	OF	?: Mo	NA	NA	NA	NE	102	L
398	Crest 21180126	118A1, NW35, 67S, 99E	OF	PV: Cu, Pb, W	C	NA	NA	NE	88	L
399	Brigadier 21180010	118A1, SW35, 67S, 99E	OF	PV: Au, Ag, Pb	Adits: 2m, 6m, 81m; P, T	2720 kg sorted but not shipped	Dump sample 42.96 ppm Au, 192 ppm Ag, 9.63% Pb	M,S	102	L
400	Blacksmith 21180127	118A1, NE36, 67S, 99E	OF	?	Adit: 3m	NA	260 ppm Zn	S	NA	L
401	Zebra 21180034	118A1, NE36, 67S, 99E	OF	V: Ag, Cu	C	NA	No ore metal min in Zebra vein; vicinity up to 33.8 ppm Ag, 3,000 ppm Cu	M,S	11	L
402	MV 5 21180128	118A1, SE36, 67S, 99E	OF	V: Ag	C, P	NA	Up to 112 ppb Au, 9.2 ppm Ag, 335 ppm Pb	M,S	88	L
403	Titan 21180129	118A1, SW36, 67S, 99E	OF	PV: Au, Ag, Pb	Adit: 192m	NA	Up to 30.17 ppm Au, 63.09 ppm Ag, 5,975 ppm Pb	M,S	88	L
404	Iron No. 3 21180130	118A1, SW36, 67S, 99E	OF	Sulfide veins & dissem, Au, Cu	P	NA	Up to 13.47 ppm Au, 33.1 ppm Ag, 1.018% Cu, zone traced for 150 m	M,S	88	M
405	Iron No .2 21180131	118A1, NW1, 67S, 99E	OF	Sulfide veins & dissem, Au, Cu	P, C	NA	Zone traced for 76.2 m; up to 14.74 ppm Au, 4,900 ppm Cu	M,S	88	M

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
406	Iron No. 4 21180132	118A1, NW1, 67S, 99E	OF	Sulfide veins & dissem, Au, Cu, Pb, Zn	P, C	NA	Up to 2.958 ppm Au, 64.11 ppm Ag, 3,914 ppm Cu, 6,370 ppm Pb, 6,840 ppm Zn	M,S	88	M
407	Shaft Creek Copper 21180096	118A1, NW1, 67S, 99E	OF	Massive sulfide lens. Au, Cu	Shaft: (flooded); P, T	Ore stored at site	1.5-m sample: 10.56 ppm Au, 17,295 ppm Cu	M,S	88	M
408	Iron No. 1 21180133	118A1, NW1, 67S, 99E	OF	sulfide lenses and dissem Au, Cu	C(s)	NA	Up to 1,973 ppb Au, 1,730 ppm Cu	M,S	88	L
409	Ronan Copper 21180134	118A1, NE2, 67S, 99E	OF	sulfide veins and dissem Cu	C, P	NA	Up to 169 ppb Au, 66.51 ppm Ag, 2.5% Cu	M,S	NA	L
410	Ronan 211800064	118A1, NE2, 67S, 99E	OF	PV: Au, Ag	Underground workings: 246m; winze (flooded) P(s), T(s)	gold production not reported	Deposit Eocene; vein traced for 180 m; 46 m averages 5.78 ppm Au, 296 ppm Ag, 1.6% Pb	M,S	88	L
411	Monarch 21180046	118A1, NE2, 67S, 99E	P:MS1559	PV: Au, Ag	Adit: 12m; C, P, T	NA	Intermittent exposures for 100 m; values up to 663 ppm Au, 10.0 ppm Ag, 4,829 ppm Pb, 2,300 ppm W	S	88	L
412	Olympia Nos. 8, 9 21180135	118A1, SE2, 67S, 99E	OF	PV	Adits: 70m, 23m	NA	7 samples, up to 69 ppb Au, 1.9 ppm Ag, 520 ppm Zn	M,S	88	L
413	Ronnie and Judy 21180098	118A1 SW1, 68S, 99E	P:MS1064	PV: Ag, Pb	P, C	NA	7 samples contained up to 154 ppb Au, 25.6 ppm Ag, 3.61% Pb	M,S	NA	L
414	Olympia No. 4-6 21200205	120DI, SE2, 68S, 99E	P:MS1064	PV: Au, Ag, Cu, Zn	Adits: 119m, 35m, (caved)	NA	Vein exposed for 70 m, up to 8.029 ppm Au, 584.2 ppm Ag, 2.31% Cu, 5.0% Zn	M,S	88	L
415	Starboard 21200206	120DI, SE2, 68S, 99E	P:MS1064	PV: Au, Ag, Pb	Adits: 18m, 15m, 10m	NA	Up to 2.265 ppm Au, 137.8 ppm Ag, 14.95% Pb	M,S	88	L
416	Silver Point 21200185	120DI, NW12, 68S, 99E	P:MS1064	PV: Au, Ag, Pb, Zn	Adit: 15m	NA	Deposit Eocene; vein exposed for 17 m; up to 3.50 ppm Au, 4,750 ppm Ag, 11.98% Pb, 5.88% Zn	M,S	NA	L
417	New W 21180047	118A1, NW3, 67S, 99E	OF	PL: Au, W	NA	NA	Salmon River terraces; best sample: 0.15 mg Au in 1 pan concentrate (0.31g/m^3)	M,S	NA	L
418	Riverside 21180053	118A1, NW2, 67S, 99E	P:MS1530, MS1562, MS1563	PV: Au, Ag, Cu, Pb, W	Underground workings: 1,830m; diamond drilling: 1,420m; C, P, T	76 kg Au, 2700 kg Ag, 34,300 kg Cu, 1,024,000 kg Pb, 8100 kg Zn, 32,000 kg WO_3	Eocene deposit; vein traced for 360 m along strike and 230 m down dip; open to the southeast and at depth; average grade of mined ore: 3.49 ppm Au, 113 ppm Ag, 0.15% Cu, 3.9% Pb and 0.12% WO_3.	M,S	571	M

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
419	Jarvis 2120062	120DI, SW2, 68S, 99E	P:MS1530, 1562, 1563	PV: Au, Ag, Pb, Zn	T, P	NA	Eocene deposit; vein traced for 35 m; up to 6.729 ppm Au, 758.7 ppm Ag, 47.84% Pb and 21.06% Zn	M,S	102	L
420	Last Shot 21200207	120DI, SW2, 68S, 99E	OF	PV: Au, Ag, Pb	Adit: 8m; C, P	NA	Vein traced for 27 m; up to 2,086 ppb Au, 1,502 ppm Ag, 29.87% Pb	M,S	NA	L
421	Six Mile 21200186	120DI, NW11, 68S, 99E	OF	PV: Au, Ag, Pb	Adits: 8m, 12m	NA	Vein traced for 12 m w/ up to 3.771 ppm Au, 195.8 ppm Ag, 2.89% Pb	NE	102	L
422	Bishop 2120063	120DI, NE11	OF	PV	Adit: 3m; P	NA	NA	M,S	88	L
423	Onlione 21200187	120DI, NE11, 68S, 99E	P:MS1547	PV: Au, Ag, Pb	Adit: 41m; C	NA	Zone traced for 61 m; up to 10.6 ppm Au, 826.3 ppm Ag, 12.2% Pb	M,S	NA	L
424	Ruby Silver 21200208	120DI, NE11, 68S, 99E	P:MS1547	PV: Au, Ag, Zn	Adits: 12m, 8m, 6m; T	NA	Vein exposed for 56-m strike length, 67 m down dip; not exposed in Mountainview workings below	M,S	NA	L
425	Grey Copper 21200209	120DI, NE11, 68S, 99E	P:MS1482, 1547	PV: Au, Ag, W	Adit: 34m; drift, shaft: (flooded)	NA	Eocene deposit; vein traced for 164 m; best 72 m averages 0.85 ppm Au, 33.9 ppm Ag, and 0.25% WO^3	M,S	571	L
426	Mountain View Skookum Vein 21200210	120DI, SE11, 68S, 99E	P:MS 1482, 1547	PV: Au, Ag	Drift: 103m	NA	Vein exposed for 103 m; up to 8.841 ppm Au, 425.5 ppm Ag, 3.88% Pb	M,S	NA	L
426	Mountain View Quartz Lens 21200211`	120DI, SE11, 68S, 99E	P:MS 1482, 1547	?		NA	Msv qz lens exposed for 43 m underground; 6.71-m sample at 54 ppb Au and 420 ppm Cu	M,S	NA	L
426	Mountain View Molybdenum 21200212	120DI, SE11, 68S, 99E	P:MS1482, 1547	P: Mo	Adit: 1,280m	NA	Sil gd w/ Mo; from 28 to 1,446 ppm Mo	M,S	NA	L
427	Adanac 21200188	120DI, SE11, 68S, 99E	P:MS1482, 1547	PV: Au, Ag, Pb, Zn	Adits: 78m, 27m; winze: (flooded)	NA	Vein traced for 46 m; up to 5.926 ppm Au, 605.1 ppm Ag, 1.61% Pb and 1.75% Zn	M,S	571	L
428	Silver Falls 21200189	120DI, SE11, 68S, 99E	OF	PV: Au, Ag, Pb	Adit: 15m	NA	Up to 949 ppb Au, 1,529 ppm Ag, 44.6% Pb	M,S	NA	L
429	Victoria 21200066	120DI, NW13, 68S, 99E	OF	PV: Ag, Zn	Adits	NA	Float in the vicinity contained 141.9 ppm Ag, 16.64% Zn	NF	88	L
430	Dupree Quartz 21200213	120DI, SW18, 68S, 100E	OF	V	NA	NA	Up to 48 ppb Au, 730 ppm Zn	S	NA	L
431	Mount Dolly 21200190	120DI, SW18, 68S, 100R	OF	S: Au, Ag, Pb, Zn	NA	NA	Select sample: 2.82 ppm Au, 4,425 ppm Ag, 6.9% Pb, 9% Zn	S	NA	L

