MINERAL INVESTIGATIONS IN THE KETCHIKAN MINING DISTRICT, ALASKA, 1990: SOUTHERN PRINCE OF WALES ISLAND AND VICINITY

Preliminary Sample Location Maps and Descriptions

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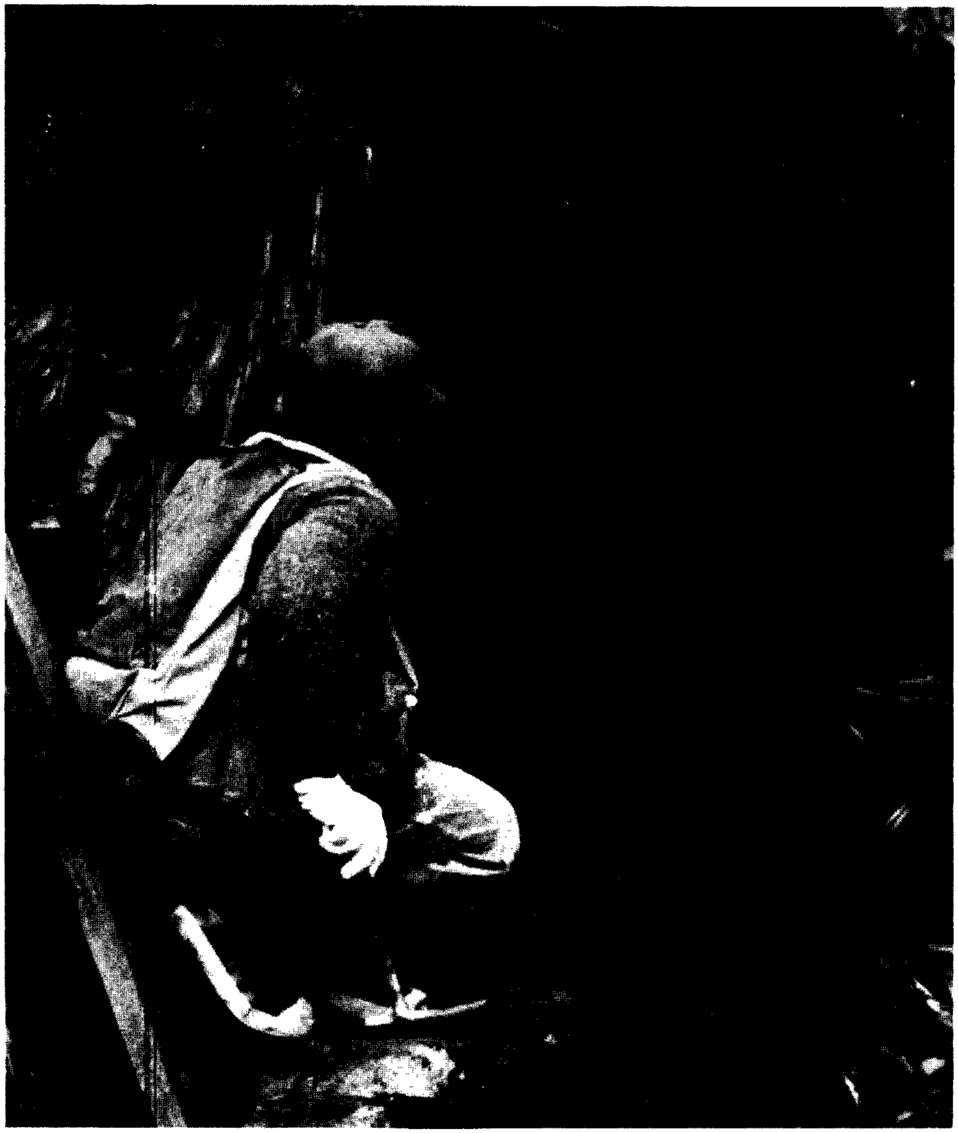

U. S. DEPARTMENT of the INTERIOR
Manuel Lujan Jr., Secretary

BUREAU of MINES
T S Ary, Director

OFR 33-91

Cover photo: Bureau employee peers into Powell Adit, Khayyam Mine, Prince of Wales Island.

CONTENTS

ILLUSTRATIONS

TABLES

UNIT OF MEASURE ABBREVIATIONS USED IN THIS REPORT

°..............degree
lb..............pound
Ma..............million years before present
MM..............million
ppm..............part per million
ppb..............part per billion
ton..............short ton
yd³..............cubic yard

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By Kenneth M. Maas[1], Jan. C. Still[2], Albert H. Clough[3], and

Lynn K. Oliver[4]

ABSTRACT

The U.S. Bureau of Mines began a five-year study of the 7.0 million acre Ketchikan Mining District during 1990. This study is part of the Bureau's ongoing statewide mining district evaluation program. The study area was subdivided and then prioritized by mineral potential into work units. Bureau field work in 1990 focused on the southern portion of Prince of Wales Island and vicinity. Extensive mineral resources have been mined historically in the area and are presently being evaluated by private industry.

Information in this report is based on an extensive literature search and Bureau field work. Over 150 mines, prospects, and mineral occurrences were visited in 1990; an aggregate of 1,300 rock, placer, and limestone samples were taken; and nearly 3 miles of underground workings were mapped. Many prospects, some untouched for more than 80 years, were mapped and sampled. High metal values at several prospects were confirmed by Bureau sampling. Reconnaissance sampling along logging roads on Southern Prince of Wales Island revealed mineralized areas not previously recorded. Follow-up work at many locations is planned for the 1991 season.

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INTRODUCTION

The U.S. Bureau of Mines (Bureau) initiated a five year study of the Ketchikan Mining District (KMD) in 1990. The KMD study is a cooperative effort involving the Bureau and the Alaska Division of Geological and Geophysical Surveys (ADGGS). Project objectives are to identify the type, amount, and distribution of mineral deposits in the district, determine mineral resources, study beneficiation technologies for the ore, conduct feasibility studies, create geologic and metallogenic maps, and address economic and legislative effects on mineral development in the area.

This is the second mining district study undertaken by the Bureau in Southeast Alaska. The recently completed Juneau Mining District Study focused on the premier lode-gold producing region in the State. The KMD contains a significant number of historic mines which have produced gold, silver, copper, lead, zinc, tungsten, iron, platinum group metals, uranium-oxide, limestone, and building stone. Deposit types present include copper-gold skarns, volcanogenic massive sulfides, vein gold, polymetallic vein, magmatic oxides and sulfides, and magmatic uranium.

There are many reasons why the Bureau chose to study the KMD. Government agencies, including the U.S. Geological Survey (USGS), ADGGS, and the Bureau, have defined several areas of high mineral potential in the KMD. Next to the Juneau Mining District, the KMD contains the highest mineral development potential in Southeast Alaska. The U.S. Forest Service (USFS), which is currently rewriting a management plan for the Tongass National Forest, recommended this district for Bureau study. There is significant industry activity in the district and coupled with the presence of the world-class Quartz Hill molybdenum deposit located in Misty Fiords National Monument, gave priority to the district for Bureau study.

The Bureau apportioned the 7 million acre KMD into four study areas roughly based on USFS management boundaries. In 1990, Bureau efforts were concentrated within the Craig Ranger District (CRD) of the Tongass National Forest, and consisted of detailed examinations of nearly 150 mines, prospects, and occurrences on Southern Prince of Wales Island and vicinity (fig. 1). Many prospects, some untouched for more than 80 years, were mapped and sampled. This report summarizes Bureau work and analytical results from 1990 and is the first of four annual "data dumps" planned for the KMD. A final report containing detailed mine maps and mineral resource estimates for deposits on Prince of Wales Island and vicinity will be published after 1991 field work is completed. A comprehensive report detailing Bureau work accomplishments and interpretive resource information for the entire KMD study area will be published after the 1993 field season.

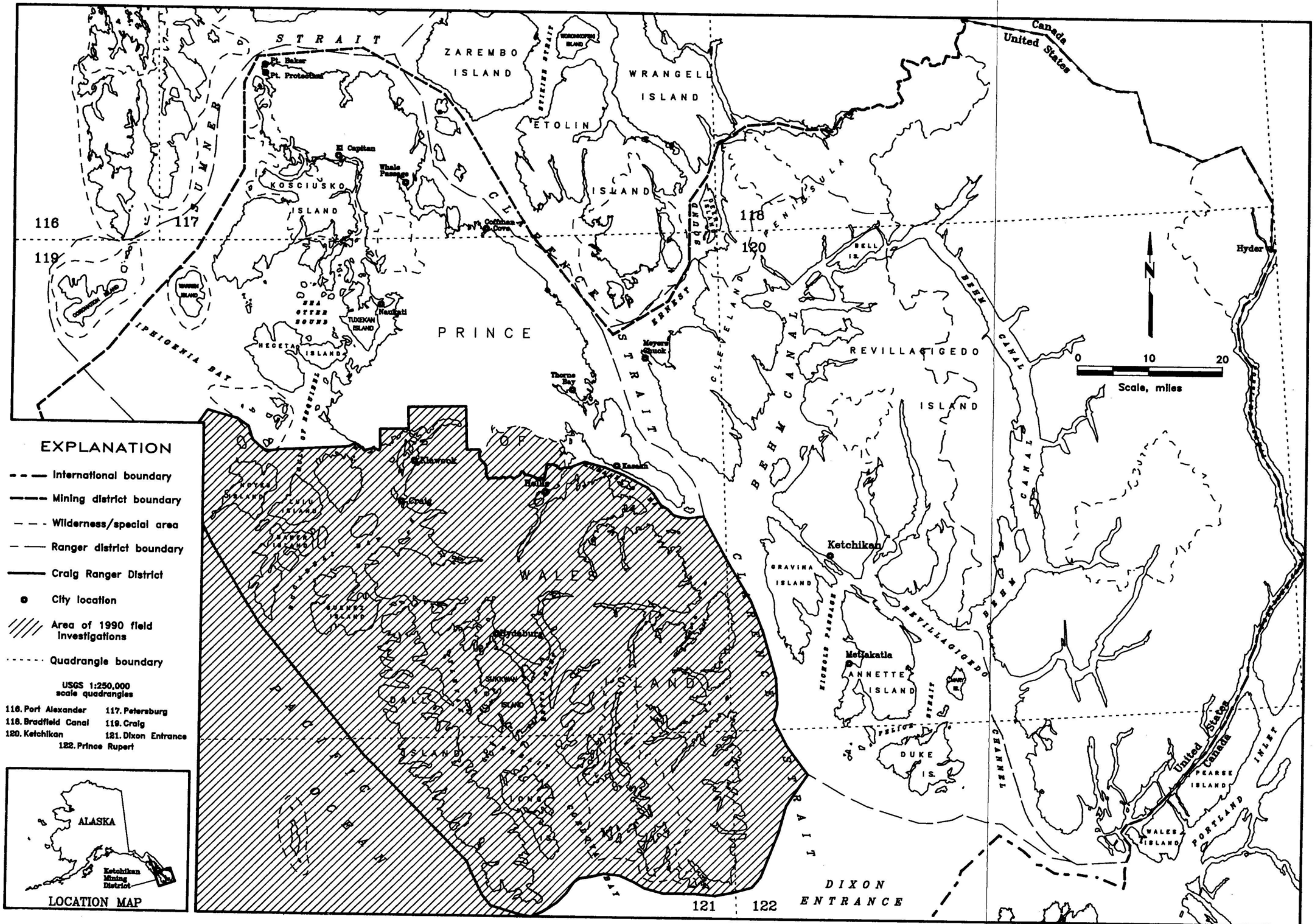

Figure 1. – Location of Ketchikan Mining District.

LOCATION AND ACCESS

Location of 1990 field investigations and Craig Ranger District boundaries are shown on Figure 1. The area of investigation encompasses the southern half of Prince of Wales Island defined by a line bisecting Kasaan Bay and traversing west to include Big Salt Lake and all of San Alberto Bay, San Fernando Island, Lulu Island, Noyes Island, and other islands to the south. The Bureau further subdivided the area of 1990 investigations into three subareas, hereafter referred to as the Craig, Dall Island, and Southeast Prince of Wales Island subareas (fig. 2). The Craig subarea extends beyond the CRD boundaries near Flagstaff Creek to include the recently designated Karta Wilderness Area . The Dall Island subarea also includes the Forrester Island Wilderness which lies outside USFS management boundaries.

The first-class cities of Craig, Klawock, and Hydaburg are located within the study area. Population estimates for these communities as of December 15, 1990, are 1,535, 897, and 457, respectively, *(1)*[5]. Fishing and logging are the major commercial enterprises in these communities. Hollis is an unincorporated community with approximately 191 full-time residents *(84)*. Klukwan, Inc. operates a fully integrated logging camp and community supporting approximately 300 persons on the northwest corner of Long Island. Floating (nonpermanent) logging camps are located at Lancaster Cove, Dolomi, and Dora Bay.

The Alaska Marine Highway System operates a ferry terminal at Clark Bay, adjacent to Hollis. Daily service to and from Ketchikan is available during the summer season. A paved airstrip accommodating small aircraft is located near Klawock. Float planes service Craig, Klawock, Hydaburg, and Long Island on a scheduled basis from Ketchikan. Boat moorage is available in these communities, and basic supplies can be obtained in Craig and Klawock. Ketchikan is the most diverse supply depot in the KMD, serving a population base of 13,259 persons, and is located about 15 miles east of Prince of Wales Island (fig. 1).

An extensive logging road network is established on the northern two-thirds of Prince of Wales Island and the northern half of Long Island (fig. 2). Smaller road networks are found near View Cove on Dall Island; at Dolomi, Lancaster Cove, and Dora Bay on Southeast Prince of Wales Island; and on Suemez Island. Paved roads connect Hollis with Klawock and Craig.

The most practical method of accessing high elevation prospects is by helicopter, as dense brush and infrequent trails

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[5]Italicized numbers in parentheses refer to list of references preceding the appendices.

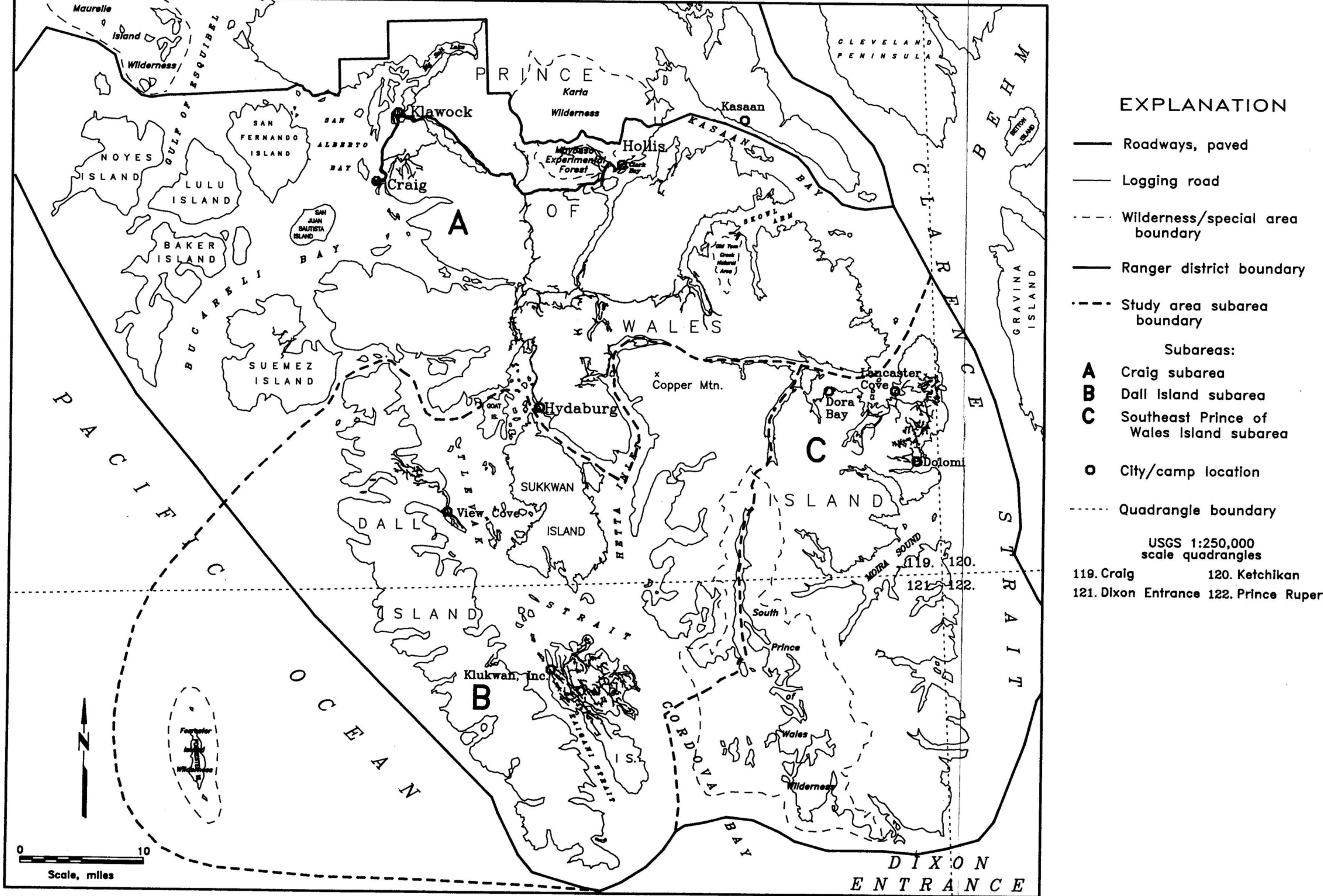


Figure 2. — Map showing area of 1990 field investigations

inhibit foot traverses. At times however, even helicopter access is hindered by dense timber and brush. Shallow draft boats and float planes facilitate access to shoreline prospects (fig. 3).

PHYSIOGRAPHY AND CLIMATE

The physical geography of Southern Prince of Wales Island and vicinity varies from lowlands dominated by muskeg, thick brush, and forests to rugged, glacially carved peaks ascending to a maximum elevation of 3,996 feet west of Pin Peak. Portions of the study area are virtually unexplored because of excessive muskeg (e.g. Sukkwan and Goat Island) and inaccessibility (west side of Dall Island). Treeline extends to approximately 2,500 feet elevation and areas above this offer good rock exposure, although thin soil horizons may be developed.

Vegetation in the lowland areas varies between muskeg and thick brush to fully developed rain forests. These forests contain Sitka spruce, red and yellow cedar, and western hemlock which are logged commercially, as well as alder, willow, blueberries, and devil's club. The muskegs contain a unique stunted flora quite different from the forest. Abundant deadfall occurs along the banks of streams at low elevations which hinders foot traverses.

Climatological data is collected in Hydaburg and should be representative of conditions at low-lying elevations throughout the study area. Mountainous terrain is subject to more extensive rainfall and clouds enshroud these areas for long periods of time.

Average annual precipitation can amount to 118 inches and is generally associated with winds originating from the southeast at all times of the year (*73*). Daily and seasonal temperature variations are minimal compared to other parts of Alaska because of the dominant marine influence. Temperatures range from an average of 23°F in December, to 60°F in July and August. June and July are the months with lightest precipitation, averaging 4.95 inches of rain. October and November are the rainiest with precipitation averaging 18 inches each month. Large amounts of snow can fall in mountainous areas and persistent snow-cover can hinder exploration efforts until July. Some north facing slopes may hold snow until August. There are no glaciers in this area.

LAND STATUS

Land ownership in Southern Prince of Wales Island and vicinity is divided among the USFS, Native regional and village corporations, State of Alaska, U.S. Fish and Wildlife Service (USFWS), and private individuals (fig. 4).

The USFS manages the vast majority of the acreage in the study area. Most Forest Service land is open to mineral entry and claim

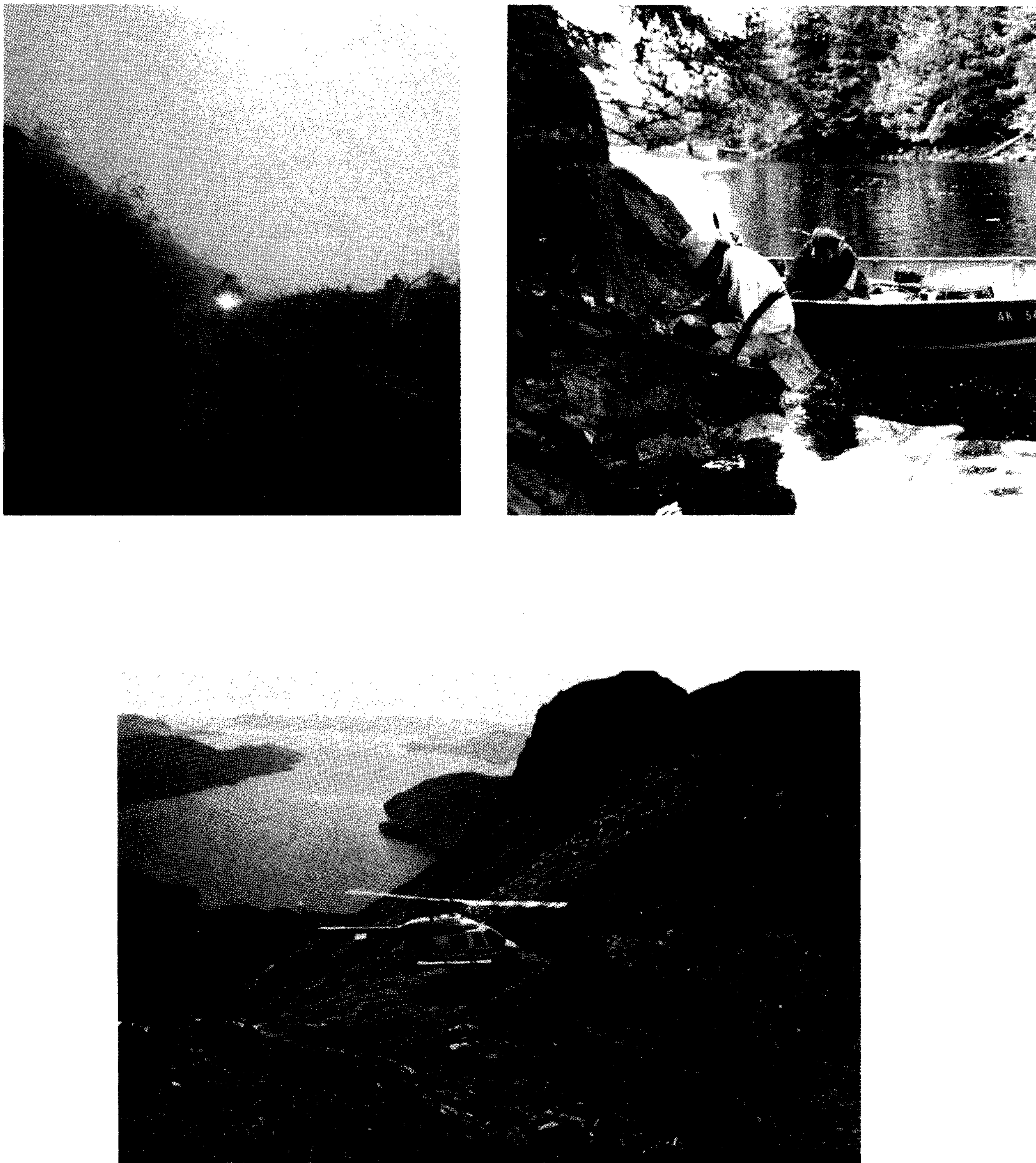


Figure 3. - Bureau personnel used a variety of transportation means to access properties.

Figure 4. – Generalized land status for Southern Prince of Wales Island and vicinity.

location, although townships surrounding native villages are closed to mineral entry by Public Land Order for eventual native selection. The Tom Creek Natural Area and the Maybeso Experimental Forest are also closed to claim staking. Included in USFS holdings are the South Prince of Wales Wilderness, and the recently created Karta Wilderness. These wilderness areas are closed to all forms of appropriation.

Native holdings are included within the Craig-Klawock, Kasaan, Hydaburg, Klukwan, and Angoon village withdrawals. Sealaska Native Regional Corporation holds title to the subsurface estate of these village corporation lands. Sealaska has also received full title to lands on Dall Island. The State of Alaska has selected minimal acreage in this portion of Southeast Alaska. The State's major role in the study area involves management of tide and submerged lands surrounding islands. The USFWS manages the Forrester Island National Wildlife Refuge and Wilderness located in the southwest portion of the study area.

Detailed land status information should be obtained from master title plats available from the U.S. Bureau of Land Management (BLM) in Anchorage, Alaska, or at the USFS offices in Juneau and Ketchikan prior to any mineral exploration program.

Numerous unpatented and patented mining claims are present in the study area. Location information for these claims can be obtained from State recorders offices in Juneau or Ketchikan, and from mineral survey plats available from the BLM and the USFS.

ACKNOWLEDGMENTS

The authors were ably assisted by Messrs. Peter Bittenbender, James Olsen, and Mark Longtine, seasonal employees, who aided in locating, mapping, and sampling the mines and prospects in the study area.

The authors gratefully acknowledge the cooperation and involvement of Sealaska Regional Corporation geologists Paul Glavinovich, David Hedderly-Smith, and Randy Wanamaker. Sealaska was evaluating the mineral potential on native lands in the study area and there were numerous occasions during 1990 when Bureau work overlapped and thoughtful discussions of area geology and mineral occurrences took place.

The Bureau thanks the USFS for the use of their widespread communications network in the Ketchikan area. This network enabled the Bureau to better track its activities. The USFS also provided lodging to Bureau employees at Lancaster Cove. Howard and Bobbie Bryant provided a touch of home during the Bureau's stay at View Cove, and Klukwan, Inc. provided many services to the Bureau during work on Long Island and in Grace Harbor. Board and logistical

support were provided by Aubuchon Logging Company at Lancaster Cove and by Reid Brothers Logging Company at Dolomi.

Many private companies and individuals shared information about their mineral properties with the Bureau. LAC Minerals USA, Inc. provided information on the Niblack, Ruby Tuesday, and Kaigani properties. George Moerlein, Bill Block, Eskil Anderson, and Red Dotson provided minerals information for a number of prospects in the area. Gary McWilliams, skipper of the M/V Hyak, provided excellent logistical support and helped find many prospects. Bob Sanderson, a Hydaburg native, shared many details of the local customs and also helped search for nearby prospects.

PREVIOUS STUDIES

Various workers from the USGS studied the geology and mineral deposits of the KMD during the early 1900s. The first report done by Brooks in 1902 *(7)* provided a preliminary review of the Ketchikan Mining District and an introductory sketch of Southeast Alaska geology. F.E. and C.W. Wright published the first summaries of yearly mining activities in the KMD for 1904-05 *(93, 94)*. C.W. Wright published the next two reports for 1906-1907 activities *(89, 90)*, and a summation report by both Wrights was done for activity up to 1907 *(95)*. Yearly summaries were done in 1908-1910, 1912-1917, and 1919 by various USGS geologists (C.W. Wright, *91*; A. Knopf, *50, 51*; A.H. Brooks, *9, 14, 15*; P.S. Smith, *74*; and T.S. Chapin, *21, 22, 23*).

C.W. Wright published a comprehensive investigation of the geology and ore deposits of Copper Mountain and Kasaan Peninsula, Alaska, in 1915 *(92)*.

Reports written about the nonmetallic minerals industry in the KMD include the reports by C.W. Wright *(89, 90)*, and E.F. Burchard *(19, 20)*. W.S. Twenhofel, J.C. Reed, and G.O. Gates published a report on the Lime Point barite deposit in 1945 *(80)*. J.C. Roehm described the high-calcium limestone deposits in Southeast Alaska in his 1946 work *(69)*, including potential resources on Long and Dall Islands.

During the 1930s and 1940s, J.C. Roehm, H.M. Fowler, and H.G. Wilcox of the Alaska Territorial Department of Mines performed site-specific and areawide investigations on many of the properties in the study area *(34, 60, 61, 62, 64, 65, 66, 67, 68, 70, 87)*.

During 1944, Bureau of Mines engineers W.S. Wright and W.L. Fosse investigated the Apex prospect as part of a war minerals study *(81)*. The Bureau investigated the molybdenum deposits on Baker Island in a draft war minerals report written by Holt and Thorne in 1943 *(47)*. A.W. Tolonen, a mining engineer for the Bureau, made a brief examination of the Flagstaff Mine to determine if enough copper, lead, and zinc are contained in the ore to constitute a strategic reserve (*79*). The geology and mineral deposits at Jumbo Basin were fully described by George Kennedy in a 1953 report (*49*). The Bureau established reserves at the magnetite cliff deposits near the Jumbo Mine in conjunction with Kennedy's work (*48, 96*).

A reconnaissance survey of uranium and thorium in Southeast Alaska was performed in 1952 and sampling at the Green Monster Mine and other Prince of Wales Island locations were highlighted in this work (*86*). The USGS constructed a reconnaissance total intensity aeromagnetic map of Southern Prince of Wales Island in 1956 (*71*). Many magnetic anomalies and associated exploration targets were discovered during this survey.

Gordon Herreid, geologist for ADGGS, mapped selected prospects in the Niblack (*41*), Dolomi (*42*), and Hollis areas (*45*) between 1964 and 1967. E.M. MacKevett of the USGS mapped the Bokan Mountain area (*53*) and the Ross-Adams Mine (*54*). M.H. Staatz of the USGS investigated the I and L prospect in 1976 (*75, 76, 77*) and T.B. Thompson reexamined the Bokan Mountain deposits in 1980 (*78*). J. Bufvers compiled a historical perspective on mines and prospects in the Ketchikan Mining District in 1967 (*18*).

The geology of all or parts of the KMD has been included in several reports. After Brooks' initial work (*7*), Buddington and Chapin described the geology and mineral deposits of Southeast Alaska (*17*) in 1929. This comprehensive work provided the basic framework for subsequent geologic reports until 1961. In 1961, W.H. Condon mapped the Craig quadrangle and described the geology and mineral resources (*29*). The State of Alaska mapped and sampled the Craig A-2 quadrangle during 1970-1972 and published three reports summarizing this work. Two publications discuss geochemical results of rock and stream sediment samples (*43, 46*) and a final report on the geology and geochemistry of this quadrangle was published in 1978 (*44*).

E.H. Cobb prepared mineral resource maps for the Craig and Dixon Entrance quadrangles in 1972 (*24, 25*) and then summarized highlights for individual properties in two 1978 publications (*26, 27*). H.C. Berg compiled a comprehensive location map and brief summaries of mineral properties of Southeast Alaska in 1984 (*3*).

Two masters theses have been written by students at the University of Alaska-Fairbanks about individual prospects in the study area. In 1975, Bradley C. Peek published a thesis detailing the geology and mineralization of the Niblack Anchorage area (*57*). Russell M. Kuscinski published a similar work on the Ruby Tuesday prospect area in 1987 (*52*).

G.D. Eberlein and M. Churkin compiled a geologic map of the Craig quadrangle in 1983 *(30)*. Gehrels and Saleeby published a report on the geology of Southern Prince of Wales Island *(39)* and Gehrels published a map of the geology of Long and Dall Islands in 1990 *(36)*. Gehrels' work provided a definitive date for the Kaigani orthogneiss (554 $\pm$ 4 Ma) which intrudes Wales Group rocks on Dall Island *(35)*. This discovery dates Wales Group rocks at least as old as mid-Cambrian. Figure 5 describes the status of geologic mapping in the area.

From 1983 to 1987, Bureau of Mines engineers and geologists investigated uranium and rare earth element (REE) prospects and occurrences throughout a belt extending south from Dora Bay to Stone Rock Bay *(2, 85)*.

D.A Brew, L.J. Drew, et al, recently published a report which attempts to identify different probability levels of undiscovered locatable mineral resources remaining in the Tongass National Forest and adjacent lands *(5)*. This report has application in the KMD.

HISTORY AND PRODUCTION

The Southern Prince of Wales Island area and vicinity has experienced extensive mineral exploration and production activities since the initial discoveries in 1897. The following summary highlights the most noteworthy events in the study area arranged chronologically by date of discovery. Properties with similar genesis are grouped together when detailed information is lacking.

The first recorded mineral activity in Southern Prince of Wales Island and vicinity occurred in 1897 with the discovery of copper-gold skarn deposits at Jumbo Basin and Copper Mountain. The Alaska Industrial Co. and Alaska Copper Co. were formed to develop the Jumbo (fig. 6) and Copper Mountain mines, respectively. These two mines produced more than 10.4 MM pounds of copper, 98,000 ounces of silver, and 7,200 ounces of gold by 1923. Several other skarn deposits were discovered around the periphery of the Copper Mountain pluton (Hetta Mountain, Campbell, Mount Jumbo, Billie Mountain, and Gould Island), but these did not support work over a period of years (except Green Monster Mountain, which became a world-class epidote crystal location).