Table B-1. Summary table for all mines, prospects and mineral occurrences.

Map No.	Name MAS No.	Location	Land status	Deposit type	Workings	Production	Significant results	Bureau work	Select references	MDP
432	J & L 2120090	120D1, 10, 69S, 99E	CF	?: Mo, Cu	NA	NA	1969-72 assessment work reported drilling, blasting, sampling, trenching; no workings found in 1992	R, NF	584	L
433	Ferro 1-21 2120091	120D1, 36, 70S, 99E	CF	PL: Fe	NA	NA	Claims staked for heavy mineral sands; 1961 Bureau work indicates minor mag (0.6 kg mag/m^3)	NE	47	L
434	Chickamin River 21200060	120D3, 69S, 96E	CF	PV: Cu	NA	NA	Reported: narrow veinlets of py, cp, mag in 30-m-wide shear; extends for "miles" w/ 1,200-m vertical extent	NF	88	L
435	Commonwealth 21200061	120D1, NE35, 70S, 99E	CF	S: Zn, Cu, Mo	2 Adits: 3.4m, (24m, NF); T(s)	NA	Lenses, layers and dissem po + py w/ sl in skarn of garnet and epidote; skarn + qt and marble within qz monz	M, S, R	38, 88, 353	L
436	Gnat 21200059	120D3, 70S, 95E	CF	V: Mo, Cu, Pb	NA	NA	1.5-3.0-m qz vein in metamorphosed di, minor metal values	S	45, 88, 524	L
437	Alamo 21200085	120D3, 70S, 96E	CF	?: Cu, Zn, Ag	C(s), T(s)	NA	Lenses and dissem of po, py, cp parallel and xcut foliation in bt-amphibole-qz paragneiss; at least four drill holes; mapping and sampling by Bureau in 1970's	S	45	L
438	Marble Copper 21200226	120C3, 8,9,17, 71S, 95E	CF	S: Cu, Au, Ag	NA	NA	Mal, cp in marble in gneiss near di contact; 1970's Bureau best sample: 0.5 m @ 0.4% Cu, 30 ppm Ag, 3.5 ppm Au	NE	45	L
439	Quartz Hill 21200067	120B2, 74S-75S, 94E	CF, P, MS 2267, 2462	P: Mo	2 Adits: total 1,475m	test shipments	1.4 billion mt @ 0.14% MoS_2	R	NA	M
440	IXL 21200092	120B3, 22, 76S, 95E	CF	VMS: Au, Ag, Cu, Pb, Zn	1 Adit: 21m (w/ 9m winze)	NA	Mainly msv py in fel sc; drill intercept: 18.6 m of 0.8 ppm Au, 23 ppm Ag, 0.3% Cu, 0.3% Pb, 2.8% Zn	M, S	110, 584	L
441	Nanjan 21200100	120A3, NW33, 76S, 95E	CF	V: Mo	1 Adit: 3.6m	NA	Mo in bunches in qz vein and in gouge along vein margins; reported 300 m vein exposure; small amount of min rock; best sample: 1.3 m of 0.2% Mo	M, S	433, 443	L
442	Gullette Placer 21200093	120A2, SW32, 77S, 99E	CF	PL: Au	T(s)	NA	Evidence of sediment moved, old structures, equipment; pan concentrate sample: 2,248 ppb Au	S	584	L
443	Red Claims 21200095	120A2, 28,29, 32,33, 78S, 4,5, 79S, 99E	CF	?: Cu, Mo	NA	NA	Seams and dissem of sulf; po, py, cp, mo, in orthogneiss and metased; best drill intercept: 20 m of 0.36% Cu; generally low metal values in surface samples	S, R	16, 17, 584	L
444	Very Inlet Steatite 21220009	122D3, NW36, 79S, 96E	CF	NA	NA	NA	Most steatite seen in rubblecrop boulders, minor steatite in outcrop	S	587	L
445	Very Inlet Zinc 21220010	122D3, SW2, 80S, 96E	CF	?: Zn	1 Adit: 5.8m	NA	Dissem and knots of sl in alt, deformed sc/gneiss; select sample to 3.9% Zn	M, S	587	L
446	Sitklan Passage Pegmatite 21220006	122D3, NE18, 82S, 99E	CF	Peg	C(s), T(s)	NA	Pegmatite bodies originally prospected for mica; in gneiss and/or sc; very minor REE	S, R	445, 472	L

APPENDIX C. CARBONATE SAMPLE ANALYSES AND BRGHTNESS DETERMINATIONS

Carbonate samples were analyzed using standard wet analyses (oxide determinations by ICP and atomic absorption) and total carbonate add/alkali procedures ($CaCO_3$ calculated by converting $CaCO_3$ percentage as determined by volumetric/titration method ASTM C-25). Each sample was rinsed and dried prior to analysis. Although the $CaCO_3$ percentages are high, the more telling analyses are those given for the impurities (Fe_2O_3, A_20_3, SiO_2, etc.). The Silurian carbonates present in the district generally contain few impurities and this corroborates the high-ultra-high calcium content of these rocks.

Brightness determinations were performed according to the ASTM barium sulfate standard, or the ISO magnesium sulfate standard. The instrument used was a Zeisse Elrepho Brightness Meter. Samples were analyzed at 457 nm for dry brightness and are reported as percentage ISO brightness. This method utilizes the directional reflectance factor of non-fluorescent opaque specimens by means of filter photometers.

The sample results shown in tables C-1 and C-2 are organized by map numbers as portrayed in figure 74.

Appendix C-1. Analytical results for carbonate samples.