A smelter was constructed at Coppermount in 1905 to process the ores from Copper Mountain. This smelter was one of two smelters ever built in Alaska; the other is located at Hadley on the north shores of Kasaan Peninsula, east of the study area. The Coppermount smelter operated for two years before closure due to lack of ore feed.

The Copper City massive sulfide deposit was discovered along

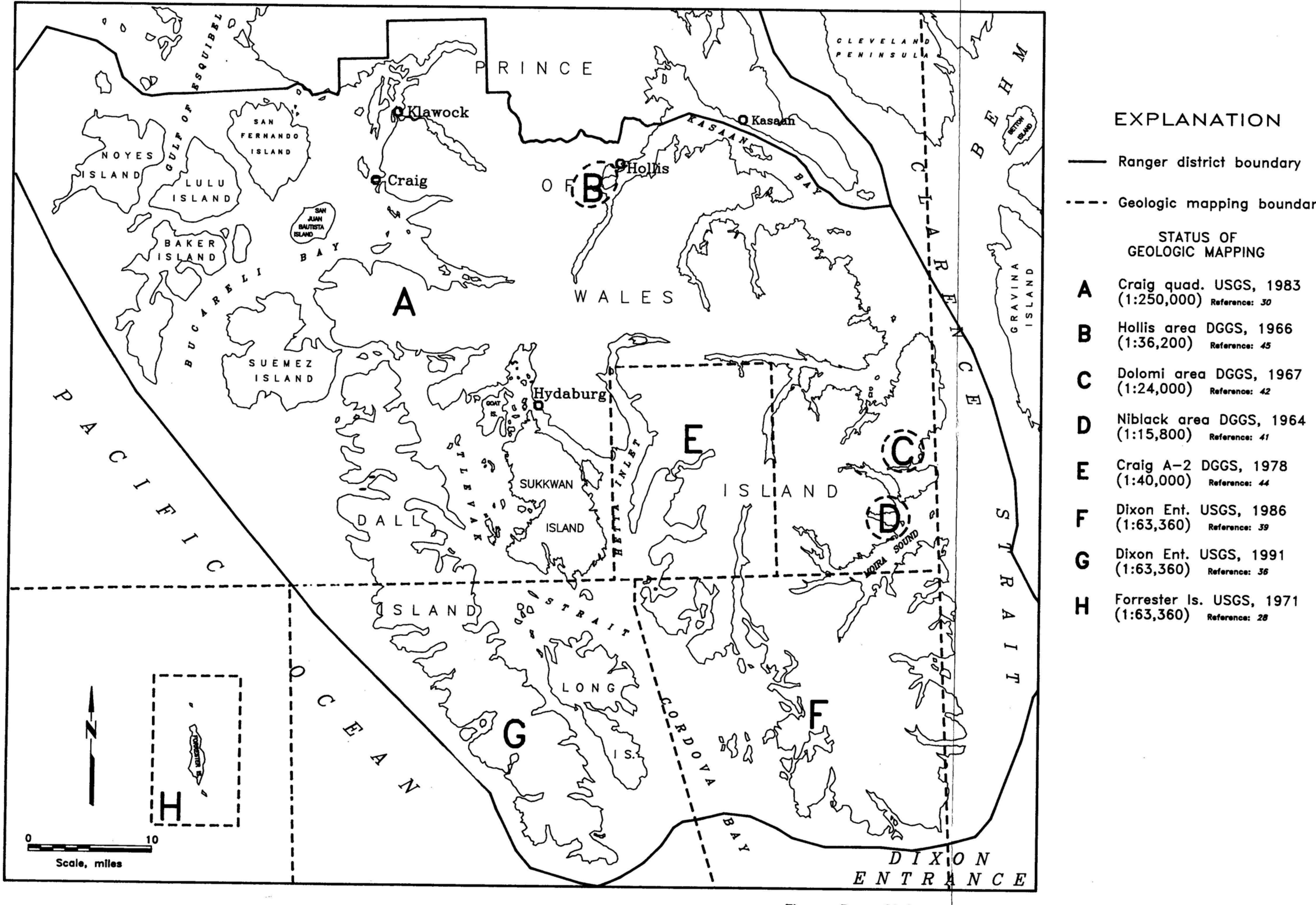


Figure 5. – Status of geologic mapping in the Craig Ranger District

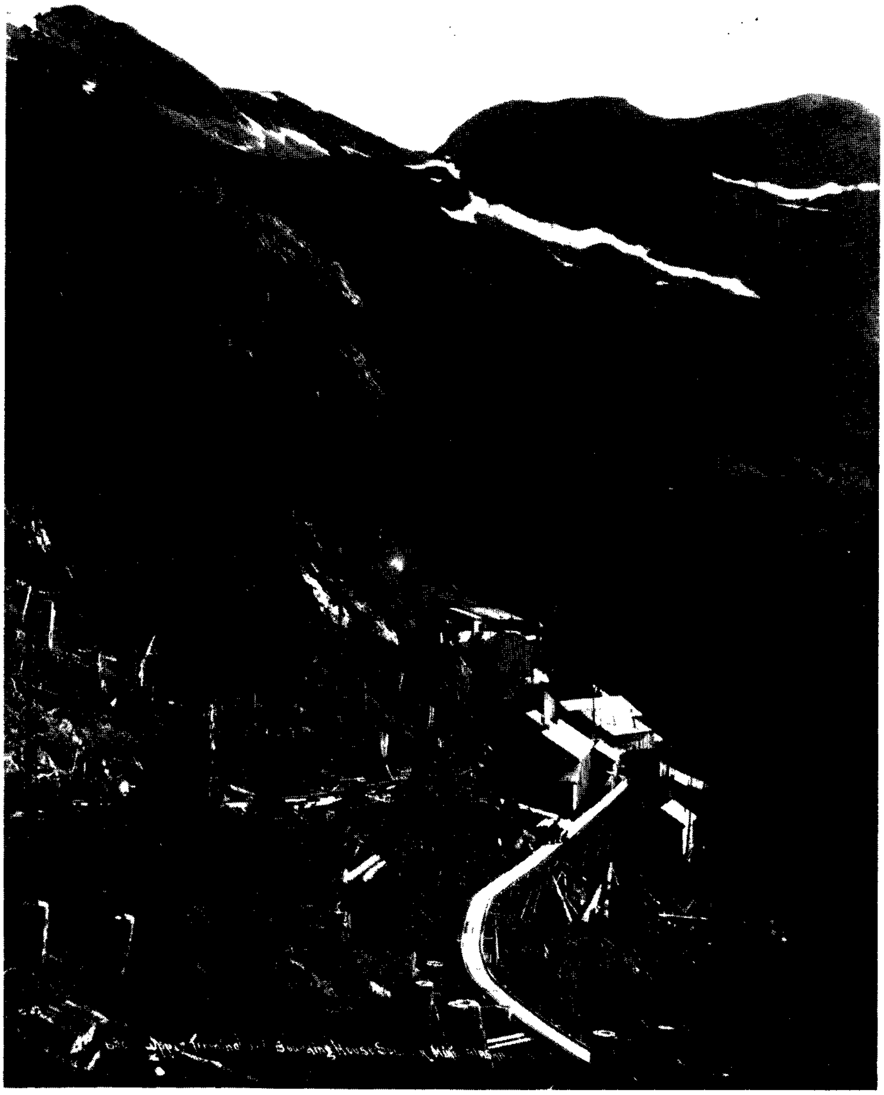


Figure 6. - Upper terminal and boarding house, Sulzer Mine (Jumbo Mine), Alaska, ca. 1910. (Winter and Pond collection, Alaska Historical Library).

the shores of Hetta Inlet in 1898. This mine was worked intermittently until about 1910 when an errant drill hole caused the mine to be flooded by waters from Hetta Inlet *(18)*. Other massive sulfide deposits were discovered at Khayyam and Niblack in 1899. The Corbin Mine was discovered in 1905. The Big Harbor Mine produced small amounts of copper ore in 1913 and 1916. Cumulative production from these mines totalled nearly 2.3 million pounds copper, 26,737 ounces silver, and 1,823 ounces gold.

The Cymru Mine was discovered in 1899 and is a concordant shear-related vein deposit. The mine produced 151,270 pounds of copper, 1,486 ounces silver, and more than 28 ounces gold in 1906 and 1915.

Several gold deposits were discovered in the Dolomi area in 1899; among them were the Valparaiso and Golden Fleece. Both vein-gold deposits were mined intermittently, the Valparaiso until 1933 and the Golden Fleece until 1924. Total reported production from the Valparaiso amounted to 730.19 ounces gold and 521 ounces silver; production values are not available for the Golden Fleece. Many other small gold prospects were worked nearby, the most notable being the Croesus and Moonshine, but production records are incomplete.

The first gold discoveries in the Hollis area occurred in 1900. Many of the properties became mines; among these are the Crackerjack, Harris River, Lucky Nell, Flagstaff, and Puyallup mines. The Dawson Mine was discovered in 1908. Production from these mines totalled roughly 25,000 ounces gold and 15,000 ounces silver. Incomplete production reports and combined dollar value of gold and silver produced from these mines obscure the cumulative totals. The Harris River Mine milled ore from other mines in the vicinity which further confuses production totals.

Minor discoveries of high-grade silver-bearing ore were made at Mount Vesta on Dall Island and the Moonshine on South Arm Cholmondeley Sound by 1900. An unknown amount of production occurred at these two properties. Values in excess of 1,500 ounces per ton silver were reported from the Moonshine Mine. Gold was discovered at McLeod Bay and Volk Harbor in 1900.

The Apex prospect, located on the south side of McLean Arm, was discovered in 1908. The Bureau investigated this prospect in 1944 as part of a war minerals study and estimated an inferred resource of over 23 million pounds of copper, 1.8 million ounces silver, and 22,630 ounces of gold *(81)*. The property has not been mined.

Development of cement grade limestone commenced in 1928 when Pacific Coast Cement Co. began mining from its View Cove Quarry on Dall Island. Mining continued until 1941, when WWII interrupted production activities, and resumed again during 1947-48. Over 1.3 MM tons of limestone, averaging 94.5 percent $CaCO_3$, was produced. Ashgrove Cement West, Inc., currently owns this patented ground.

The Nelson and Tift Mine, located on the north side of McLean Arm, was discovered in 1935. A chalcopyrite-pyrite lens was mined through an open cut until 1942 and substantial amounts of copper, gold, and silver were produced. Anaconda drilled this deposit but failed to find additional ore *(60)*.

The Ross-Adams Mine, located on the south side of Bokan Mountain, was discovered in 1955. The mine produced 87,331 tons of ore containing 0.76 percent U_3O_8 between 1957 and 1971. The Bureau studied this area between 1983-1988 and defined a zone of intrusive-related REE occurrences that extends from Dora Bay to Stone Rock Bay *(2, 85)*.

Cominco Alaska Exploration evaluated the skarn deposits at Mount Jumbo and Copper Mountain in 1989, and subsequently dropped the property. Cominco Alaska Exploration evaluated the Khayyam-Stumble-On massive sulfide trend above McKenzie Arm in 1990. Currently, LAC Minerals USA, Inc. is exploring the Niblack copper-silver-gold massive sulfide deposit, the Ruby Tuesday zinc-copper-gold massive sulfide deposit along South Arm Cholmondeley Sound, and the Kaigani gold prospect on Dall Island.

Sealaska Corporation has been evaluating all 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. Diamond drilling was performed on these prospects in 1990. Minor occurrences of high-grade silver mineralization were discovered on Long Island at Coning Point and Lake Seclusion.

Table 1 provides a summary of mineral production from mines within the study area.

GEOLOGIC SETTING

Southern Prince of Wales Island and vicinity is underlain by pre-Ordovician Wales Group volcanic and sedimentary rocks, Silurian-Ordovician Descon Formation volcanic and sedimentary rocks, massive sections of Silurian Heceta limestone, Upper-Devonian volcanic and sedimentary rocks of the Port Refugio Formation, and lesser Tertiary volcanics. Generally Wales Group rocks are in fault contact with Descon Formation rocks (e.g. Keete Inlet Fault). Wales Group rocks are more severely deformed than the stratified Descon Formation rocks. Descon Formation rocks are generally more indurated than Port Refugio Formation rocks, but field evidence is inconclusive without supporting fossil evidence *(30)*.

Table 1. -- Summary of mine production[6]

Mine	Activity Years	Gold (Ounces)	Silver (Ounces)	Copper (Pounds)	Lead (Pounds)
Big Harbor	1913,16	136 tons crude ore produced 18,882 pounds copper			
Dawson (also known as Julia, Dunton, Kasaan Gold Co., Wooten and Dawson)	1909-10, 1914-21, 1923-25,27-29 1935-42,46-51	9,957	6,972	213	593
Flagstaff	1938-41	$16,801 combined gold, silver			
Harris River	1910, 14-21, 23-25, 27-29	5,815	6,457	4,390	1,159
Khayyam	1906-09	129	1,711	177,769	
Lucky Nell	1906,12	$1,062 combined from 38 tons ore			
Puyallup	1900-05, 1915,16	10,466	8,323		
Houghton	1917	3	42	4,805	
Jumbo	1907-18, 1923	7,076	87,778	10.2MM	
Copper Mountain[7]	1902, 1903-6	145	10,331	224,285	
Corbin	1906	15	315	21,379	
Green Monster	Unspecified quantity of museum quality epidote crystals produced				
Summit Lake	High-grade material sacked and stockpiled				
Copper City (Red Wing)	1906-08	339	4,711	169,197	
Marion (Nutkwa)	1938	5	3		36
Moonshine	Limited tonnage of high-grade silver-lead ore sacked				
View Cove	1928-32, 35-41, 47-48	Over 1.3 million tons of limestone produced			
Niblack	1905-08	1,340	20,000	1.96MM	
Ross-Adams	1957-71	87,331 tons @ 0.76% U_3O_8			
Cymru	1906,15	28.34	1,486	151,270	
Valparaiso	1913,33	730	521		
Nelson and Tift	1936-40 1942	3,481	638	71,287	695

[6]Production figures come from Bureau, USGS, and State of Alaska production records.

[7]In addition to stated values, $18,000 worth of ore was sent to Tacoma smelter in 1902.

These lithostratigraphic units are intruded by many plutons ranging in age from the Cambrian Kaigani orthogneiss (35) to Cretaceous and Jurassic granitoid and ultramafic rocks of varying compositions. A Jurassic multiple- phase peralkaline granite forms a ring dike complex at Bokan Mountain, the site of uranium production. The Cretaceous Copper Mountain quartz diorite pluton hosts important skarn mineralization.

Generally, rock units strike west-northwest and dip to the southwest. Many northwest-trending high-angle faults and numerous thrust faults define the regional structure. Regional metamorphism has progressed to the greenschist facies, but locally, amphibolite facies rocks are present. A generalized geologic map of the area is included as Figure 7.