Map	Sample	Location	Sample	Sample size	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	SO_3	LOI	Na_2O	K_2O	P_2O_5	MnO	Titrated	Sam	Sample Description
1-1	LS414	Labouchere Ba	SC	46@1.5	0.67	0.27	0.14	55.19	0.2	0.06	43.29	0.02	<0.05	<0.03	0.01	98.54	TP,	fg gray-buff ls
2-1	LS161	Calder Quarry	Rep	39.6	0.26	0.14	0.05	55.21	0.53	<.02	41.97	0.03	<0.1	0.02	0.02	98.57	TP,	similar to LS160, mottled
2-2	LS160	Calder Quarry	Rep	33.5	0.48	0.18	0.06	55.02	0.54	<.02	41.94	0.04	<0.1	0.03	<0.01	98.23	TP,	white marble, friable
2-3	LS159	Calder Quarry	Rep	57.9	0.31	0.17	0.06	55.02	0.53	<.02	42.38	0.04	<0.1	0.04	0.02	98.23	OC,	striped, white marble
2-3	LS411	Calder Quarry	SC	46@1.5	0.49	0.19	0.05	55.21	0.54	0.15	42.95	0.02	<0.05	<0.03	0.02	98.57	OC,	white marble, py seams
2-4	LS162	Calder Quarry	Rep	18@1.5	0.57	0.22	0.06	54.68	0.45	<.02	41.79	0.04	<0.1	0.01	<0.01	97.63	TP,	coarsely crystalline, dike
2-5	LS408	Calder area	SC	61@3	0.27	0.13	0.02	55.29	0.52	0.07	43.01	<0.01	<0.05	<0.03	<0.01	98.71	OC,	along Route 15, extensive
2-5	LS409	Calder area	SC	107@3	0.3	0.17	0.06	55.25	0.55	0.06	42.67	0.02	<0.05	<0.03	<0.01	98.64	OC,	extension of LS408
2-5	LS410	Calder area	SC	46@1.5	0.26	0.18	0.22	53.89	1.57	0.14	43.57	0.01	<0.05	<0.03	0.04	96.21	TP,	white-buff gray marble
3-1	LS165	El Capitan	SC	53@3	0.62	0.38	0.10	55.08	0.61	<.02	42.40	0.03	<0.1	<0.01	0.02	98.34	TP,	dissem py in marble
3-1	LS166	El Capitan	SC	34@1.5	0.39	0.25	0.10	55.14	0.53	<.02	42.35	0.03	<0.1	<0.01	0.01	98.44	TP,	cg, banded marble, organics
3-1	LS167	El Capitan	Rep	91.4	0.34	0.28	0.07	55.14	0.70	<.02	42.22	0.03	<0.1	<0.01	<0.01	98.44	OC,	variegated marble
3-1	LS407	El Capitan	SC	46@1.5	0.35	0.14	0.06	55.29	0.48	0.05	43.17	0.01	<0.05	<0.03	0.01	98.71	TP,	white marble, homogenous
4-1	LS413	El Capitan roa	SC	61@1.5	1.16	0.27	0.12	54.58	0.49	0.05	42.67	0.02	0.1	<0.03	0.01	97.45	TP,	fg ls at Route 20/27 junction
5-1	LS412	Whale Pass	SC	53@1.5	0.36	0.21	0.07	55.30	0.58	0.1	43.35	0.04	<0.05	0.03	0.05	98.73	TP,	abundant fractures, fest
6-1	LS120	Tokeen Quarry	Rep		<0.01	0.17	0.03	55.59	0.39	<.02	43.01	<0.01	<0.1	<0.01	0.06	99.25	MD,	quarried slabs, mottled
6-1	LS121	Tokeen Quarry	Rep		<0.01	0.19	0.06	55.71	0.39	<.02	43.33	<0.01	<0.1	<0.01	0.04	99.46	MD,	mottled-stockwork, slabs
6-1	LS122	Tokeen Quarry	Rep		0.08	0.23	0.06	55.66	0.37	<.02	43.09	0.01	<0.1	<0.01	0.04	99.38	MD,	cg marble, mottled
7-1	LS140	Edna Bay	SC	49@1.5	0.6	0.27	0.08	54.7	1.01	<.02	43.09	0.02	<0.1	<0.01	0.09	97.7	TP,	ls, micritic, calc veinlets
7-2	LS132	Edna Bay	SC	64@3.0	0.69	0.32	0.08	54.73	0.34	<.02	43.16	0.04	<0.1	<0.01	0.03	97.71	TP,	micritic ls, fractures
7-3	LS124	Edna Bay	SC	15@0.6	0.11	0.22	0.07	54.22	0.7	<.02	43.03	0.01	<0.1	<0.01	0.04	96.8	TP,	dark-gray ls, calc blebs
7-4	LS125	Edna Bay	Rep	33.5	0.14	0.28	0.08	54.2	0.58	<.02	43.02	0.07	0.1	<0.01	0.11	96.8	TP,	ls, fractured, calc veins
7-5	LS126	Edna Bay	SC	30@1.5	0.15	0.28	0.06	55.3	0.56	<.02	43.2	0.01	<0.1	<0.01	0.05	98.7	TP,	light gray-buff ls, pervasive
7-6	LS127	Edna Bay	SC	23@0.9	0.59	0.21	0.08	54.6	0.31	<.02	42.91	0.01	<0.1	<0.01	0.03	97.5	TP,	micritic ls, clean, jointed
7-7	LS130	Edna Bay	SC	29@1.5	0.49	0.32	0.05	55.1	0.51	<.02	43.15	0.02	<0.1	<0.01	0.04	98.4	TP,	ls, competent
7-8	LS144	Edna Bay	Rep	22.9	0.66	0.52	0.06	54.9	0.60	<.02	42.73	0.04	<0.1	<0.01	0.03	98.0	OC,	micritic ls w/calc veins
7-9	LS117	Edna Bay	SC	29@1.5	0.25	0.42	0.09	54.2	0.98	<.02	42.30	0.01	<0.1	<0.01	0.02	96.8	TP,	msv ls, mafic plug in pit
7-10	LS143	Edna Bay	Rep	22.9	0.67	0.35	0.06	54.8	0.60	<.02	43.38	0.03	<0.1	<0.01	0.07	97.8	OC,	fluted ls, clean
7-11	LS128	Edna Bay	SC	24@0.9	0.61	0.26	0.09	54.6	0.63	<.02	43.24	0.01	<0.1	<0.01	0.05	97.5	OC,	ls w/organics, calc veins
7-12	LS116	Edna Bay	Rep	50.3	0.08	0.30	0.07	54.9	1.40	<.02	42.13	0.01	<0.1	<0.01	0.02	98.0	TP,	ls, fractured, ankerite-filled
7-13	LS115	Edna Bay	SC	61@3	0.96	0.36	0.15	53.1	1.24	<.02	42.98	0.02	<0.1	<0.01	0.03	94.8	TP,	mottled, w/thin slate beds
7-14	LS118	Edna Bay	SC	27@1.5	0.10	0.17	0.06	55.3	0.70	<.02	42.65	0.01	<0.1	<0.01	0.02	98.7	OC,	fg ls, organics, mottled locally
7-15	LS129	Edna Bay	SC	46@1.5	0.45	0.46	0.05	55.2	0.40	<.02	42.93	0.02	<0.1	<0.01	0.03	98.6	TP,	homogenous, fractures
7-16	LS119	Edna Bay	SC	35@1.5	0.02	0.18	0.04	54.9	1.17	<.02	42.57	0.01	<0.1	0.01	0.02	98	TP,	dark-gray micritic ls, organics
7-17	LS142	Edna Bay	SC	49@1.5	0.61	0.30	0.06	54.6	0.88	<.02	43.46	0.02	<0.1	<0.01	0.03	97.5	TP,	micritic ls, stylolites
7-18	LS113	Edna Bay	Rep	22.9	1.08	0.50	0.12	54.4	0.55	<.02	42.50	0.01	0.12	<0.01	0.02	97.1	OC,	fg light-gray ls, fractured
7-19	LS114	Edna Bay	Rep	30.5	0.64	0.56	0.14	54.6	0.44	<.02	42.33	0.03	<0.1	<0.01	0.02	97.5	OC,	msv beds, beach outcrop
7-20	LS131	Edna Bay	SC	58@2.4	0.50	0.18	0.06	54.9	1.02	<.02	43.33	0.02	<0.1	0.02	0.02	98.0	OC,	buff-gray micritic ls
7-21	LS139	Edna Bay	SC	37@1.5	0.76	0.32	0.1	54.6	1.1	<.02	43.46	0.07	<0.1	<0.01	0.04	97.5	TP,	mixed ls types
7-22	LS141	Edna Bay	SC	76@3	0.45	0.28	0.05	54.8	0.91	<.02	43.27	0.02	<0.1	<0.01	0.03	97.8	TP,	ls micritic and cg, buff-tan
7-22	LS406	Edna Bay	SC	76@1.5	0.45	0.17	0.17	54.10	1.16	0.05	43.25	0.03	<0.05	<0.03	0.02	96.59	TP,	buff-gray micritic ls
7-23	LS138	Edna Bay	SC	0.0	1.35	1.80	0.18	51.2	3.20	0.05	43.53	0.10	0.15	0.01	0.04	91.4	TP,	micritic ls, mottled

Appendix C-1. Analytical results for carbonate samples.