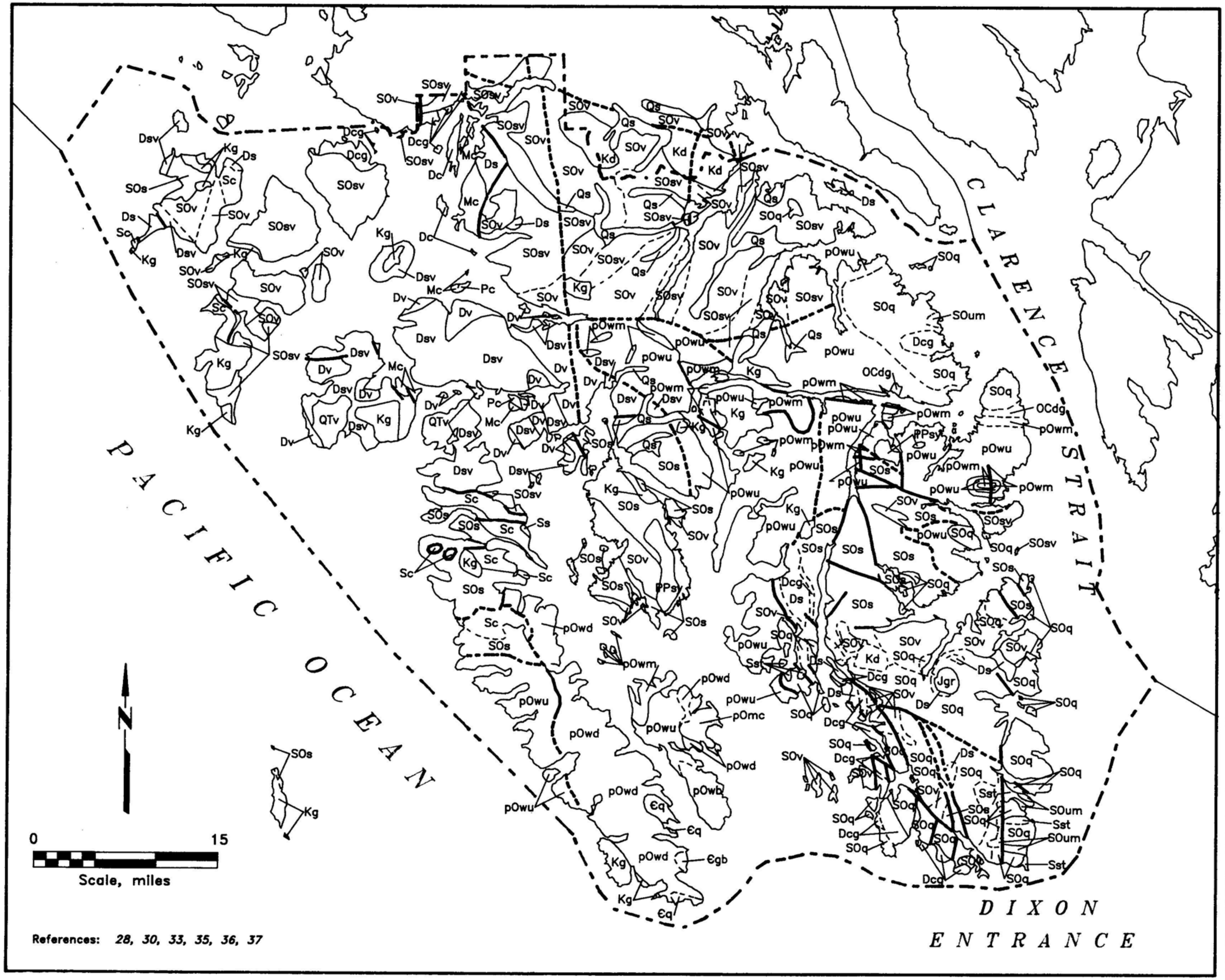
DEPOSIT TYPES

Numerous mineral deposit types are present within the study area. The following list contains examples of each deposit type and is not meant to be complete. Vein gold and polymetallic vein deposits occur in the Hollis area; in Wales Group rocks in the Dolomi area; on southern Dall Island at McLeod Bay; and in the siliceous intrusive rocks at McLean Arm. Volcanogenic massive sulfide deposits are located at Khayyam, Stumble-On, Big Harbor, Niblack, Ruby Tuesday, and in shoreline deposits adjacent to Hetta Inlet (Corbin, Copper City). Skarn deposits have developed peripheral to the Copper Mountain Pluton, at Coco Harbor, near Black Bear Lake, and in Gold Harbor. Magmatic uranium deposits have been mined at Bokan Mountain. Porphyry molybdenum and porphyry copper deposits have been explored at Baker Island and at the Apex prospect near McLean Arm on Southern Prince of Wales Island, respectively.

BUREAU INVESTIGATIONS

The Bureau divided Southern Prince of Wales Island and vicinity into three subareas for logistical purposes. The discussions will be presented geographically, beginning with the most northerly study area (Craig subarea), followed by the Dall Island subarea, and finishing with the Southeast Prince of Wales Island subarea.

A brief discussion of the location and the extent of Bureau investigations in each subarea will precede the mine, prospect, and mineral occurrence summaries. Individual properties will be discussed in a roughly north-to-south manner.



EXPLANATION

Intrusive Rocks

Kd	Diorite (Cretaceous)
Kg	Granodiorite (Cretaceous)
Jgr	Granite (Jurassic)
PPsy	Syenite (Permian–Pennsylvanian)
Sst	Syenite and trondhjemite (Silurian)
SOq	Quartz diorite (Silurian–Ordovician)
SOum	Ultramafic rocks (Silurian–Ordovician)
O€dg	Diorite and granodiorite (Ordovician–Cambrian)
€gb	Gabbro (Cambrian)
€q	Quartz diorite and granodiorite (Cambrian)

Lithostratigraphic Units

Qs	Surficial deposits (Quaternary)
QTv	Volcanic rocks (Pennsylvanian)
Pc	Carbonate rocks (Pennsylvanian)
Mc	Carbonate rocks (Mississippian)
Dc	Wadleigh Limestone (Devonian)
Dcg	Conglomeratic rocks (Devonian)
Ds	Sedimentary rocks (Devonian)

Port Refugio Formation (Devonian):

Dsv	Sedimentary and volcanic rocks
Dv	Volcanic rocks
Sc	Heceta Limestone (Silurian)
Ss	Sedimentary rocks (Silurian)

Descon Formation (Silurian and Ordovician)

SOs	Sedimentary rocks
SOsv	Sedimentary and volcanic rocks
SOv	Volcanic rocks

Wales Group Metamorphic Complex (pre–Middle Ordovician)

pOwb	Basaltic metavolcanic rocks
pOwd	Dacitic metavolcanic rocks
pOwm	Marble
pOwu	Metasedimentary and metavolcanic rocks, undivided

Contact, dashed where inferred

Fault, dashed where inferred

Ranger district boundary

Figure 7. – Generalized geologic map.

CRAIG SUBAREA: MINE, PROSPECT, AND OCCURRENCE DESCRIPTIONS

The Craig subarea includes that portion of Prince of Wales Island south of the Craig Ranger District boundary (including Karta Wilderness), and north of a line extending west through Cholmondeley Sound, Hetta Inlet, Sukkwan Strait, Tlevak Strait, and Meares passage. This subarea includes Baker, Noyes, Lulu, St. Ignace, Suemez, San Juan Bautista, San Fernando, and numerous smaller islands (fig. 8).

The Bureau located and mapped more than 35 mines, prospects, and mineral occurrences while collecting over 510 rock chip samples during 1990. Most Bureau work was supported by helicopter, although a skiff was used for prospects near Karta Bay, and a 4-wheel drive truck was used for reconnaissance along logging roads.

The mines, prospects, and occurrences described in the following section are cross-referenced to figure 8 and are numbered from northwest to southeast. Sample locations are shown on figure 9 and analytical results are presented in appendix table A-1. An inset map (fig. 10) is used in the Hollis area to depict sample locations on a larger scale. Sample numbers referred to in the following descriptions (e.g. 3015) correspond to field numbers listed in appendix table A-1.

NOYES ISLAND
(fig. 8, No. 1)

Noyes Island is west of Prince of Wales Island, approximately 20 miles west of Klawock. The Bureau sampled an outcrop of brown-stained rocks near the beach on the northeast side of the island. Sample 3015 was taken from a quartz-calcite vein hosted in graywacke and it assayed 21.7 ppm silver, 8,966 ppm lead, and 1.08 percent zinc.

STEAMBOAT BAY
(fig. 8, No. 2)

Steamboat Bay is at the north end of Noyes Island, about 20 miles west of Klawock. Bureau geologists traversed from the beach to the area of a reported molybdenum occurrence (west of the head of the Bay). Country rocks seen were clastics, carbonates, and lesser mafic volcanic rocks. Outcrops of granitic intrusives were not seen, although abundant granitic float was observed in the drainage. Neither vein nor disseminated mineralization was noted during the traverse. No signs of any previous work were noted during the Bureau's traverse. A stream sediment sample was collected from the main drainage flowing eastward into the head of Steamboat Bay.

ST. IGNACE ISLAND
(fig. 8, No. 3)

A barite occurrence has been identified on St. Ignace Island (*6*). St. Ignace Island lies northeast of Baker Island, along the north side of Bucareli Bay. St. Ignace Island is underlain by undifferentiated Descon Formation rocks and white lamellar barite zones are reported to occur in beds of sandstone and conglomerate. Buddington and Chapin (*17*) report these beds and stringer zones to be up to 200 feet in length and as much as 2 feet thick.

Bureau geologists investigated the north, northeast, south, and southeast shorelines of St. Ignace Island for the reported barite occurrences. Shoreline outcrops along the northern portion of the island between Silvester Point to Point Gorda consist predominantly of clastics with intercalated carbonate rocks along with local interlayered mafic flows. The southern portion of St. Ignace Island was also investigated. Bedrock in this area includes conglomerate, limestone, and graywacke with lesser mafic volcanic flows. No significant mineralization of any type was noted during these investigations. Two samples were taken along the northern part of the island and the results are listed in appendix table A-1.

SAN JUAN BAUTISTA ISLAND
(fig. 8, No. 4)

San Juan Bautista Island is in Bucareli Bay, approximately 7 miles southwest of Craig. It is a reported gold, molybdenum, and zinc occurrence which has been worked at various times by different parties. The central portion of San Juan Bautista Island is mapped as intermediate granitic rocks. The remainder is mapped as the Port Refugio Formation, an interbedded sequence of massive to well-banded graywacke, mudstone, siltstone, polymictic boulder conglomerate, black pyritic siltstone, calcareous siltstone, and arenite (*30*). Base metal sulfides are reported to occur near the intrusive contact.

One day of reconnaissance mapping and sampling was conducted by Bureau geologists on the south side of San Juan Bautista Island in Port Refugio Formation rocks. Rock types noted consisted of blue-grey massive limestone and black argillite. The limestone is locally recrystallized, conglomeratic, and contains minor amounts of siderite or ferroan dolomite. Pyrite and pyrrhotite were noted along fractures and disseminated in the argillite. Three samples were taken of the argillite and limestone and metal values from these are low. Two stream sediment samples were collected from creeks which drain this part of the island. One of these samples (3005) contained over 7,000 ppb gold and 21.6 ppm silver. No mineralization or evidence of any prospecting activity was seen. Sample results are anomalous in both base and precious metals and are listed in appendix table A-1.

PORT SAN ANTONIO
(fig. 8, No. 5)

This prospect occurs on Baker Island near the head of Port San Antonio. The prospect contains quartz veins in granite and schists and development work was limited to numerous open cuts. The quartz veins were reported to contain galena, sphalerite, pyrite, and gold. There is no recorded production for this prospect *(88)*.

Bureau geologists traversed the area but did not locate any prospect pits or trenches. Bureau investigations revealed the country rocks to be argillite, limy argillite, siliceous argillite, and local chert beds. These rocks strike predominantly north-northeast, dipping steeply to the south. Local quartz-carbonate veinlets containing pyrite and pyrrhotite are present along foliation of the argillites. Seven samples taken from the veins and argillites were not encouraging as metal values are low.

VETA BAY
(fig. 8, No. 6)

The Dalton Hot Springs are on the west coast of Baker Island, along the north shoreline of the bight at the head of Veta Bay. Bureau geologists did not access the springs, but did discover a mineralized quartz vein in sheared granodiorite. This vein crops out on the beach 0.25 miles to the north of the springs and was traced for approximately 200 feet along the shoreline. Sulfide minerals present include chalcopyrite, marcasite, pyrite, and pyrrhotite. Sample 3009 was taken across 0.5 feet and assayed 1,294 ppb gold and 11.23 ounces per ton silver.

PELEGROSO
(fig. 8, No. 7)

The Pelegroso is a quarry site just south of the city of Klawock. Mississippian limestones and chert intruded by a syenite sill crop out in the Peligroso quarry. The syenite sill is 30 to 50 feet in width and is concordant to the north-striking vertical beds of limestone and chert. The syenite has metasomatically altered the surrounding limestones and cherts for 10 to 15 feet, forming a calcite-epidote hornfels with fine-grained disseminated pyrrhotite. Local shears in the syenite trending subparallel to bedding have limonite and goethite weathering surfaces. No significant mineralization was seen in the syenite. The Bureau sampled the calcite-epidote hornfels and syenite within the quarry.

The ridge immediately to the south of the quarry was examined for other outcrops of the syenite. In logging road quarries the syenite sill can be traced for approximately three miles and maintains an average width of 30 feet. Several samples of the syenite were also gathered along this ridge for analysis. Analyses are listed in appendix table A-1.

BLACK LAKE
(fig. 8, No. 8)

This mineral occurrence is southeast of Black Lake in a small road quarry at the head of the valley. Mineralization at Black Lake occurs along the contact between the Black Lake intrusive and Descon volcanics. The well-jointed, fine-grained diorite has been strongly silicified and local epidotization and pyritization has developed a pyroxene-epidote hornfels. The hornfels has a strong surficial weathering surface of limonite, goethite, and epidotic gossan. Pyrite is locally ubiquitous and strongly concentrated around discontinuous quartz stringers. Pyrrhotite, marcasite, and magnetite were also observed in minor amounts.

Immediately north of the quarry a diorite porphyry crops out along the road. Massive pyrite clots up to 6 inches in diameter occur within the porphyry. Five rock samples from the quarry and three rock samples from along the road were collected for analysis. The highest metal values from these samples are 23 ppb gold and 2.5 ppm silver (3238), 5,317 ppm copper (3239), and 101 ppm molybdenum (3240). Complete results are shown in appendix table A-1.

LUCKY NELL MOUNTAIN
(fig. 8, No. 9)

Bureau geologists investigated the area north of the Lucky Nell Mine to find an extension of the Lucky Nell vein or other massive quartz sulfide veins. Along the projected strike of the Lucky Nell vein, roughly 500 feet northwest of the Dew Drop prospect, occurs a 0.5-to 1.0-foot-wide quartz vein rubblecrop with massive sulfides. The sulfides comprise roughly 70 percent of the vein and consist of massive pyrite, sphalerite, galena, and chalcopyrite. Three samples from this rubblecrop (3046, 3047, 3206) averaged 1.25 ounces per ton gold, 126.9 ounces per ton silver, 5.22 percent lead, and 2.38 percent zinc across 0.67 feet. Sample 3062 was a select sample from the rubblecrop and assays reveal 0.755 ounces per ton gold, 25.49 ounces per ton silver, 12.54 percent lead, and 4.84 percent zinc.

DEW DROP
(fig. 8, No. 10)

The Dew Drop prospect is on the north side of the ridge located immediately north of the Lucky Nell Mine. A vein was reportedly developed by two short adits, only one of which was located by Bureau geologists. This 21-foot-long adit is located at 2,300 feet elevation along a small, northeast-trending drainage.

No quartz veins or mineralization were noted in the adit and one sample was taken at the face (3207). Six samples were taken and the highest gold value obtained was 477 ppb.

LUCKY NELL
(fig. 8, No. 11)

The Lucky Nell Mine is in the divide between Maybeso Creek and the north fork of the Harris River. All mine workings and camp facilities are located along the north side of the divide, just west of the saddle. This mine was discovered in 1900 and development consists of five adits with a total of 740 feet of workings driven between 1902 and 1910. The only recorded gold production occurred in 1906 and 1912 and total value amounted to $1,062 from 38 tons of ore.

The Lucky Nell Mine is hosted by undifferentiated Descon Formation rocks. The Lucky Nell vein strikes 068° and dips 60-70° southeast, and pinches and swells from 0.5 feet to 3.3 feet in thickness. The vein is exposed in Adits 1 through 5 between 1,300 and 1,900 feet elevation across a horizontal distance of 2,000 feet. The ratio of sulfides to quartz is reported at 4:1 with sulfides consisting of pyrite, galena, sphalerite, and chalcopyrite. The gold is reported to occur in the sulfides and is not free milling.

Bureau geologists mapped and sampled all five adits at the Lucky Nell Mine. Due to the persistent nature of the Lucky Nell vein, 58 samples were taken to ascertain grades and possible tonnages.

Adit 1 occurs at 1,900 feet elevation and drifts along the vein for 70 feet. Six samples were cut across 1.8 feet to 2.8 feet of vein. Sample 3413 contained 7,653 ppb gold, 1.38 ounces per ton silver, and 2.13 percent lead.

Adit 2 is at 1,700 feet elevation with a total length of 60 feet. Six samples were taken across a vein width of 1.5 feet to 3.1 feet with sample 3419 assaying 1.197 ounces per ton gold, 3.02 ounces per ton silver, and 6.44 percent lead. The other five samples averaged 4,255 ppb gold and 16.4 ppm silver.

Adit 3 is at 1,380 feet elevation and contains 110 feet of drift and a 62-foot raise along the vein connecting to Adit 4. Sixteen samples were cut across the vein and country rock on both sides of the vein. The weighted average of five samples (3337, 3338, 3343, 3356, 3361) across an average vein width of 1.4 feet was 1.38 ounces per ton gold and 10.99 ounces per ton silver. Nine other samples from this vein contained between 1,909 ppb gold and 7,813 ppb gold.