Map	Sample	Location	Sample	Sample size	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	SO_3	LOI	Na_2O	K_2O	P_2O_5	MnO	Titrated	Sam	Sample Description
7-24	LS135	Edna Bay	SC	53@3	0.64	0.59	0.08	54.5	0.81	<.02	43.35	0.04	<0.1	<0.01	0.08	97.3	TP,	indurated, crystallized ls
7-25	LS137	Edna Bay	Rep	61.0	0.66	0.43	0.08	54.5	0.54	<.02	43.25	0.04	<0.1	<0.01	0.09	97.3	OC,	light-gray micritic, calc blebs
7-26	LS136	Edna Bay	Rep	61.0	0.66	0.34	0.13	54.8	0.53	<.02	43.20	0.04	<0.1	<0.01	0.07	97.8	OC,	light-gray micritic, calc blebs
7-27	LS134	Edna Bay	SC	46@1.5	0.53	0.20	0.04	54.8	0.33	<.02	43.11	0.04	<0.1	0.02	0.02	97.8	TP,	light-medium gray, stylolites
7-28	LS133	Edna Bay	SC	64@3	0.46	0.17	0.03	55.1	0.56	<.02	43.39	0.02	<0.1	0.03	0.03	98.4	TP,	micritic, competent
8-1	LS112	Limestone Poi	SC	61@3	1.16	0.39	0.27	54.49	0.39	<.02	42.47	0.02	<0.1	<0.01	0.04	97.29	OC,	ls bounded by cg unit
9-1	LS123	Orr Island	Rep	22.9	<0.01	0.16	0.1	55.4	0.5	<.02	43.31	0.01	<0.1	<0.01	0.02	98.9	OC,	coarse ls, mottled, blocks
10-1	LS163	Eagle Island	SC	61@3	0.76	0.3	0.13	54.7	0.45	<.02	42.38	0.04	<0.1	<0.01	0.04	97.7	OC,	fg to mg gray ls, reworked
11-1	LS164	Cap Island	SC	91@3.7	0.65	0.4	0.17	54.5	0.52	<.02	42.22	0.02	<0.1	<0.01	0.01	97.3	OC,	mixed ls types, stylolites
12-1	LS110	Heceta Island	SC	61@3	0.57	0.29	0.10	54.35	0.63	<.02	42.83	0.04	<0.1	<0.01	0.11	98.45	OC,	fg micritic ls, msv
12-2	LS111	Heceta Island	SC	61@3	0.36	0.27	0.09	54.70	0.60	<.02	42.75	0.04	<0.1	<0.01	0.11	97.66	OC,	homogenous fg micritic ls
12-3	LS156	Heceta Island	SC	84@3	1.38	0.41	0.17	53.7	1.08	0.03	43.09	0.04	<0.1	<0.01	0.23	95.87	TP,	reworked ls, stylolites
12-4	LS155	Heceta Island	Rep	45.7	1.06	0.50	0.07	54.40	0.51	<.02	42.95	0.04	<0.1	0.05	0.03	97.12	OC,	micritic gray ls, no organics
12-5	LS105	Heceta Island	SC	61@3	0.90	0.45	0.22	54.60	0.75	<.02	42.90	0.04	<0.1	<0.01	0.03	97.48	OC,	msv, smeared ls
12-6	LS106	Heceta Island	SC	61@3	0.67	0.25	0.16	54.80	0.60	<.02	43.02	0.03	<0.1	<0.01	0.03	97.84	OC,	micritic to coarse texture
12-7	LS107	Heceta Island	SC	61@3	1.59	0.34	0.19	53.80	0.58	<.02	42.43	0.03	<0.1	0.04	0.05	96.05	OC,	msv, calc veinlets
12-8	LS157	Heceta Island	SC	34@1.5	1.7	0.4	0.08	53.97	0.62	0.03	42.95	0.05	<0.1	<0.01	0.05	96.36	TP,	fg to mg ls, no dikes
12-9	LS149	Heceta Island	SC	67@2.4	1.13	0.36	0.15	53.80	0.55	0.02	42.93	0.03	<0.1	0.01	0.09	96.05	TP,	micritic ls
12-1	LS148	Heceta Island	SC	60@3	1.57	0.35	0.25	54.10	0.75	0.08	42.79	0.30	0.11	0.01	0.06	96.59	TP,	mg w/organics
12-1	LS147	Heceta Island	SC	70@3	1.14	0.59	0.12	53.80	0.55	0.02	43.00	0.05	<0.1	0.01	0.04	96.05	TP,	msv, coarse calc, clean
12-1	LS150	Heceta Island	SC	76@3	1.56	0.44	0.12	53.60	0.52	<.02	43.01	0.03	<0.1	0.01	0.05	95.70	TP,	light-dark gray ls, organics
12-1	LS158	Heceta Island	SC	91@4.6	0.63	0.33	0.09	54.7	0.4	0.04	43.01	0.02	<0.1	0.02	0.05	97.66	TP,	coarse crystalline, reworked
12-1	LS146	Heceta Island	SC	66@3	1.06	0.33	0.10	54.40	0.51	0.02	43.18	0.03	<0.1	<0.01	0.05	97.12	TP,	ls cg, organics, resources
12-1	LS151	Heceta Island	Rep	66@2.4	0.91	0.39	0.08	54.10	0.38	<.02	42.82	0.17	<0.1	0.03	0.09	96.59	TP,	ls, red-stained, banded,
12-1	LS145	Heceta Island	SC	61@3	0.99	0.43	0.10	54.90	0.42	<.02	43.05	0.04	<0.1	<0.01	0.04	98.01	OC,	ls, fluted surface, msv
12-1	LS152	Heceta Island	SC	61@1.5	0.65	0.24	0.05	55.20	0.40	<.02	42.95	0.01	<0.1	<0.01	0.03	98.55	TP,	light-gray micritic ls
12-1	LS405	Heceta Island	SC	46@1	0.34	0.21	0.09	55.22	0.41	0.03	43.14	<0.01	<0.05	<0.03	0.02	98.59	TP,	micritic ls, abundant joints
12-1	LS104	Heceta Island	SC	45@1.5	3.43	0.78	0.44	51.4	1.86	0.17	41.48	0.11	0.18	0.01	0.03	91.8	OC,	msv ls, minor stylolites
12-2	LS103	Heceta Island	SC	52@1.5	1.81	0.48	0.23	52.9	0.97	0.03	42.56	0.05	<0.10	0.01	0.03	94.4	OC,	ls br micritic, resources
12-2	LS102	Heceta Island	Rep	54.9	2.07	0.43	0.16	52.7	1.12	0.03	42.46	0.05	0.10	0.01	0.03	94.1	OC,	micritic, minor stylolites
12-2	LS108	Heceta Island	G		0.11	0.21	0.05	55.30	0.39	<.02	42.66	0.02	<0.1	<0.01	0.02	98.73	TP,	micritic, breaks well
12-2	LS109	Heceta Island	G		0.8	0.47	0.13	54	0.43	<.02	42.12	0.03	0.11	<0.01	0.03	96.41	TP,	chalky, blast-induced
12-2	LS154	Heceta Island	Rep	54.9	0.56	0.38	0.05	54.90	0.41	<.02	42.67	0.03	<0.1	<0.01	0.02	98.01	TP,	fg, light-gray micritic, fracture
12-2	LS153	Heceta Island	SC	53@2.4	0.66	0.37	0.07	54.8	0.41	<.02	43.18	0.02	<0.10	0.02	0.03	97.8	TP,	ls, minor fest
13-1	LS200	Wadleigh Islan	SC	37@3	1.39	0.39	0.10	53.6	0.48	<.02	42.97	0.02	<0.1	<0.01	<0.01	95.7	OC,	fossiliferous gray limestone
13-1	LS201	Wadleigh Islan	SC	73@6	0.69	0.18	0.07	55.0	0.68	<.02	43.12	0.04	<0.1	<0.01	<0.01	98.2	OC,	fg, gray limestone
14-1	LS415	Beaver Creek	SC	66@1.5	0.27	0.16	0.15	53.76	1.84	0.07	43.25	0.01	<0.05	<0.03	<0.01	96.16	OC,	light-dark gray marble
14-1	LS416	Beaver Creek	SC	40@1.5	2.26	0.61	0.69	50.99	2.59	0.06	41.89	0.03	<0.05	<0.03	0.02	91.04	OC,	light-dark gray marble
15-1	1	Lancaster Cov	SC	21@0.6	1.83	0.43	0.33	53.8	0.99	<.02	41.51	0.05	<.10	0.02	0.02	96.1	TP,	white & gray marble
15-1	2	Lancaster Cov	SC	34@0.6	1.94	0.78	0.42	53.2	0.41	0.04	41.66	0.07	0.16	0.01	0.02	94.96	TP,	white marble
16-1	M4	Dolomi Bay	C	7.9	1.13	0.64	0.33	54.00	0.86	<.02	42.57	0.08	<.10	0.02	0.01	96.41	OC,	white marble
16-1	M5	Dolomi Bay	SC	23@0.3	2.7	0.55	0.42	49.3	6.52	0.09	42.42	0.07	0.12	<.01	0.02	88.1	TP,	gray and cream marble

Map	Sample	Location	Sample	Sample size	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	SO_3	LOI	Na_2O	K_2O	P_2O_5	MnO	Titrated	Sam	Sample Description
16-1	M6	Dolomi Bay	SC	50@0.3	2.65	0.48	0.4	50.3	5.04	0.03	41.59	0.05	<.1	<.01	0.04	89.8	OC,	gray marble
17-1	M1	Baldwin/North .	Rep	41.0	3.39	1.52	0.60	52.0	1.00	0.47	41.00	0.24	0.29			92.8	TP	
18-1	LS 10	Breezy Bay	SC	7.62@0	0.14	0.40	0.05	56.8	0.49		41.89	0.02	0.03			99.7	TP,	ls w/calc seams, stylolites
18-1	LS 11	Breezy Bay	Rep	10.7	0.08	0.44	0.07	55.6	1.16		42.28	0.02	0.03			99.2	OC,	ls w/silty beds
18-1	LS 12	Breezy Bay	Rep	22.9	1.35	1.11	0.3	51.5	2.1	0.2	42.71	0.22	0.23			91.9	OC,	fractured ls, minor silt
18-1	LS 13	Breezy Bay	Rep	33.5	0.12	0.54	0.08	56.2	0.94		41.98	0.03	0.05			99.6	OC,	ls, no dikes, stylolites
18-1	LS 14	Breezy Bay	SC	29@0.6	0.75	0.73	0.10	54.4	1.25		41.98	0.05	0.07			97.1	TP,	ls w/stylolites, minor dikes
18-1	LS 15	Breezy Bay	SC	1.22@0	0.07	0.47	0.06	56.1	0.36		41.78	0.02	0.03			99.5	TP,	light-gray ls, fest on fractures
18-1	LS 16	Breezy Bay	SC	38.1@0	0.64	0.69	0.13	54.5	0.47		42.38	0.04	0.06			97.3	TP,	dark gray ls, calc seams
18-1	LS 17	Breezy Bay	SC	22.9@0	0.08	0.57	0.35	49.7	4.82		44.01	0.03	0.04			88.7	TP,	gray ls, w/fest on fractures
18-1	LS 18	Breezy Bay	SC	10.7@0	1.63	1.25	0.24	50.2	2.56	0.15	42.71	0.22	0.28			89.6	TP,	msv ls, clac blebs
18-1	LS 19	Breezy Bay	SC	22.9@0	0.19	0.72	0.26	52.0	3.44		43.69	0.06	0.07			92.8	TP,	micritic ls, sheared
18-1	LS 20	Breezy Bay	Rep	7.6	0.22	0.67	0.10	55.7	0.66		42.04	0.05	0.08			99.4	TP,	light-gray ls, no dikes
18-1	LS 21	Breezy Bay	SC	30.5@0	0.25	0.59	0.11	54.0	1.00	0.07	43.27	0.05	0.07			96.4	TP,	sheared ls, calc stringers
18-1	LS 22	Breezy Bay	SC	33.5@0	0.18	0.63	0.15	55.3	0.44		42.63	0.03	0.05			98.7	OC,	white, chalky ls, minor fest
18-1	LS 9	Breezy Bay	SC	45.7@1	0.25	0.50	0.13	55.6	0.45		42.77	0.07	0.04			99.2	TP,	ls w/silty layers, fest
19-1	LS 36	View Cove	SC	30.5@1	1.17	1.02	0.23	52.1	1.23		43.09	0.12	0.15			93.0	TP,	View Cove Quarry
19-2	LS 37	View Cove	SC	30.5@1	1.88	0.77	0.13	49.9	3.37		42.06	0.10	0.07			89.1	TP,	View Cove Quarry
19-3	LS 38	View Cove	SC	21.3@1	1.17	1.14	0.19	53.5	0.99		41.76	0.11	0.15			95.5	TP,	View Cove Quarry
19-4	LS 39	View Cove	SC	31.1@1	1.19	0.6	0.13	53.7	0.53		42.69	0.01				95.9	TP,	View Cove Quarry
19-5	LS 44	View Cove	SC	35.4@1	0.16	0.43	0.07	54.8	0.43		42.55	0.01	0.01			97.8	TP,	View Cove Quarry
19-6	LS 43	View Cove	SC	22.9@0	0.27	0.55	0.05	54.5	0.50		42.35	0.25	0.05			97.3	TP,	View Cove Quarry
19-7	LS 42	View Cove	SC	31.7@1	0.36	0.57	0.10	54.0	0.60		43.06	0.05	0.08			96.4	TP,	View Cove Quarry
19-8	LS 41	View Cove	SC	30.5@1	0.22	0.49	0.09	54.0	0.51		42.73	0.01	0.02			96.4	TP,	View Cove Quarry
19-9	LS 40	View Cove	SC	30.5@1	0.35	0.66	0.11	54.3	0.55		42.68	0.05	0.05			96.9	TP,	View Cove Quarry
19-1	LS 23	View Cove	SC	45.7@1	0.18	0.61	0.09	54.7	0.51		42.66	0.04	0.06			97.7	OC,	fg ls along road, chalky
19-1	LS 24	View Cove	SC	38.1@1	0.18	0.61	0.09	54.7	0.51		42.66	0.04	0.06			97.7	TP,	light-gray to buff ls, sheared
19-1	LS 45	View Cove	SC	22.9@0	0.05	0.34	0.04	55.2	0.44		42.13	0.01	0.01			98.6	TP,	gray, fractured ls, silty layers
19-1	LS 46	View Cove	SC	73.2@1	0.74	0.79	0.18	53.7	0.55		42.86	0.10	0.08			95.9	TP,	fg ls, gray, friable
20-1	LS 3	Oswego	SC	17.4@0	0.7	0.39	0.17	54.36	1.39	0.01	43.63	0.03				97.1	OC,	ls cg and white-gray ls
20-1	LS 5	Oswego	SC	10.7@0	1.02	0.23	0.15	52.6	2.68		43.52	0.03				93.9	OC,	near beach, ar layers
20-1	LS 6	Oswego	Grab	17.4@0	1.62	0.54	0.34	51.5	2.68		42.80					91.9	FL,	grab sample up creek
20-1	LS 7	Oswego	SC	17.1@0	0.34	0.25	0.09	55.2	0.72		43.50	0.03				98.6	OC,	msv ls, sheared,
21-1	LS 8	Coco Harbor	SC	24.4@1	1.19	0.39	0.13	54.0	0.59		42.96	0.06	0.01			96.4	OC,	marble w/minor tuff layers
22-1	M3	Dickman Bay	SC	61@.61	3.87	1.02	0.57	52	0.97	0.25	41.2	0.04	0.04			92.8	TP	
23-1	LS 1	Waterfall Bay	SC	61@3.0	0.50	0.51	0.19	54.0	2.28		42.31	0.05	0.08			96.4	OC,	fg to mg sucrosic marble
23-1	LS 2	Waterfall Bay	SC	24.4@0	0.54	0.56	0.14	53.4	1.97		43.16	0.09	0.10			95.3	OC,	white marble, minor py
23-1	LS 4	Waterfall Bay	SC	45.7@1	0.09	0.40	0.06	57.0	0.61		41.74	0.02	0.03			99.8	OC,	gray marble w/stylolites
23-1	LS401	Waterfall Bay	rep	91 X 18:	0.38	0.14	0.05	52.39	3.15	<0.02	43.6	<0.01	<0.05	<0.03	<0.01	93.54	OC,	fg to mg marble, calc blebs
23-1	LS402	Waterfall Bay	SC	46@1.5	0.38	0.13	0.06	54.61	1.21	<0.02	43.15	<0.01	<0.05	<0.03	<0.01	97.5	OC,	mottled marble, calc veins
24-1	LS 26	Grace Harbor	SC	24.4@1	0.16	0.57	0.25	41.8	11.10	0.12	44.80	0.03	0.05			74.7	TP,	white-gray-tan marble, dikes
25-1	LS 27	Gotsongni Bay	SC	36.6@1	0.70	0.72	0.20	52.7	0.96		43.02	0.08	0.07			94.1	TP,	banded marble, chl sc near