Adit 4 is located at 1,300 feet elevation and has a total length of 470 feet including a 380-foot drift along the vein. Twenty-five samples were cut across the vein and country rock. A weighted average of six samples across an average vein width of 1.13 feet contained 0.841 ounces per ton gold and 3.39 ounces per ton silver (3350, 3364, 3366, 3368, 3381, and 3383). Samples 3347, 3348, 3369, 3371, and 3382 assayed 0.209 to 0.282 ounce per ton gold across 0.6 to 4.1 feet.

Adit 5 is at 1,200 feet elevation and has a 60-foot open cut leading into the 25-foot drift. Five samples were taken from the trench and adit and sample 3423 contained 2,042 ppb gold and 6.9 ppm silver.

GRANITE MOUNTAIN
(fig. 8, No. 12)

Bureau investigators made several traverses in the Granite Mountain area in conjunction with the examination of nearby occurrences (e.g. Flagstaff Mine). Sample 3112 was taken from the area and analysis revealed low metal values.

LAST CHANCE
(fig. 8, No. 13)

The Last Chance prospect occurs immediately northwest of the Flagstaff Mine on the west side of Granite Mountain at an elevation of approximately 2,500 feet. Bureau geologists collected seven samples from two mine dumps and underground workings. Select samples of quartz contained up to 4,971 ppb gold and 43.1 ppm silver (3042).

LUCKY JIM
(fig. 8, No. 14)

The Lucky Jim prospect is on the western flank of the southern peak of the Granite Mountain Massif at an elevation of 2,900 feet. Workings consist of a water-filled shaft 20 feet in depth and a short adit 25 feet below the shaft. The adit reportedly followed a small vein of galena in highly deformed marble. Bureau geologists were unable to access this working, but did collect 4 surface samples from two open cuts on the prospect. Analyses from 2 samples averaged 28.1 ppm silver and 9,587 ppm lead (3394, 3409).

BUCKHORN
(fig. 8, No. 15)

The Buckhorn prospect is on the western flank of Granite Mountain at an elevation of 3,000 feet. The Bureau mapped and sampled a trench and adit at this prospect. The adit was caved 20 feet from the portal and was not accessed past this point. The trench exposed a 1-foot-thick quartz vein which was sampled (3257) and metal values were negligible. A select sample (3180) of quartz with pyrite taken from the adit dump assayed 2,151 ppb gold and 15.7 ppm silver. Three other samples taken in the area contained negligible metal values.

FLAGSTAFF
(fig. 8, No. 16)

The Flagstaff Mine is approximately 5 miles north of Hollis. The prospect was discovered around the turn of the century but significant development did not take place until 1938. Mine workings occur in a steep gully at 1,300 feet elevation which drains easterly into Flagstaff Creek valley. The mill and camp facility are located along the west bank of Flagstaff Creek and connect to the mine by an aerial tram.

The workings occur on several levels with multiple adits. The most significant workings are the main level (1,120 feet long), a 55-foot winze, and five small stopes. The mine operated from 1938 to 1942 and Bureau production records indicate production of 1,461 tons of ore valued at $16,801 for gold and silver.

Bureau investigations at the Flagstaff Mine consisted of underground mapping and selected sampling of the main adit. The strike of the Flagstaff vein ranges from 285° to 310° with dips ranging between 70° and 85° to the north. The footwall is Granite Mountain diorite and the hanging wall is a diabase dike. At intervals along the vein the footwall contact is a 0.1-foot to 0.2-foot gouge zone. Underground exposures show the vein to pinch and swell from 1.7 feet to 3.3 feet in thickness.

The vein is predominantly fractured milky quartz with pyrite, chalcopyrite, galena, and bornite. Pyrite is the dominant sulfide; the next most common is bornite. Sulfide content is highly variable along the strike of the vein, with the central portion of the vein containing the most sulfides. Average sulfide content is estimated at 1-2 percent, with high-sulfide areas averaging 5-10 percent. Gangue minerals include quartz, calcite, siderite, and limonite. Native gold is present and is evident in cut slabs of the pyrite- and bornite-rich ore.

Bureau geologists collected 11 samples from the main adit. Sample 3033 assayed 0.935 ounces per ton gold, 10.77 ounces per ton silver, and 7.04 percent lead across a 2.5-foot width. A weighted average from samples 3034, 3035, 3036, and 3037 contained 0.15 ounces per ton gold and 1.75 ounces per ton silver across an average width of 1.9 feet.

STELLA
(fig. 8, No. 17)

The Stella prospect appears to be in the same area as the

Monday claims, which were first reported by Brooks in 1902 (*7*). Brooks reported two small open cuts, located 100 feet apart and 650 feet above the beach. Work reported on the Stella claim (*95*) includes a 130-foot tunnel driven at 540 feet elevation.

Bureau geologists did not locate the Stella workings in 1990 due to the large amount of second-growth forest in the area. Four samples of quartz-rich material were taken during a traverse of the alpine area above the reported location of the prospect. Results are shown in appendix table A-1.

PUYALLUP
(fig. 8, No. 18)

The Puyallup Mine is 1.5 miles northwest of Hollis in the Crackerjack Creek drainage. The mine was discovered prior to 1900 and was worked on an intermittent basis until 1946. The Puyallup Mine consists of several open cuts, a short shaft, and five adits with at least 2,865 feet of underground workings. Adits 1 through 3 are located along Crackerjack Creek between 120 and 190 feet elevation. Adits 4 and 5 are reported to occur to the southwest, several hundred feet higher in elevation. A wooden slurry pipeline extends from the mill to Adit 6 (Hollis Tunnel) of the Crackerjack Mine. Bureau of Mines production records indicate peak production from 1900-1905, 1915, and 1916 with an estimated total of 10,466 ounces of gold. Average grades were reported at 0.840 ounces per ton gold and 0.668 ounces per ton silver.

The local geology at the Puyallup Mine is mapped as undifferentiated Descon Formation. Greenstone dikes and highly deformed slates host the quartz veins within the mine area. The veins range from 0.5 to 3.0 feet wide, strike to the northwest, and dip approximately 50° northeast. Mineralization in the quartz veins consists of pyrite, galena, sphalerite, and free gold.

Bureau geologists mapped the surface exposures and mine facilities around Crackerjack Creek. The portal of Adit 3 and the stopes in Adit 2 were still open but in such poor condition that it was not deemed safe to enter. The shaft to the surface was not located and is presumed caved. The pipeline to the Hollis tunnel is in total disrepair, though broken sections are still visible along the creek. No surface facilities remain standing at the Puyallup Mine and the mill has been removed. No attempt was made to locate Adits 4 and 5 in 1990.

A total of 11 samples were taken from mineralized outcrops along Crackerjack Creek and the Puyallup Mine area. Samples 3044, 3228, and 3181 assayed 0.238, 0.13, and 2.201 ounces per ton gold across 0.2-to 1.0-foot-wide quartz veins exposed at the top of open stopes in Adit 2. Samples 3227, 3061, and 3045 assayed 0.495, 0.378, and 0.537 ounces per ton gold across 0.4-to 1.7-foot-wide quartz veins outcropping along Crackerjack Creek. The highest silver value obtained was 4.07 ounces per ton from sample 3181.

CRACKERJACK
(fig. 8, No. 19)

The Crackerjack Mine is approximately 1.5 miles northwest of Hollis along Crackerjack Creek. Workings at the mine consist of 6 adits and numerous open cuts situated along a 1-mile stretch of the creek. This property was reportedly discovered in 1900 with most of the development and production taking place before 1907. Ore from the mine was milled at the Puyallup Mine, but no accurate production records are available.

Ore is contained in quartz veins, quartz stringer zones, and diabase dikes which are concordant to the northwest-striking argillite country rock which dip 20 to 35 degrees southwest. Bureau geologists located, mapped, and sampled 4 of the 6 adits at the Crackerjack Mine. The other two adits (Nos. 1 and 6) were not investigated in 1990.

Adit 2 was located at 800 feet elevation in a side canyon west of Crackerjack Creek. This is the most extensive working at the mine with 240 feet of crosscuts, 851 feet of drifts, and two small stopes along the vein. The quartz vein pinches and swells from 2 to 7 feet in thickness and strikes northwest with dips to the south from 34 to 45 degrees. Twenty-three samples were taken along the drift. Three samples taken near the second stope (3391, 3454, 3464) averaged 0.86 ounces per ton gold across 3.73 feet.

Adit 3 is at elevation 880 feet, just off Crackerjack Creek, and contains a total of 286 feet of workings including a 90-foot drift along the vein. Bureau geologists mapped the adit and took 14 samples of the quartz vein, quartz stringers, and mineralized dikes. Of these, sample 3331 assayed 0.434 ounces per ton gold and 14.6 ppm silver across a 1.2-foot vein. Another sample taken across 5 feet of vein (3352) contained 2.32 ounces per ton silver.

Adit 4 also occurs at 880 feet elevation, about 100 feet upstream of Adit 3. This adit contains a total of 405 feet of workings with a 205-foot drift and one small stope along the vein. Bureau geologists mapped this adit and took a total of twelve samples. Samples 3157 and 3219 assayed 0.559 and 2.549 ounces per ton gold across 1.5-foot and 2.5-foot vein widths. The stope is exposed at the surface and two samples (3151, 3213) taken across the 2-foot vein averaged 0.692 ounces per ton gold and 1.37 ounces per ton silver.

Adit 5 occurs adjacent to Crackerjack Creek at 1,000 feet elevation, 300 feet upstream of Adit 4. The adit drifts along the vein for 141 feet and has two small stopes. Bureau geologists mapped this adit and took a total of eight samples. Samples 3183, 3188, 3189, and 3190 had a weighted average of 0.834 ounces per ton gold across a 0.73-foot vein width. Silver values were highest in sample 3190 with an assay of 8.86 ounces per ton.

Eight rock samples were taken from surface outcroppings of the quartz vein along Crackerjack Creek between Adit 3 and Adit 5. Samples taken directly across from Adit 5 (3215, 3216) assayed 3.560 and 0.181 ounces per ton gold across vein widths of 1 and 3 feet. Sample 3215 also contained 41.24 ounces per ton silver.

Two representative samples of siliceous, limy argillite (3104, 3105) taken several hundred yards west of Adits 3, 4, and 5 assayed 1.298 and 0.249 ounces per ton gold, respectively.

HOLLIS PLACERS
(fig. 8, No. 20)

During 1990, Bureau geologists collected five placer samples from Flagstaff, Crackerjack, Maybeso, and McGilvery Creeks. Sampling procedures consisted of shoveling 0.1 yd^3 of sand and gravel through a 4-foot sluice box and collecting the resultant concentrate. The concentrate was then sent for analysis. Sample results are reported in ppm gold but only portray a relative gold content as the weight of the concentrate was not obtained prior to analysis.

CASCADE
(fig. 8, No. 21)

The Cascade prospect is on the north side of Harris Peak approximately 2.5 miles west of Hollis. The prospect occurs on a steeply wooded slope between 1,000 and 1,700 feet elevation. Two adits (175 and 300 feet in length) and an open cut were driven to expose a 2-foot-wide gold-quartz vein on the property. The Bureau did not locate these workings, which are reportedly caved, but did find remnants of the camp at 1,000 feet elevation. Three samples were taken from quartz outcrops and float in the area. A 1.3-foot-wide brecciated quartz vein at 1,540 feet elevation (3408) contained 817 ppb gold and 1,041 ppm arsenic. The other samples had low values for both gold and arsenic.

DAWSON
(fig. 8, No. 22)

The Dawson Mine is 2 miles west of Hollis immediately off the highway from Hollis to Klawock. This area was reportedly staked in 1908 but development of the principal workings did not occur until the 1930s. The mine closed in 1942 and was re-opened on a small scale in 1946; production continued until 1952 when the mine was finally closed. Production totalled nearly 10,000 ounces of gold, 7,000 ounces of silver, and minor amounts of lead and copper.

Kelly Adams restaked the Dawson Mine in 1976 and began additional exploration and development. MAPCO, Inc. optioned the property between 1979 to 1981 and completed geochemical sampling, geologic mapping, and diamond drilling. Discovery Gold Co. acquired the option from 1983 to 1986 and built a road connecting the workings, dug trenches, and performed diamond drilling. Control of the property has reverted back to Adams and annual labor requirements are current.

Workings at the Dawson Mine include the Humboldt Adit (elevation 321 feet), West Adit (elevation 450 feet), and Freegold workings (elevation 470 feet). The updip extension of the Humboldt vein was stripped and trenched by Discovery Gold and is still well exposed. The West Adit contains an unknown amount of underground workings and the Humboldt Adit has at least 250 feet of workings. The Freegold workings consist of three adits with a total of at least 350 feet of underground workings and an open cut. Except for the Humboldt Adit, all the workings are caved and inaccessible.

The Dawson Mine is hosted by Descon Formation black argillites and graywackes. The argillite and graywacke package strikes northwest and dips 30 to 40° southwest. Mineralized quartz veins and diabase dikes from 0.5 feet to 3 feet thick occur concordant to bedding in the host rocks. Discontinuous quartz stringer zones are also present. The quartz veins contain sphalerite, galena, visible gold, and pyrite. The mineralized veins appear to have formed along a low-angle thrust fault.

Bureau investigations at the Dawson Mine in 1990 consisted of surveying the surface workings and geologic mapping and sampling of outcrops at the mine site. The Humboldt Adit was examined briefly but not mapped due to poor ground conditions. Bureau geologists took a total of 24 samples from surface outcrops, 15 samples from the Discovery Gold trench, and two samples from the underground workings of the Humboldt Adit. Four samples of the updip extension of the Humboldt vein exposed in the Discovery Gold trench (3114, 3117, 3118, 3410) contained a weighted average of 2.11 ounces per ton gold across 2.12 feet. Sample 3114 also contained 2.67 ounces per ton silver. Sample 3137 assayed 0.312 ounce per ton gold across 4 feet of quartz vein and stringers in the Humboldt Adit. Select sample 3003 of mineralized quartz float from the Discovery Gold trench assayed 0.293 ounces per ton gold and 19.8 ppm silver.

HARRIS RIVER
(fig. 8, No. 23)

The Harris River Mine is located along the north bank of the Harris River, about 1 mile west of Hollis. The mine was originally located in 1900 and development took place on an intermittent basis until 1936. A flooded inclined shaft is the only working on the property. Roehm reports that the shaft extends 700 feet below sea level on a 26° slope and 2,600 feet of drifts and raises were driven from it *(59)*.

The only detailed description of this property was given by Mertie *(56)* and the geology appears very similar to that occurring at the nearby Dawson Mine. Bureau production records indicate production in 1910, 1914-21, 1923-25, and 1927-29. A total of 8,173 tons of ore was milled. Total production consisted of 5,814 ounces of gold, 6,457 ounces of silver, 4,390 pounds of copper, and 1,159 pounds of lead.

Bureau geologists examined the Harris River Mine and found the flooded shaft and all of the surface facilities and equipment in total disrepair. Two dumps roughly 30 feet in height are located beside a ball mill. Dump rocks consist of black shale, quartz, and graywacke. Pyrite is ubiquitous in all the dump rocks, and the quartz also contains subordinate fine-grained galena. Outcrops in the vicinity of the Mine are predominantly black shale and limy phyllite. Bureau geologists collected a total of nine samples from the Harris River Mine area. A select sample (3242) from mill tailings assayed 2,524 ppb gold. The best quartz vein material (3243) came from the mine dump and assayed 9,548 ppb gold and 5.8 ppm silver.

KINA PENINSULA
(fig. 8, No. 24)

The Bureau took 2 samples from a skarn zone located east of Jarvis Island. Results are given in appendix table A-1.

KINA COVE
(fig. 8, No. 25)

Kina Cove is on the north end of the peninsula which separates Twelvemile Arm from Polk Inlet. Bureau geologists spent parts of several days investigating the geology of the Kina Cove area, especially looking for chalcopyrite mineralization reported during previous logging activities. The most promising mineralization was located along a road to the south of the head of the cove. Four samples were taken and metal values were generally low.