Appendix C-1. Analytical results for carbonate samples.

Ma p	Sampl e	Location	Sampl e	Sample size	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	SO_3	LOI	Na_2O	K_2O	P_2O_5	MnO	Titrate d	Sa m	Sample Description
26-1	LS 47	Cleva Bay	SC	31.1@1	1.59	0.78	0.15	54.0	2.27		40.74	0.11	0.12			96.4	OC,	gray/white marble, schistose
26-1	LS 48	Cleva Bay	SC	91.4@6	0.28	0.39	0.07	56.3	0.55		42.49	0.04	0.05			99.7	OC,	white-gray marble, no impurit
26-1	LS 49	Cleva Bay	SC	76.2@3	0.3	0.42	0.07	56	1.23		42.04	0.04	0.06			99.4	OC,	white marble
26-1	LS404	Cleva Bay	rep	38	0.73	0.22	0.08	54.74	0.62	0.08	43.02	0.01	<0.05	<0.03	<0.01	97.73	OC,	mottled marble, near creek
27-1	LS 29	Elbow Bay	SC	33.5@1	0.44	0.80	0.11	54.6	0.55		42.48	0.09	0.10			97.5	TP,	banded white-gray marble
27-1	LS 30	Elbow Bay	Rep	43@3.0	0.26	0.62	0.09	54.0	0.82		42.74	0.04	0.05			96.4	TP,	coarse marble, few dikes
27-1	LS 31	Elbow Bay	SC	30.5@1	0.22	0.60	0.07	54.8	0.51		42.17	0.05	0.05			97.8	TP,	clean marble, isolated dikes
27-1	LS 32	Elbow Bay	SC	22.9@1	0.21	0.52	0.09	53.4	1.26	0.07	43.15	0.03	0.05			95.3	TP,	near LS31, pure white
27-1	LS 33	Elbow Bay	SC	32@1.5	0.47	0.79	0.32	41.9	11.10	0.30	44.45	0.09	0.12			74.8	TP,	light-dark gray, local fest
27-1	LS 34	Elbow Bay	Rep	152@7.	0.31	0.55	0.10	54.3	0.86		42.44	0.05	0.06			96.9	OC,	white marble, joints, dikes
27-1	LS 35	Elbow Bay	SC	79.2@3	1.60	0.85	0.25	50.7	1.52		42.74	0.11	0.12			90.5	OC,	gray marble, sed layers
28-1	LS101	American Bay	SC	19@0.9	7.98	1.86	1.32	47.3	3.07	0.08	38.86	0.14	0.37	0.02	0.04	84.4	OC,	foliated w/mica beds
29-1	LS301	Anan Creek	Rep	85	12.3	1.56	0.19	45.66	2.09	0.04	36.83	0.29	0.53	0.1	0.02	81.45	OC,	crystalline marble, dikes
29-1	LS302	Anan Creek	Rep	62	1.09	0.16	0.01	51.47	3.39	<0.02	43.07	0.02	<0.05	0.11	<0.01	91.89	OC,	cg marble
30-1	LS303	Curio (Marble (	Rep	25	7.85	1.08	0.67	28.83	18.35	0.04	42.07	0.01	0.06	0.12	0.03	51.47	TP,	micritic ls, mica beds
30-1	LS304	Curio (Marble (	Rep	15	2.42	0.68	0.41	30.69	19.98	0.03	45.21	0.02	<0.05	0.06	0.02	54.79	TP,	dirty, banded marble
30-1	LS305	Curio (Marble (	Rep	23	0.67	0.20	0.21	31.10	20.49	<0.02	46.13	0.02	<0.05	0.1	0.01	55.52	TP,	msv white marble, dikes

Table C-2. Brightness results from selected carbonate samples.

Location	Map No.	Sample No.	Brightness %
Lab Bay	1-1	LS414	71.28
Calder Quarry	2-1	LS161	94.25
Calder Quarry	2-2	LS160	94.50
Calder Quarry	2-3	LS159	93.70
Calder Quarry	2-3	LS411	92.23
Calder Quarry	2-4	LS162	94.00
Calder area	2-5	LS409	84.62
El Capitan	3-1	LS407	89.74
El Cap road	4-1	LS413	62.29
Edna Bay	7-22	LS406	78.86
Port Alice	12-18	LS405	73.74
Cleva Bay	26-1	LS404	88.91

APPENDIX D. SUMMARY TABLE FOR CARBONATE/BUILDING STONE LOCATIONS

PROSPECT TABLE ABBREVIATIONS

MAP NO.:

Refers to prospect and sample numbers depicted on figure 74.

LOCATION:

Quadrangle number, 15-minute sheet number, 1/4 section, township, range

LAND STATUS:

N Native
S State
OF Open Federal
CF Closed Federal
P Private (mineral survey number listed)

DEPOSIT TYPE:

Limestone, marble, dolomitic limestone or building stone

WORKINGS:

P(s) Pit(s)
OC Outcrop
T Trench
Adit

PRODUCTION:

NA Not Applicable

BUREAU WORK:

M Mapped
S Sampled

SELECT REFERENCES:

Numbers refer to items listed in the bibliography.

MDP (mineral development potential): All mines, prospects and occurrences examined are classified according to the following criteria, based on resources and grades of mineralization.

H High grades and probable continuity of mineralization exist. The property is likely to have economically mineable resources under current economic conditions. A high potential exists for developing tonnage or volume with reasonable geologic support for continuity of grade.

M Either a high grade or continuity of mineralization exists, but not both. Mineralization is confined by geology, structures and/or grades are overall low and tend to stay that way. It could serve as a material source if economics were not a factor, but is presently uneconomic at existing conditions.

L The property exhibits uneconomic grades and/or little evidence of continuity of mineralization. There is little or no obvious potential for developing ore resources or it is an insignificant source of the material of interest.

Appendix D-1. - Summary table for carbonate/building stone locations.