BAKER POINT
(fig. 8, No. 26)

Baker Point is located on the south side of Kasaan Bay, south of the village of Kasaan. Two prospects are reported near Baker Point including a magnetite occurrence south of the point and a sulfide occurrence in the timber to the east of the point *(95)*. There is no recorded production from either occurrence *(72)*. Bureau geologists traversed the area and sampled a 0.5-foot pod of massive magnetite in pyroxenite. Analysis revealed low values for nickel and cobalt and PGM concentrations were not determined.

SHELTON
(fig. 8, No. 27)

The Shelton prospect is on the east side of Twelvemile Arm, about 6 miles from the head, at approximately 1,000 feet elevation. Development work occurred prior to 1905 and consisted of a short drift and 55-foot winze driven along a vein outcropping in brecciated rhyolite. The vein is reported to outcrop in a small stream and workings are located nearby. Sulfide mineralization consists of pyrite and chalcopyrite *(80)*.

Bureau geologists travelled up a major drainage in search of the property between the Twelvemile Arm beach up to 1,500 feet elevation. Vein mineralization was located, and several old blazes and metal debris were found in the timber at the reported elevation of the prospect. However, no winze or adit was found. A total of six samples were taken during this traverse up the drainage. Sample 3093 was taken from mineralized quartz float at elevation 600 feet and assayed 11.8 ppm silver and 1.92 percent copper. Sample 3146 contained 12.3 ppm silver and 1.8 percent copper.

BIG HARBOR
(fig. 8, No. 28)

The Big Harbor Mine is a stratiform massive sulfide deposit located on the north side of Trocadero Bay, approximately 0.5 miles north of tidewater. Mine workings are located in two zones (east and west) separated by nearly 0.5 miles. Production of 136 tons of crude copper ore occurred in 1913 and 1916, mainly from the west workings.

Underground workings at Big Harbor include four adits (20 feet, 60 feet, 63 feet, and 400+ feet long) an inclined shaft, several crosscuts, and a 120-foot decline. The main adit at the western workings was partially caved (elevation 185 feet), but all the other workings are accessible. Bureau geologists mapped these workings, and took 18 samples to characterize the mineralization.

At the eastern workings, an 8-foot band of massive pyrite and chalcopyrite is exposed in the back of the 63-foot adit. A shaft was driven below this adit level to exploit this zone at depth. Bureau samples from this zone (3021, 3022) averaged 279 ppb gold, 4.0 ppm silver, and 1,315 ppm copper. These low metal values may represent the ore tenor found at depth and explain why no production occurred from these workings.

The main adit at the western workings (elevation 185 feet) contains an inclined stope and samples from this ore zone contained up to 15.2 percent copper and 32.8 ppm silver over 0.5 feet (3024). Other samples from a quartz-rich zone in this adit contained 8.8 percent copper (3026) and 7.37 percent zinc (3027). An outcrop containing a 1- to 3-foot-thick zone of massive chalcopyrite and pyrite lies adjacent to the upper adit (elevation 230 feet) and a sample of this (3030) contained 1.59 ounces per ton silver and 11.01 percent copper. This zone does not continue into the adit, suggesting that the mineralization at this mine is of a poddy nature.

TROCADERO BAY TO POLK INLET
(fig. 8, No. 29)

The area of central Prince of Wales Island between Trocadero Bay and Polk Inlet was examined for occurrences of volcanogenic massive sulfides hosted by Wales Group rocks. Bureau geologists completed two traverses, examining quarries and roadcuts along logging roads in this area. Sample results are listed in appendix table A-1.

One traverse was completed in the east-west-trending valley between the heads of Twelvemile Arm and Trocadero Bay. The rock types that crop out in this area are primarily marble with lesser chloritic schist. Only rare quartz veining with traces of pyrite and pyrrhotite was observed during this road traverse. A total of eight quarries and roadcuts were examined and sampled in this area. A total of seven samples were taken from six of the quarries.

The second traverse was completed in the east-west-trending valley between the heads of Twelvemile Arm and Polk Inlet. In addition a logging road extending along the west side of Polk Inlet was examined. Calcareous-chlorite schist with minor quartz veining predominate and pyrite concentrations to 15 percent were observed locally. A total of eight samples were taken from several roadcuts and quarries in the Polk Inlet area.

DOLLY VARDEN
(fig. 8, No. 30)

The Dolly Varden prospect was discovered around 1900 and workings consist of a 50-foot adit driven in Wales Group marble. Bufvers *(18)* places the prospect south of the head of Twelvemile Arm on the north side of the divide between Cave and Twelvemile Creek, although Bureau geologists were unable to locate the prospect. Mineralization is reported as auriferous quartz stringers with accompanying malachite and azurite. Three samples were taken during the search for this prospect and assay results are presented in appendix table A-1.

FRANKS RIDGE
(fig. 8, No. 31)

Franks Ridge forms the divide between Polk Inlet and the headwaters of Old Franks Creek. Volcanogenic mineralization was discovered on the ridge during 1981 by geologists working for Exxon Minerals Corp. Exxon subsequently staked the Franks Ridge claim group and mapped, sampled, and diamond drilled the property. Bureau geologists traversed Franks Ridge and took five samples in the area during 1990. Sample 3296 contained 140 ppb gold, 1.6 ppm silver, and 703 ppm copper. All other samples contained negligible metal values.

LUCKY MONDAY
(fig. 8, No. 32)

The Lucky Monday prospect is along the ridge dividing Polk and McKenzie Inlets. This prospect was discovered by Noranda Exploration, Inc., during regional stream sediment sampling in 1978. A thick zone of disseminated pyrite in felsic schists can be traced for over 1 mile along a west-northwest strike. The Bureau traversed the prospect area and collected 29 samples from outcrop and rubblecrop. Metal values are generally low for this prospect; the highest metal values obtained from all samples include 51 ppb gold (3291), 1.3 ppm silver (3291), 171 ppm copper (3292), 258 ppm lead (3289), and 443 ppm zinc (3289).

KHAYYAM
(fig. 8, No. 33)

The Khayyam Mine is at the head of Omar Creek on the north side of the ridge between McKenzie Inlet and Cholmondeley Sound. The deposit consists of stratiform massive sulfide lenses containing copper and zinc in schists of the Wales Group. The property was first located in 1899 and most development took place from 1901 to 1907. The mine workings occur on several levels and headings with a total of eight adits containing an aggregate length of approximately 2,000-2,500 feet (*32*). The Kimbal Adit occurs at 2,025 feet elevation and Adits 1 - 7 are clustered between 2,300 and 2,350 feet elevation. Adit 2 is referred to as the Powell Adit and was the main working with multiple headings and stopes. Production between 1906 and 1909 yielded 129 ounces gold, 1,711 ounces silver, and 177,769 pounds copper.

Bureau geologists took 41 samples of massive sulfide lenses and country rock from surface trenches, outcrops, and the 8 adits. Select sample 3261, taken from a stope in the Powell Adit, assayed 2.61 percent copper and 1.54 percent zinc. Samples 3231 and 3233 taken in Adit 4 assayed 4.66 and 4.68 percent copper across widths of 3 feet and 5 feet, respectively. Silver values from these two samples averaged 37.4 ppm. Sample 3237 from Adit 5 assayed 3.38 percent copper and 1,007 ppb gold across 8 feet. Sample 3178 from Adit 6 contained 2.85 percent copper and 1,910 ppb gold across 5 feet.

STUMBLE-ON
(fig. 8, No. 34)

The Stumble-On prospect is near the headwaters of Omar Creek, approximately 2 miles south of the head of McKenzie Inlet and 1.5 miles east-northeast of the Khayyam Mine. Mineralization is similar to that found at the Khayyam Mine and consists of stratiform copper-zinc massive sulfide lenses in schistose Wales Group rocks. This property was located and developed prior to 1907. Workings at the Stumble-On consist of an open cut, several trenches, and two adits with underground workings totalling 400 feet in length.

Bureau geologists mapped and sampled the surface and underground workings. Portals to both of the adits required minor excavation to allow entry but the underground workings were in fair condition. A total of 28 samples were taken from the upper and lower adits, outcrops, trenches, and ore stockpiles outside of each adit.

Selected samples from the upper adit (3274, 3276, 3301) contained up to 5.96 percent copper, 3.61 percent zinc, 43.7 ppm silver, and 3,916 ppb gold. Two continuous chip samples (3269, 3271) across 3 and 5 feet in the open cut above the upper adit assayed 3.17 and 8.93 percent copper, respectively. No significant analytical results were obtained from samples taken in the lower adit. Sample 3474, taken from an outcrop immediately to the east of the mine, assayed 4.57 percent copper, 15.4 ppm silver, and 6,909 ppb gold across 5 feet.

DEER BAY
(fig. 8, No. 35)

The Deer Bay prospect is immediately south of Deer Bay along the shoreline of Hetta Inlet. The prospect has one short adit less than 20 feet in length and has no recorded history or production. This prospect occurs in Wales Group chlorite and sericite schist with local quartz veins parallel to bedding. The Bureau mapped the adit and took 8 samples from the prospect. All of the samples contained minor amounts of gold and silver, with the highest values being 210 ppb gold (3096) and 1.6 ppm silver (3073). A sample from a dacite dike (3074) in the adit contained 207 ppm nickel.

DALL ISLAND SUBAREA: MINE, PROSPECT, AND OCCURRENCE DESCRIPTIONS

The Dall Island subarea includes Dall, Long, Sukkwan, and Goat Islands and that portion of Prince of Wales Island west of Hetta Inlet, south of Portage Bay and West Arm Cholmondeley Sound, east of a line connecting South Arm Cholmondeley Sound and Klakas Inlet, and north of the Barrier Islands. There are numerous smaller islands occurring within these geographic boundaries (fig. 11).

More than 50 mines, prospects, and mineral occurrences were visited during the 1990 field season and 420 rock samples, of which 50 were limestone-marble samples, were collected for analysis. Over 3,000 feet of underground workings were mapped. Bureau work on Dall Island and in Hetta Inlet was based off a charter boat; additional work on Dall, Long, and Sukkwan Islands was based from an abandoned logging camp at View Cove and accessed by skiff, float-plane, and helicopter; and high country work in the vicinity of Copper Mountain and Cholmondeley Sound was based out of Hydaburg.

The mines, prospects, and occurrences described in this chapter are generally listed from northwest to southeast and are cross-referenced to figure 11. Sample locations are shown on figure 12 and analytical results are presented in appendix table A-2. An inset map (fig. 13) is used in the Copper Mountain area to depict sample locations on a larger scale. Sample numbers referred to in the following descriptions (e.g. 4170) correspond to field numbers listed in appendix table A-2.

ARCHIPELAGO
(fig. 11, No. 1)

Placer claims staked at the head of Breezy Bay remained active until 1981, after which annual labor was no longer filed. This area is underlain by Silurian limestone beds which are in depositional contact with a turbidite sequence of Descon Formation rocks. A thrust fault juxtaposes these turbidites over the Port Refugio Formation. The Port Refugio Formation contains abundant graywacke (volcanic detritus) and turbidite rocks which are less indurated than Descon Formation rocks and also contains fossiliferous limestone bands *(30)*.

Pan concentrate samples were taken from the main creek draining into Breezy Bay and submitted for analysis. There was no visible gold recovered and samples 4142 and 4170 contained 0.9 ppm silver and 0.6 ppm silver, respectively.

BREEZY BAY
(fig. 11, No. 2)

An extensive logging road network has been constructed from

View Cove north to Breezy Bay and Hook Arm, and south to Reef Peninsula. Bureau geologists inspected and sampled the quarries and outcrops along this route for metallic mineralization, as well as metallurgical-grade limestone. Pyrite mineralization occurs in thin altered mafic dikes which intrude limestone in some of the pits, and as syngenetic mineralization in the thin slice of turbidite rocks occurring on the east side of the island, north of View Cove. Seven samples were taken to determine metallic content and 16 limestone samples were taken for carbonate and total oxide determination.

The metallic samples yielded low metal values, but the limestone contained significant percentages of $CaCO_3$ with minimal impurities. Four of the samples (LS 14 - LS 16, LS 22) contained at least 97 percent $CaCO_3$ across 75 feet or more sample width and MgO values were less than 1 percent. All of these samples tested higher than 93.6 percent total carbonate. The potential for large tonnages of quality material exists in this portion of Dall Island.

VIEW COVE
(fig. 11, No. 3)

Over 1.3 million tons of cement-grade limestone were mined from the View Cove Quarry between 1928-1941 and 1947-1948. Pacific Coast Cement, Inc. successfully operated this quarry through 1931, after which time they leased the property to Superior Portland Cement, Inc. Superior continued mining until 1941. Permanente Limestone mined the material in 1947-1948. Material was blasted from a large open pit, loaded by steam shovel into 8-yard standard gauge cars and then moved by locomotive into a large storage pit. The ore was drawn through chutes into an underground conveyor system which loaded the ore onto ocean-going freighters for the journey south. Many of the support facilities for this operation were still standing in 1990, although in a somewhat dilapidated condition.

Bureau geologists surveyed and sampled the pit and inspected the workings at this abandoned mine. Nine chip samples were taken from the pit walls and analyzed for oxides and total carbonate values. Five samples (LS 40 - LS 44) from the south wall averaged 97.8 percent $CaCO_3$ while four samples (LS 36 - LS 39) from the north wall averaged 96.1 percent $CaCO_3$. The limestone beds vary from white to light-medium gray in color and are cut by small, discordant mafic dikes. Gentle topography will limit the exploitation of this pit, although at least 100 feet of relief is still available for mining above sea level across nearly 200 horizontal feet.

Four additional samples (LS 23, LS 24, LS 45, LS 46) were taken from rock pits located northeast of the quarry along the Reef Peninsula road and total $CaCO_3$ averaged 97.3 percent.

MANHATTAN MOONSHINE
(fig. 11, No. 4)

This occurrence was reported to contain silver-bearing galena in quartz and is located up a small drainage just south of the head of Manhattan Arm on the west side of Dall Island *(8)*. A thorough search did not reveal the location of the workings (open cuts), but float and bedrock were sampled in the creek and along the beach. Slightly metamorphosed argillite and siltstone crops out on the beach. Numerous quartz veins occur in these silicified rocks, although most of them are barren of sulfide mineralization. A total of eight samples were taken and none contained appreciable gold and silver values.

CAPE LOOKOUT-SAKIE BAY
(fig. 11, No. 5)

Numerous quartz veins occur in the argillite and subordinate greenstones which crop out along the beach between Cape Lookout and Sakie Bay on the west side of Dall Island. Ten samples were taken to characterize metal values in the quartz and small pyrite pods found here. The highest gold value from any of these samples is 40 ppb (4282) and silver values peak at 3.9 ppm (4283). Quartz vein widths exceeded 30 feet in a shear zone along Sakie Bay, but samples of this material did not contain appreciable gold.

YELLOWSTONE
(fig. 11, No. 6)

Bureau geologists mapped and sampled several trenches and the dump from a water-filled adit at this prospect located on a ridge above the south shore of Manhattan Arm at 2,350 feet elevation. Chalcopyrite, pyrite, and pyrrhotite occur as disseminations and clots in a series of altered diorite dikes which have intruded limestone, chert, and argillite. Five samples were taken of the mineralized rock and high values for silver, copper, and zinc were obtained from trench samples 4183-4185. Sample 4183 contained 7.89 percent zinc, sample 4184 contained 1.8 percent copper and 11.9 ppm silver, and sample 4185 contained 1.2 percent copper and 5.8 ppm silver. Gold values were barely above detection level (5 ppb) for these samples. Analytical results obtained from the dump sample (4182) does not merit dewatering of the adit.

OSWEGO
(fig. 11, No. 7)

The Oswego unpatented limestone claims occur along the west side of View Cove between Clam Island and Green Inlet. Ashgrove Cement West, Inc. has been performing annual labor on these claims for many years and drilling, mapping, and sampling has taken place. An extensive section of high-purity limestone occurs in this portion of Dall Island. There are subordinate beds of dolomite and argillite, and mafic dikes are interspersed in the limestone.

Bureau geologists assisted Ashgrove with their brief drilling program during summer, 1990, and took three representative limestone samples (LS 3, LS 5, LS 7) from various locations on the claim block. Sample analyses revealed titrated $CaCO_3$ content from 95.6 percent to 98.2 percent. The most significant $CaCO_3$ value (97.6 percent) came from sample LS 7 taken across 56 feet of outcrop, about 300 feet back from the beach. Drilling by Ashgrove near Green Inlet has intersected hundreds of feet of high purity limestone with minor mafic dikes. After contamination from these mafic dikes is removed, a substantial reserve of quality limestone remains.

COCO HARBOR
(fig. 11, No. 8)

A large zone of contact metamorphic rocks (hornfels and skarn) with molybdenum and copper mineralization occurs along the north beach near the head of Coco Harbor. Outcrops of marble alternate with both felsic and mafic volcanic rocks, metagraywacke, and chlorite schist near the mineralized zone. Altered diorite dikes are also present. The contact zone consists of indurated dark green, black hornfels with disseminated pyrite, pyrrhotite, molybdenite, and minor chalcopyrite. There were also outcrops of epidote-garnet-quartz-tremolite skarn exposed on the beach. Some quartz veining is locally abundant and contains pyrite, pyrrhotite, minor molybdenite, and trace chalcopyrite. The skarn zone trends 100° and dips 75° southwest and is directly on strike with the Shellhouse prospect which lies 0.5 miles to the northwest.

Twenty-two samples were taken at the Coco Harbor occurrence, both along and across strike of the mineralization. Precious metal values from these samples were generally low. The highest gold value obtained was 34 ppb (4169) and most samples contained less than 5 ppb gold. The highest molybdenum value was 2,382 ppm, taken across a 1-foot-wide quartz vein (4162). Copper values were generally low; the highest value was 601 ppm obtained near the upper hornfels-marble contact 200 yards from the beach (4180).

COCO HARBOR MARBLE
(fig. 11, No. 9)

Bureau geologists sampled an exposure of marble just east of the skarn occurrence on the north shore of Coco Harbor. This area was staked in 1960 as a limestone claim, but development did not occur. The marble crops out for 200 feet along strike and 80 feet across strike before disappearing into the woods and under water. The marble contains thin tuffaceous interbeds and local pyrite mineralization. Wet method analysis revealed a $CaCO_3$ content of 93.4 percent by titration (CaO content is 54.0 percent), MgO content of 0.59 percent, and SiO_2 content of 1.19 percent.

SHELLHOUSE
(fig. 11, No. 10)

The Shellhouse prospect is northwest of the head of Coco Harbor adjacent to a small stream at 400 feet elevation. The Shellhouse property was explored by open cuts and an adit *(3)*. Bureau geologists searched two days before finding the Shellhouse prospect as dense brush and vegetation severely limit access in this area. Mineralization at the Shellhouse occurs in a 4-foot-wide massive sulfide lense containing pyrite, pyrrhotite, and chalcopyrite located in a contact metamorphic zone between an altered diorite porphyry and calcareous sedimentary rocks. A trench occurs near the creek which contains this exposure. The contact zone can be traced along strike to the west, but additional mineralization was not observed in these rocks. The trend of the Coco Harbor skarn occurrence strikes directly into the Shellhouse prospect, almost 0.5 miles away to the southeast.

The diorite porphyry has undergone propylitic alteration and contains disseminated pyrite and chalcopyrite near the prospect. Sample 4190 was taken of this material and it contained 2,965 ppm copper. Additional exploration of the intrusive may confirm the existence of a porphyry copper-type deposit. Two samples were taken at the Shellhouse (4191-4192) and copper values averaged 0.3 percent; gold values were generally low with sample 4192 containing 142 ppb, and silver values averaged 1.6 ppm.

A-1
(fig. 11, No. 11)

Bureau workers were unable to find any field evidence of the A-1 prospect which reportedly occurs along the major stream draining west into Coco Harbor *(82)*. There were no outcrops in the vicinity and pan concentrates taken for gold determination were not encouraging.

SILVER STAR
(fig. 11, No. 12)

There is a 50-foot adit and two drifts which expose galena-silver mineralization at the Silver Star prospect *(21)*. These workings occur at elevation 1,700 feet in a drainage below a saddle, south of Coco Harbor. Historical records are sketchy about actual development work. Apparently, a mineralized quartz-calcite vein in marble was developed at this prospect *(21)*.

There were no signs of workings at the reported location for this prospect and current belief is that the location is actually in a drainage west of the location cited in the literature.

WATERFALL BAY MARBLE
(fig. 10, No. 13)

Outcrops of massive to thick-bedded gray to tan marble of the Wales Group occur at the head of Waterfall Bay along the east and southeast shores, and rise immediately from the beach to elevations approaching 2,100 feet. Claims were staked in the area as early as 1912 and assessment work has occurred sporadically up to 1983 *(82)*. The area contains abundant marble and topography is suitable for large-scale development.

Bureau geologists examined the marble outcrops and took three samples to determine the total carbonate and oxide composition of the material. Analytical results from these samples were encouraging as total $CaCO_3$ determined by titration averaged 97.8 percent. Alumina, silica, and iron percentages were very low on all three samples. Samples LS-1 and LS-2, taken in the northeast portion of the bay, contain appreciable MgO as buff-red dolomitic portions were noticed in the field and confirmed by analysis (2.28 percent, 1.97 percent MgO, respectively). Sample LS-4 was taken 0.5 miles south of these other samples from marble exposed in a small creek.

WATERFALL BAY
(fig. 11, No. 14)

Nine samples were taken from selected outcrops around the north and southeast sides of Waterfall Bay, including the lakes located north of the head of the bay. The rocks along the east side of the lakes are mainly silicified metavolcanics with abundant quartz veins and pods. Pyrite is associated with the quartz and the rocks are heavily iron-stained. Despite low metal values (39 ppb gold, 0.2 ppm silver) obtained in two samples taken here (4034, 4035), the area deserves additional exploration. A 20-foot-wide zone of pyritic chlorite schist was found near the southeast corner of the bay, but samples did not contain appreciable metal values (4032, 4033).

GOLD HARBOR
(fig. 11, No. 15)

Bureau geologists prospected both sides of Gold Harbor searching for skarn mineralization associated with an intrusive-marble contact identified by recent geologic mapping in the area *(36)*. A Cretaceous granodiorite pluton intrudes Wales Group marble on the east end of the harbor. The Bureau took 17 samples from four separate contact zones to determine metallic content.

Two of the four zones contained sulfide mineralization; the southeast zone contained visible tennantite and high silver values (4.39 ounces per ton silver, 141 ppb gold; sample 4044), and the northeast zone contained molybdenite and chalcopyrite with associated pyrite (431 ppm molybdenum, sample 4058; 0.4 percent copper, sample 4057).

Mineralization in the northeast zone occurs in a magenta-black hornfels zone with relict igneous texture. Visible molybdenite and chalcopyrite occur in disseminations and small clots across a 10 - to 15-foot-wide zone confined within two shears. A zone of fractured marble conglomerate occurs along the east side of the harbor between the two mineralized areas, possibly formed by hydrofracturing during a devolatilization event. These rocks were sampled and analyses revealed low gold values.

The extent of metallic mineralization in the northeast zone needs to be determined and additional work is warranted in this area. Topography is suitable for soil surveys and with some devegetation a grid could easily be set up.

MOUNT VESTA
(fig. 11, No. 16)

Bureau geologists found an adit and dump at the Mount Vesta silver prospect, located at 720 feet elevation on the south side of Vesta Bay. The prospect occurs on four patented mining claims (MS 648) which have subsequently been clearcut, making access very difficult.

The adit generally trends 200° for 89 feet and exposes 0.17-to 0.33-foot-wide shear veins containing tetrahedrite, malachite, and calcite near the portal. The miners attempted to follow the trend of these veins in this S-shaped working, but were unsuccessful.

The entire adit is composed of white to gray-white marble except for a 1.5-foot-thick mafic dike crosscutting the marble. The Bureau took two samples from the adit and one from a float boulder found 60 yards west of the adit. Sample analyses revealed high values in silver, copper, lead, gold, bismuth, and antimony. Selected results include 25.95 ounces per ton silver (4253), 1.2 percent copper (4252), 3.34 percent lead (4253), 1,139 ppb gold (4253), and greater than 2,000 ppm values for bismuth and antimony. The high analytical values suggest that additional prospecting is warranted. The presence of a mineralized float boulder 60 yards west of the adit suggests that parallel zones of mineralization may exist across the claim block.

GRACE HARBOR
(fig. 11, No. 17)

Several rock pits and outcrops were investigated along a 4-mile stretch of the recently constructed logging road from Grace

Harbor to Port Bazan on Dall Island. The road generally crosscuts regional foliation (100° to 120°) and intersects greenschist facies metavolcanic and volcaniclastic rocks and marble. Five rock pits were examined for sulfide mineralization and 11 samples were taken.

The most encouraging mineralization occurs in a pit near the east end of the large lake in section 32. Thin layers (0.16 to 0.33 feet thick) of massive pyrite and barite were found within a sequence of chloritic agglomerate, tuffaceous metasediments (chlorite phyllite), and greenstone flows. Seven samples were taken from various units exposed in this pit and metal values were all generally low. There was negligible gold in all samples, silver peaked at 1.0 ppm in select sample 4249, the high copper value was 346 ppm in sample 4248, and barite values were 1.9 percent and greater than 2 percent in samples 4241 and 4249, respectively. There may be potential for massive sulfide mineralization in this area, although a thick sequence of felsic volcanic rocks was not seen.

The road from Grace Harbor to Luke Point exposes 20 -to 50-foot-thick marble beds intruded by mafic dikes. A representative chip sample (LS 26) taken across 130 feet of marble in a pit contained 41.8 percent CaO and 11.1 percent MgO, which is unacceptably high magnesium content for most uses.

LUCKY STRIKE
(fig. 11, No. 18)

Bureau geologists were unable to locate any signs of this occurrence as thick vegetation concealed outcrops. Historical reports suggest that quartz veins containing chalcopyrite and pyrite mineralization occur in small shears within marble at 1,300 feet elevation, exposed in open cuts *(21)*.

Rocks in the vicinity are predominantly chloritic volcaniclastics, greenstone schist, and marble beds with thin concordant quartz veins. The quartz is relatively barren of sulfides, but iron-staining occurs locally. A representative sample of quartz material (4222) contained negligible metal values.

DOLGOI ISLAND
(fig. 11, No. 19)

A small pyroxenite intrusion is exposed on the southeast side of Dolgoi Island in Port Bazan, Dall Island. The contact zone between Wales Group marble and the pyroxenite was examined for signs of mineralization. Small dikes containing skarn minerals (andradite garnet and epidote) occur within the marble near the west contact, but scant sulfide mineralization was encountered. There are concentrations of pyrrhotite, magnetite, and biotite within the intrusion and small shears have been serpentinized.

Sample 4050 was taken from the pyroxenite and analysis revealed a trace of platinum group metals (PGM) and 375 ppm vanadium.

SECURITY COVE
(fig. 11, No. 20)

Bureau geologists prospected beach outcrops throughout Security Cove in search of stratabound massive sulfide mineralization first reported by private industry in the late 1970s *(3)*. Bedrock in the area is dominated by dacitic metavolcanic rocks, while thin bands of Wales Group chlorite schist, phyllite, marble, and metabasalt flows occur near the mouth of the cove.

A 20-foot zone of thin massive pyrite layers (0.1 to 0.5 feet thick) intercalated with marble and chlorite schist bands was discovered on the north side of the cove. Seven samples were taken of this material and assays reveal that minor amounts of mineralization occur. A select sample (4022) across a 0.5-foot-thick pyrite layer contained 357 ppb gold, 6.3 ppm silver, 2,885 ppm zinc, 1,103 ppm arsenic, and 2.3 percent barium. These rocks, as mapped by Gehrels *(36)*, continue across to the south side of the cove, but Bureau reconnaissance did not disclose similar mineralization on the south side of the cove.

In addition to the above work eight character samples were taken of the dacitic metavolcanic rocks and quartz veins throughout the cove. Results were not encouraging. Sample 4016 contained 130 ppb gold and 0.6 ppm silver across 0.5 feet of quartz boudins in a sericite schist host; all other values were negligible.

MCLEOD BAY (ELK, VIRGINIA CLAIMS)
(fig. 11, No. 21)

Bureau geologists spent three days investigating the workings and exposures at this gold-silver prospect, located at the head of McLeod Bay (Elk claims) and continuing northwest into the Wolk Creek drainage (Virginia claims). Mineralization occurs in discontinuous quartz veins along a two-mile shear zone trending 320° within metasedimentary and metavolcanic host rocks.

Workings at the Elk claims are located on the south side of McLeod Bay at about 500 feet elevation. The vein has been traced by open cuts for 800 feet along strike. A 265-foot crosscut tunnel was driven 100 vertical feet below the vein at 450 feet elevation. A shorter, caved tunnel is located about 600 feet west of this portal. Another 175-foot adit is located near tidewater at elevation 80 feet *(18)*.

The Virginia prospect occurs at 300 feet elevation in an open muskeg, and mineralization can be traced for 2,000 feet along Wolk Creek. Quartz-carbonate vein widths vary from narrow stringers to

10-foot-wide veins. Open cuts and two shallow shafts (less than 20 feet) were sunk on this vein just east of the creek *(18)*.

Two days were spent at the Elk claims mapping and sampling a 179-foot adit near tidewater and searching for other adits near 500 feet elevation, uphill from the lower working, as reported by the claim owner. The lower adit cuts metagraywacke and silicified greenstone schist and does not penetrate the mineralized zone. Four samples were taken in the adit and sample 4011, a continuous chip across 5 feet of silicified chlorite schist, contained 117 ppb gold and 0.4 ppm silver.

The Bureau did not find the caved upper adit, but a search along strike of the northwest-trending shear zone between 400 and 500 feet elevation did encounter discontinuous mineralized quartz veins in a tan sericite schist host. Sampling along a 1 -to 2-feet thick vein confirmed that exceptional gold, silver, copper, and zinc values occur on the property. Analyses from samples 4009 and 4021, taken at two places across the same vein, revealed 1.3 ounces per ton and 3.4 ounces per ton gold, 4.9 ounces per ton and 14.9 ounces per ton silver, 388 ppm and 1.1 percent copper, and 1,396 ppm and 2.17 percent zinc, respectively. This vein is exposed for 20 feet before disappearing under cover. Two other veins were sampled (4004, 4010) and they contained 287 ppb gold and 100 ppb gold, respectively.

The Virginia claims and associated trenches and shafts occur along a 0.4-mile stretch of Wolk Creek at the northern continuation of the mineralized shear zone. Numerous quartz veins and mineralized beds of chlorite schist and metagraywacke crop out in the creek bed and banks; trenches have also exposed mineralization. Fourteen samples were taken from this area and 5 of them contained over 1,455 ppb gold; the highest value was 4,827 ppb gold and 33.9 ppm silver coming from a representative chip of a quartz vein exposed in a 33-foot-long trench (4202). Samples over the entire length of this trench averaged 3,141 ppb gold and 21.1 ppm silver. Two short shafts were sunk above the northeast side of the creek near the long trench, but no samples were taken from these workings. Numerous other thin, discontinuous quartz veins occur along the creek, but the lack of continuity frustrates exploration efforts.

A private company maintains numerous unpatented mining claims on this property. The character of the host rocks near the beach on the Elk claims suggests that potential for massive sulfide type mineralization exists in the area.

PRECIOUS
(fig. 11, No. 22)

The Precious claims were staked over the Daykoo Islands, located on the north side of McLeod Bay, on southern Dall Island. The Daykoo Islands are composed of Wales Group rocks including rhyolitic and basaltic metavolcanic rocks, and clastic metasedimentary rocks (chlorite schist, amphibolite, and metagraywacke) *(36)*. Six character samples were taekn from this group of abandoned claims.

Mineralization occurs as disseminated and stringer pyrite in rhyolitic volcanics, thin quartz veins and boudins, and 0.2 -to 0.4-inch-thick bands of massive magnetite in the basalt. Gold values from all samples were less than detection level (5 ppb). The felsic volcanic rocks contain abundant pyrite and limonite staining across a 200 -to 300-foot zone and quartz boudins and veins are also concentrated in this same area.

GOAT ISLAND
(fig. 11, No. 23)

A skiff was used along the west and southern shores of Goat Island to search for a reported gold anomaly in the metasedimentary and metavolcanic rocks of the Descon Formation (Hedderly-Smith, personal communication). The dominant rock type present is black-green argillite with lesser basaltic and greenstone volcanic flows and agglomerates, and minor chert. The argillite has been locally silicified and contains small pods of massive pyrite.

Six rock chip and six stream sediment samples were taken to characterize mineralization in the area. The best metal values were obtained from a localized quartz stockwork containing up to 50 percent pyrite, and intense hematite and limonite staining. A sample of this material (4324) contained 564 ppb gold and 2.0 ppm silver. A sample of silicified argillite with stringer pyrite contained 567 ppm copper and 395 ppm zinc.