Map No	Name	Location	Land Status	Deposit Type	Workings	Production	Significant Results	Bureau Work	Select References	MDP
1	Laboucher e Bay	117B-5, NW30 64S 76E	OF	Limeston e	P	NA	98.54% CaCO3 across 46 m	S	582	L
2	Calder	117A-5, SW2 66S 77E	P:MS 542, 701, 1050, 1051, 1053, 1059	Building stone: marble	Quarries (5), drill holes	Several shipments between 1901-1910 (455)	Titrated CaCO3 averaged 98.17%; Brightness to 94.5%; Sealaska drilled the high brightness material	M, S	329, 383, 444, 455	H
3	El Capitan	117A-5, 3,4,9 66S 78E	P: MS 1010	Building stone: marble	Quarry (1)	Shipped 13 mt sawed marble to Seattle (383)	Ave CaCO3: 98.33%	S	455, 329	L
4	El Cap Road	117A-4, SE7 66S 79E	OF	Limeston e	P	NA	Sample contained 97.45% CaCO3	S	NA	L
5	Whale Pass	117A-4, NW14 66S 79E	OF	Limeston e	P	NA	Sample contained 98.73% CaCO3	S	NA	L
6	Tokeen	119D-5, S2 68S 77E	P: MS 927	Building stone: marble	Quarries (8)	$797,214	CaCO3 values ave 99.35%	M, S	383, 329, 455	M
7	Edna Bay	119D-5 & 6, 76S 68S	P: Paten t No. 11289 02	Limeston e	Drilling	NA	CaCO3 values between 91.47 - 98.71%; average 97%	S	329, 99, 644	L-M
8	Limestone Point	119D-5, SE13 68S 76E	OF	Limeston e	OC	NA	CaCO3 values to 97.27%	S	582, 329	L
9	Orr Island (Mission Marble)	119D-5, NW19 68S 78E	OF	Building stone: marble	Quarry (1)	One shipment to San Francisco in 1913 (455)	One sample taken contained 98.93% CaCO3	M, S	329, 455	L
10	Eagle Island	119D-5, NW17 69S 77E	OF	Limeston e	OC	NA	Sample contained 97.7% CaCO3	S	329	L
11	Cap Island	119D-5, SE18 69S 78E	OF	Limeston e	OC	NA	Sample contained 97.3% CaCO3	S	329	L
12	Heceta Island/Port Alice	119D-5, 70S 77E	OF	Limeston e	P	NA	Samples average 97.1% CaCO3	S	444, 455, 329	L-M
13	Wadleigh Island	119C-4, Sec. 5-8, 17,18, 73S 81E	P: MS 2201; N	Limeston e	P	NA	Titrated CaCO3 to 98.27%	S	444, 582	L
14	Beaver Creek	119B-2, SW10 76S 84E	N	Limeston e	P	NA	Samples contain from 94% to 96.16% CaCO3	S		L
15	Lancaster Cove	119A-1, SW6 77S 89E	OF	Marble	P	NA	Titrated CaCO3 ranges from 94.96% to 96.1%	S	329	L

Appendix D-1. - Summary table for carbonate/building stone locations.

Map No	Name	Location	Land Status	Deposit Type	Workings	Production	Significant Results	Bureau Work	Select References	MDP
16	Dolomi (American Coral Marble Company)	119A-1, E6 S5, 78S 89E	P: MS 730, 895; N	Building stone: marble	T, P, C	9-11 mt marble shipped in 1904 (455)	Titrated CaCO3 to 89.87%, MgO to 6.52% in Dolomi; 96.39% CaCO3 at Scraggy Point	S	455, 329	L
17	Baldwin (North Arm, Moira Sound)	119A-1, S11 79S 87E	P: MS 946, 947	Building stone: marble	Adit: 41 m, quarry	Marble cut but not shipped	Titrated CaCO3 to 92.2%, SiO2 to 3.39%	S	455, 327	L
18	Breezy Bay	119A-4, NE5 78S 82E	N	Limeston e	OC, P	NA	Four samples contained greater than 97% CaCO3	S	327, 444	L-M
19	View Cove	119A-4, NW26 78S 81E	P: MS 1556, 1566, 1567, 2231	Limeston e	Quarry; adit: 43 m	1.34+ M mt cement-grade chips produced	CaCO3 averaged for 12 samples: 97.1%	S	611, 444, 256, 644, 327	L-M
20	Oswego	119A-4, SE28 78S 82E	OF, N	Limeston e	OC, Drill holes	NA	Drilling: hundreds of feet high-purity ls. 3 samples from 95.5 - 98.2% CaCO3	S	327, 444	L-M
21	Coco Harbor	119A-4, NE4 78S 81E	N	Marble	OC	NA	93.4% CaCO3, 0.59% MgO, 1.19% SiO2	S	444, 327	L
22	Dickman Bay	119A-1, E6 78S 89E	P: MS 946, 947	Building stone: marble	Quarry	Shipment of 68 mt around 1912 (455)	Titrated CaCO3 to 92.6%, high SiO2 content	S	327, 455	
23	Waterfall Bay	121D-4, SW10 80S 82E	OF	Marble	OC	NA	Ave 97.8% CaCO3	M, S	441, 444, 327	L
24	Grace Harbor	121D-3, SE20 80S 83E	N	Marble	P	NA	Titrated CaCO3 content to 73.4%	S	327, 99	L
25	Gotsongni Bay (Shoe Inlet)	121D-3, S20 80S 84E	N	Marble	OC	NA	Sample contained 96.8% CaCO3, 0.96% MgO, 0.70% SiO2	S	327	L
26	Cleva Bay	121D-3, NW21 80S 84E	P: MS 2237	Marble	OC	NA	2 of 3 samples contained > 98% CaCO3	S	327, 444	L
27	Elbow Bay	121D-3, SW36 80S 84E	N	Marble	OC	NA	Samples contained 96.2 - 99% CaCO3	S	327	L-M
28	American Bay	121D-3, SW14 81S 84E	OF	Marble	P	NA	Titrated CaCO3 content to 84.4%	S	329, 99	L
29	Anan Creek	118A-6, SW25 NW36, 65S 87E	OF	Ls	OC	NA	Titrated CaCO3 to 91.8%	S	98, 99, 47	L
30	Curio (Marble Creek)	120C-4, NW28 73S 93E	P: MS 1462	Dolomitic limestone	Quarries	NA	Average CaCO3: 53.74%; MgO to 20.5%;	S	47	L

APPENDIX E. SAND AND GRAVEL ENGINEERING RESULTS

Sand and gravel samples were taken from selected locations in the Ketchikan Mining District. These samples were analyzed for several engineering qualities including: specific gravity, absorption, LA abrasion, Alaska degradation, sieve analysis, percent moisture, and unit weight as received. These tests were conducted according to methods prescribed by the American Society for Testing and Materials (ASTM). The tests were only performed when material requirements were satisfied by the sample.

TABLE E-1.- Sand and gravel engineering test results.

Sample SG100 (Cape Pole):

Bulk specific gravity (coarse):	2.63
Apparent specific gravity (coarse):	2.72
Apparent specific gravity (fine):	2.69
Absorption (coarse):	1.25%
LA abrasion value:	23
Alaska degradation value:	27
Unit weight of aggregate:	1,922 kg/m^3

Sieve Analysis of Fine and Coarse Aggregate

Screen Size	Coarse Fraction % Passing	Fine Fraction % Passing
2"	99	
1 1/2"	95	
1"	91	
3/4"	86	
1/2"	77	
3/8"	69	
#4		49
#8		31
#20		11
#40		7.1
#60		5.4
#80		4.6
#200		3.4

Sample SG200 (Salmon River): 4 splits

LA Abrasion (ASTM C-131): 17-18

Degradation (ASTM T-13): 79-82

Absorption (AASHTO T-85): 1.4-2.1

Unit weight: 2058 kg/m^3

Sieve Analysis

Screen Size	% Passing
4"	100
3"	94
2"	78
1 1/2"	68
1"	56
3/4"	47
1/2"	40
3/8"	35
#4	27
#10	21
#40	10
#200	2

Sample SG 201 (9-mile Hyder Rd): 4 splits

Degradation (ASTM T-13): 10-27

Absorption (AASHTO T-85): 1.35-1.87

Unit weight: 1,902 kg/m^3

Sieve Analysis

Screen Size	% Passing
3"	100
2"	95
1 1/2"	91
1"	86
3/4"	79
1/2"	71
3/8"	66
#4	55
#10	39
#40	18
#200	3

Sample SG 202 (Steelhead Creek): 6 splits taken to characterize material. The sample was too fine-grained to test for degradation and abrasion. The unit weight shown here is a weighted average obtained from tests on individual splits.

Unit weight of aggregate: 1,842 kg/m^3

Absorption (AASHTO T-85): 1.19-2.00

Sieve Analysis

Screen Size	Coarse Fraction: % Passing	Fine Fraction: % Passing
3"	100	
2"	89	
1 1/2"	86	100
1"	79	97
3/4"	74	91
1/2"	67	85
3/8"	63	78
#4	55	68
#10	40	59
#40	8	25
#200	2	2

Figure 5. – Prospect and sample numbers within known mineral deposit areas (KMDAs), and mineral localities/reconnaissance sample locations outside KMDAs.

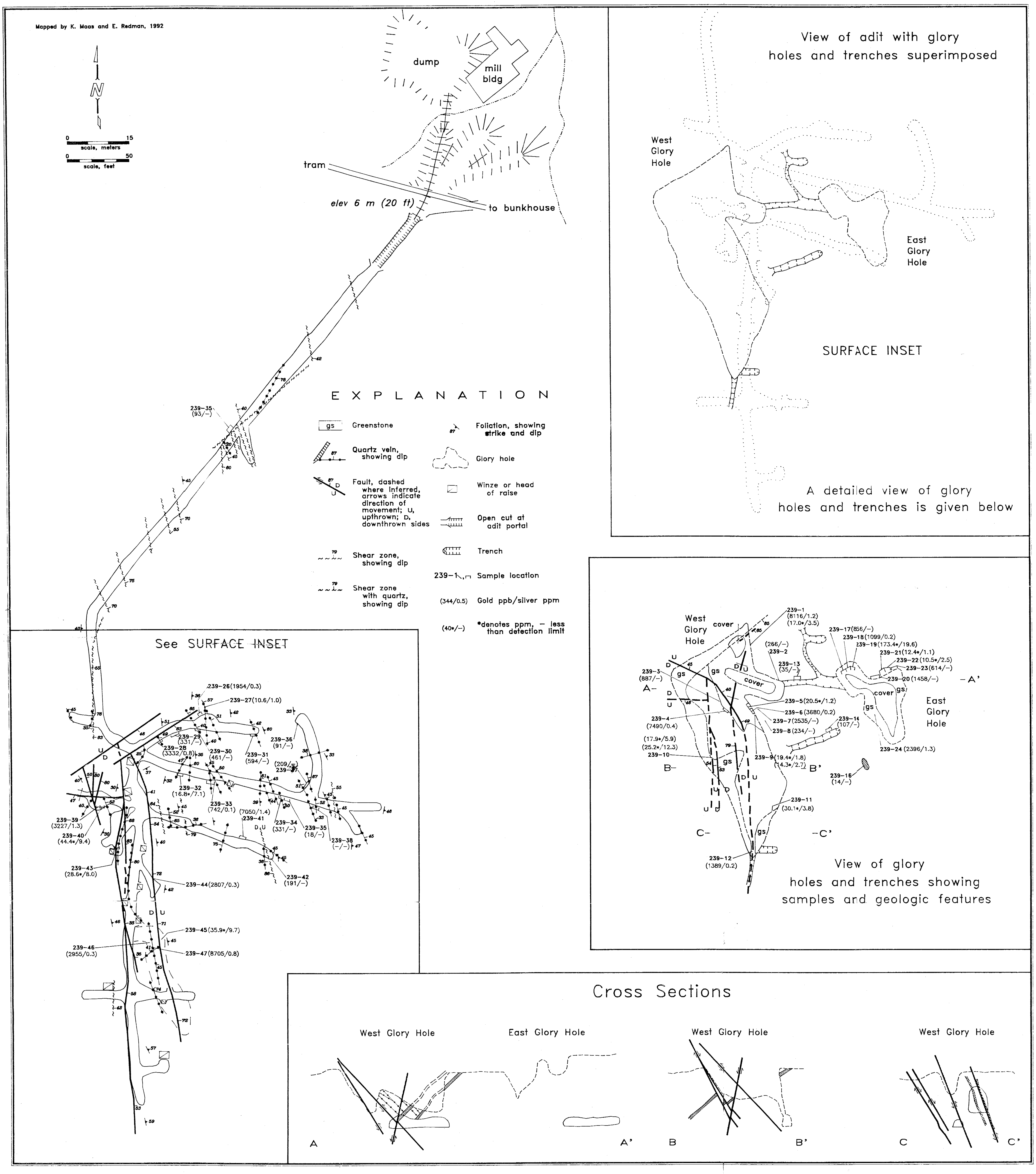

Figure 47. – Gold Standard Mine, showing geology, cross sections and sample locations.

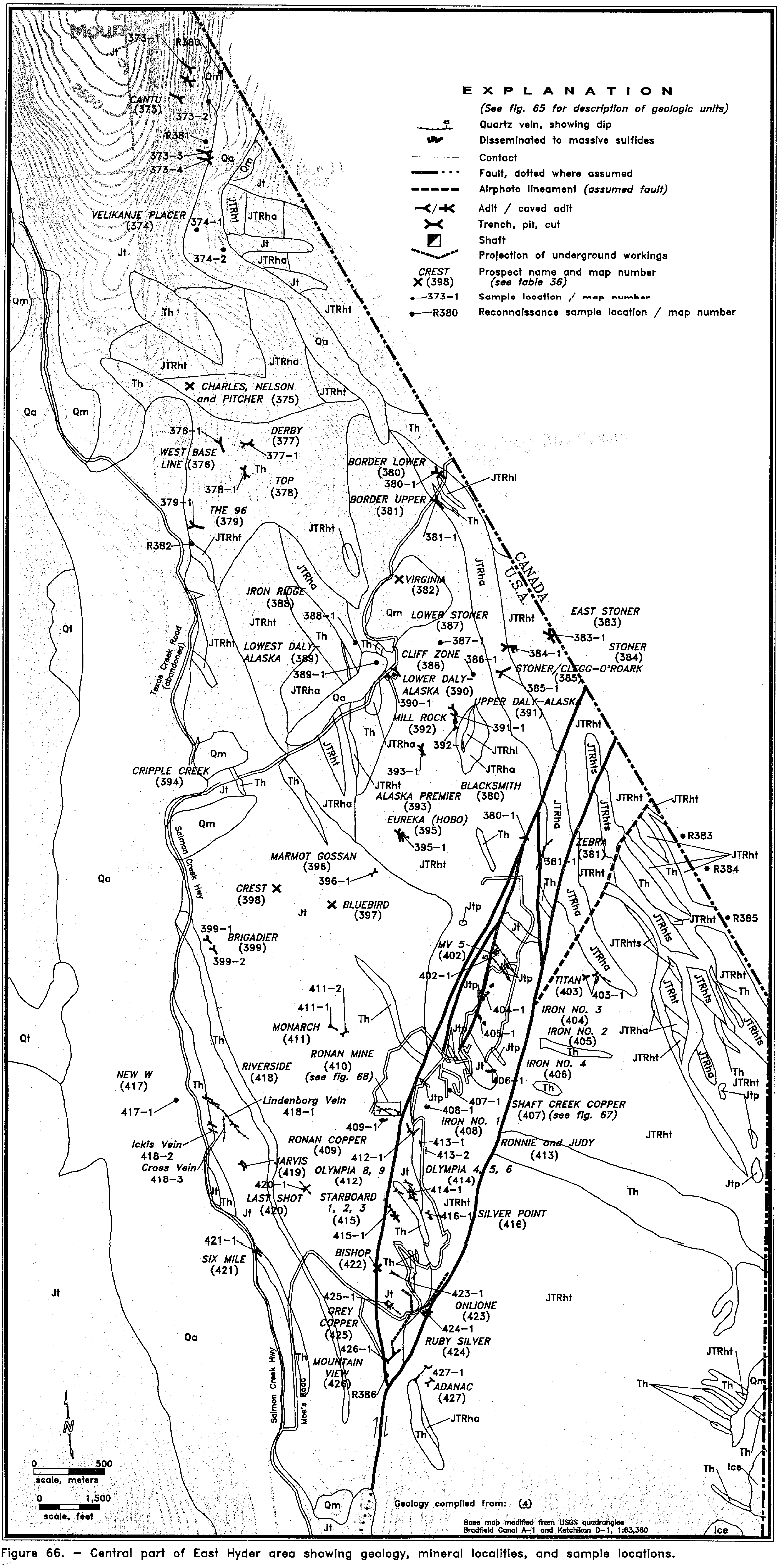

Figure 66. — Central part of East Hyder area showing geology, mineral localities, and sample locations.