BLANKET AND FLAT ISLANDS
(fig. 11, No. 24)

Old reports suggest that a rich pocket of gold-laden quartz was discovered along the shore on the south side of Flat or Blanket Island. Apparently, too much powder was used to break up the outcrop and the most of the ore was blasted into the water *(18)*. The quartz outcrop is located near the shore of Sukkwan Island, 5 miles northwest of Lime Point.

Bureau geologists used a skiff to prospect the west and south shores of Blanket and Flat Islands, looking for concentrations of quartz float or signs of mineralization. Six samples of quartz vein material and massive pyrite mineralization were taken. Quartz float with chalcopyrite was encountered along Blanket Island, and a sample (4115) of this assayed 1,734 ppm copper and nil gold. The highest gold value obtained was 72 ppb which came from massive pyrite sampled on Flat Island (4117).

GOULD-SUKKWAN
(fig. 11, No. 25)

The Gould-Sukkwan copper prospect occurs along the contact between Descon metasedimentary rocks and a syenite intrusive at the south end of Sukkwan Island, north of Jackson Island.

This contact has been prospected for a mile and mineralization was recognized throughout. Pyrite and pyrrhotite are widespread and chalcopyrite occurs in veinlets and stringers concordant to the prevailing local schistosity *(23)*. Bureau geologists searched for the trenches and open cuts reported along the contact. However, exposures were limited to beach outcrops and those under isolated tree-falls. The workings were not discovered.

Three samples were taken in the area. An outcrop of indurated argillite adjacent to the intrusive was sampled (4060) and assays revealed 1,187 ppm zinc and 182 ppm copper. Another sample (4061) taken near a pyroxenite-argillite contact contained 485 ppm copper. Further reconnaissance for rare earth element (REE) mineralization along the eastern contact of the syenite body is recommended.

LAKESIDE
(fig. 11, No. 26)

The Lakeside prospect is on a narrow neck of land separating a salt chuck from Tlevak Strait on the southern tip of Sukkwan Island. A 100-foot shaft was sunk at an elevation of 30 feet, and 50-foot drifts were run at the 50-foot level and at the bottom of the shaft. The shaft is currently flooded. A large dump is adjacent to the shaft. Roehm reports that copper production occurred in 1917-1918 *(67)*.

The bedrock in the area consists of gabbro and associated mafic rocks of Ordovician age *(30)* which have intruded greenstone schists and associated metasedimentary rocks of the Descon Formation. Sulfides occur as irregular bunches, disseminations, and seams in two strongly mineralized shear zones near the pyroxenite-greenstone contact.

Bureau investigation revealed a 145° shear in pyroxenite along the beach 100 feet west of the shaft. Chalcopyrite-bearing float was found near this shear; the exposed outcrop was not mineralized. The shaft and dump were found along strike from this shear and four samples were taken from dump material as no mineralized outcrop was found near the workings. Analyses for PGM was made because of the historic reference to this association *(87)*, but each sample contained less than 5 ppb platinum. Sample 4059 contained 0.28 percent nickel, 892 ppm cobalt, and 1.57 percent copper. The other three samples averaged 566 ppm nickel, 136 ppm cobalt, and 0.36 percent copper.

The location of this property on the southern tip of Sukkwan Island severely limits the on-shore potential of additional mineralization along this trend.

LONG ISLAND RECONNAISSANCE

There are five reported occurrences on Long Island according to Bureau records. These are the Cleva Bay, Shoe, Gotsongni Bay, Heart, and Coning Inlet or Foster. The only location with workings is the Foster prospect; the others are mineral occurrences where staking and annual labor have been reported at various times *(82)*.

Sealaska Corporation manages the mineral resources on approximately 23,040 acres of native land on the island and has performed reconnaissance geologic mapping and both stream sediment and rock chip sampling. Results from their work identified geochemical anomalies at Lake Seclusion and Coning Point which were reexamined by Bureau geologists. Most of the rock pits developed to build the extensive logging road system on the northern half of the island (in excess of 100 miles) were examined, chip samples were taken when warranted.

In all, 32 rock chip and 13 marble samples were collected from Long Island. The Foster prospect was not found as second growth timber obscures the trails and clues to its location. Anomalies at Coning Point and Lake Seclusion were confirmed by sample analyses. High-quality metallurgical limestone was sampled on patented mining claims at Cleva Bay, and from pits near Elbow Bay on the northeast side of the island. The following summaries (Nos. 27-33) are used to highlight the more significant work done on Long Island.

CLEVA BAY
(fig. 11, No. 27)

Oregon Portland Cement Co. staked 21 claims on this property in 1964 and performed drilling and sampling in 1965-1966. The company had these claims surveyed for patent in 1966 (M.S. 2237). A total of 10 drill holes appear on the mineral survey. By December, 1970, a patent for 13 of these claims was issued (No. 50-71-0023) *(82)*. No marble production has occurred at this location. The current owner of the property is Ashgrove Cement West, Inc.

Cleva Bay is on the north shore of Long Island which is characterized by thick second growth timber and dense brush. The Bureau traversed the beach along MS 2237 on the west side of Cleva Bay and then walked up the stream at the southern end of the property to inspect and sample the marble. Abundant mafic dikes, thin chlorite schist bands, and ankerite have contaminated the marble along the beach. Stylolites within the marble roughly define a bedding attitude of 087° with an 83° dip to the northwest near the north end of the claim block. The marble seen in the south end of the claim block near the creek is more massive and orientations are difficult to determine.

Three representative samples were taken of the marble; LS 48 and LS 49 were taken along the stream that J.C. Roehm had previously sampled in 1946 *(69)*. Analytical results from two samples exceeded 98 percent $CaCO_3$ and 1.35 percent MgO, and confirm Roehm's previous work. The massive, high $CaCO_3$ content marble is exposed along the creek for hundreds of feet inland.

SHOE
(fig. 11, No. 28)

Archipelago Mining located the Shoe Nos. 1-5 placer claims on the west side of Shoe Inlet, Long Island in 1969. State of Alaska records show that annual labor was performed from 1973-1977. The property is currently vacant *(82)*.

Bureau geologists panned two of the small streams draining the west side of Shoe Inlet. Visible gold was not recovered in either attempt. There does not appear to be sufficient depositional area for a significant deposit to accumulate, although reports suggest that the beach sands have been productive.

Sealaska Corporation took a few stream sediment and soil samples in the area, but no base metal anomalies were discovered. Gold was not analyzed in these samples. The Bureau's samples were not analyzed.

GOTSONGNI BAY
(fig. 11, No. 29)

Gotsongni Bay, currently known as Shoe Inlet, is on the north shore of Long Island, west of Cleva Bay. Reconnaissance sampling was performed along the Long Island road system which has a spur located east and uphill from Shoe Inlet. There is an abundance of quartz mica schist and graphitic schist in two rock pits just south of the reported marble location. The marble seen in a separate pit is contaminated by mafic dikes which have imparted a greenish color to the marble. These green marbles are 1 to 2.5 feet thick and take a good polish *(20)*.

Sampled taken from the back wall of a pit (LS 27) contained white-mottled marble with few mafic dikes. Analysis of the marble revealed 96.8 percent $CaCO_3$, 0.96 percent MgO and 0.70 percent SiO_2. An attractive green-colored marble occurs in narrow, 2- to 3-foot beds in this pit, adjacent to mafic dikes.

LONG ISLAND
(fig. 11, No. 30)

Bureau geologists investigated outcrops and rock quarries along the 1000 -and 1200-series roads on the north end of Long Island. Dominant rock types include marble, quartz sericite schist, calc-schist, greenstone and chlorite schist, and minor argillite. Samples taken by Sealaska geologists in 1988 and 1989 revealed anomalous levels of gold around Dova Mountain. Bureau samples did not duplicate these anomalies (4255, 4269, 4270). A marble sample taken north of Dova Bay contained 98.4 percent $CaCO_3$.

ELBOW BAY
(fig. 11, No. 31)

There are extensive marble beds on the northeast portion of Long Island between Dova Bay and Natoma Bay. Bureau geologists sampled many of the rock pits and outcrops around Elbow Bay and total carbonate values from chip samples as determined by titration range from 96.2 percent to 99 percent $CaCO_3$. Long Island contains an extensive road network and locally, Elbow Bay contains areas with suitable topography to facilitate open pit mining and processing of this high-grade material.

HEART
(fig. 11, No. 32)

In 1956, Alaska Uranium Ventures staked 37 limestone claims along the north shore of Coning Inlet, on Long Island. A group of lode copper claims was staked in the same general vicinity as the limestone in 1956. No extensive work was accomplished on these (*82*). There are no workings or facilities at the prospect.

Prospecting in the surrounding area did not identify any significant mineralization from outcrops and rock pits. Three rock chip samples taken in the area contained no significant metal values.

CONING POINT
(fig. 11, No. 33)

Bureau geologists found a large marble float boulder containing significant quantities of chalcopyrite, galena, and sphalerite near a rock pit above Coning Point, on Long Island. This occurrence was initially reported by Sealaska geologists.

A sample from this boulder (4275) contained 20.4 ppm silver, 9,169 ppm copper, 5,991 ppm lead, and 5.03 percent zinc. Inspection of rock pits and surrounding outcrops did not reveal the source of this mineralized boulder. Country rock in the area includes extensive marble beds and lesser quartz mica schist.

LAKE SECLUSION
(fig. 11, No. 34)

The historic Foster prospect occurs along the west branch of an overgrown logging road which initiates from the beach on the south side of Coning Inlet. This road is heavily brushed over and travel is difficult. Historical reports state that the property was well exposed at elevation 420 feet, approximately 200 feet from a logging road. At least one trench and associated stripping have exposed this deposit for at least 100 feet. An old cut exposed an 11-foot-wide vein. Three samples were taken for evaluation by Glover *(40)*, and the highest gold value obtained was 0.02 ounces per ton. The Bureau did not find any sign of this prospect.

A silver-bearing calcite vein was located by Sealaska geologists southeast of Lake Seclusion in rock pit LI-1300-7 on the 1300 logging road. The thin calcite vein strikes north-northwest, dips vertically, and is hosted in marble and chlorite schist. Ore minerals consist of tetrahedrite and abundant copper carbonate; chromium mica is a common accessory in fault zones within the marble. Two samples were taken in the area and sample 4236 was selected from sulfide clots in the shear zone. This sample contained 41.62 ounces per ton silver, 4,217 ppb gold, 1.38 percent copper, and 7,036 ppm zinc. Seven other samples taken in the general vicinity did not contain anomalous values.

GOULD ISLAND
(fig. 11, No. 35)

The Gould Island copper prospect occurs near the southwest tip of Gould Island, near the head of Hetta Inlet, and is hosted in a zone of marble, quartzite, albite-epidote-garnet hornfels, and skarn. Workings at the prospect include a 70-foot adit (caved in 1990) driven along the footwall of the most intense mineralization; a 10-foot shaft (flooded in 1990) and open cuts 50 feet north of the adit; and a 17- by 6- by 10-foot-deep pit 300 feet east of these workings *(92)*. These workings were found in 1990.

Beach outcrops just south of the prospect contain altered granodiorite and Wales Group greenstone. Neither marble nor zones of skarn were seen on the beach. Mineralization on the property consists of chalcopyrite, galena, and sphalerite in small veinlets within the hornfels unit and abundant chalcopyrite in a 4-foot quartz vein just east of the upper trench. Gangue minerals include calcite, quartz, garnet, and epidote. Wollastonite occurs as radiating masses within the adjacent limestone unit and is spatially associated with the occurrence of galena. Mineralization occurs sporadically and is of low grade.

The Bureau found and mapped the trench, shaft, and caved adit and took 8 samples. A dump sample (4097) contained 4.7 ppm silver, 1.4 percent copper, and 1.8 percent zinc; a sample of hornfels from the adit portal (4099) contained 0.12 percent lead and 2.5 ppm silver. A continuous chip across a 4.5-foot quartz vein exposed in a small cut above the main trench (4138) assayed 802 ppb gold, 6.7 ppm silver, 1.74 percent copper, and 1.39 percent zinc. Wollastonite is present in the adit dump and in the trench in zones less than 1 foot wide and merits further investigation as an industrial mineral source.

HOUGHTON
(fig. 11, No. 36)

The Houghton claims, including a millsite at tidewater, are south of Gould Island on the north side of Jumbo Mountain between elevations of 1,580 and 1,800 feet. They were first staked for copper in 1901 and little more than assessment work was completed until 1905. The Cuprite Copper Co. acquired the property in 1906 and added two more claims. Investigations were advanced in 1907 and the company drove two tunnels. Camp facilities and an aerial tram to the beach were erected by 1908 *(92)*. The results of 1908 work were unsatisfactory and the property was abandoned by the end of 1911 *(95)*.

There are three adits on the property; a 99-foot adit at elevation 1,580 feet, a 196-foot adit with a flooded winze at elevation 1,600 feet, and an 80-foot adit driven at elevation 1,700 feet. This upper adit was driven to undercut surface mineralization exposed in a 30-foot cut and a 15-foot pit showing massive pods of chalcopyrite up to 5 feet wide *(95)* at 1,800 feet elevation. Both lower adits were found open in 1990; the upper adit was caved, and the trench was sloughed in. A steam-driven winch and remnants from the aerial tram are still visible.

The copper deposits of the Houghton prospect occur as small pods of chalcopyrite, magnetite, and pyrite-pyrrhotite in a garnet, epidote, calcite skarn-hornfels zone 25 feet to 75 feet wide. The skarn zone trends roughly 050° to 060°, dipping steeply to the northwest, and extends over 300 feet along an irregular contact between the Copper Mountain granodiorite and Wales Group marble.

Bureau geologists mapped the two lower adits and searched for the upper showings and workings. Eight samples were taken from the adits. One sample taken from a high-grade zone in the upper adit contained 10.44 percent copper, 46.5 ppm silver, and 934 ppb gold (4317); while a more representative sample contained 1.09 percent copper, 5.4 ppm silver, and 157 ppb gold (4316). Two samples (4286, 4287) from a small mineralized pod near the portal of the 1,580 foot elevation adit contained 7.5 percent and 7.0 percent copper, 1,841 ppb and 2,630 ppb gold, and 26.4 ppm and 25.1 ppm silver, respectively. These are significant results, but the mineralization is confined to small pods and tonnage is limited.

JUMBO
(fig. 11, No. 37)

The Jumbo Mine produced over 10 million pounds of copper, 87,000 ounces silver, and 7,000 ounces gold between 1907-1923 *(49)*. This was the largest producing mine in the Dall Island subarea. Most of the ore was mined from a glory hole located in Jumbo Basin at elevation 1,750 feet and from a stope developed in the main working tunnel at elevation 1,570 feet. Four separate adits were driven to exploit the orebody between 1,570 and 1,800 feet elevation. Other exploratory adits occur in the general vicinity of the mine.

The Jumbo Basin area contains the gold-copper skarns of the Jumbo Mine, the magnetite-copper deposits at Magnetite Cliffs to the north, and the Gonnason or upper magnetite cliff deposits located between these two sites. The Bureau drilled the Magnetite Cliff deposits during a War Minerals study *(96)* and geophysical surveys have identified mineralization at the upper magnetite cliff (Gonnason) deposits.

The main workings at the Jumbo Mine have been mapped and sampled by several workers and most recently, Cominco, Alaska investigated the property for a large, low-grade porphyry copper-gold system. Cominco's main objective was not achieved, but hundreds of samples were taken and underground workings were mapped in considerable detail.

Bureau work at the property included finding most of the workings and field checking the geologic maps made of the underground workings by Cominco, Alaska, a sublessee of the property in 1989. The Bureau took one sample from the property (4346) and it contained 8.47 percent copper and 2,180 ppb gold.

GREEN MONSTER
(fig. 11, No. 38)

The Green Monster group of 14 patented claims lies between elevations 1,400 and 2,900 feet, encompassing the summit and upper elevation ridges on Green Monster Mountain. A 65-foot adit occurs on the Diamond R No. 1 claim (Green Monster claim) at 2,600 feet elevation; another 65-foot adit was driven on the Diamond R. No. 2 claim at 2,300 feet elevation. An 8-foot pit and trenches occur on the Jola No. 1 claim at 2,900 feet elevation. Several open cuts occur on the remainder of the property. A short adit was driven on the Rex claim *(21)*, which occurs on a small knoll above Summit Lake, just south of the Green Monster claimblock.

Bureau geologists mapped and sampled the Diamond Ridge No. 1 adit and followed the surface exposure of skarn mineralization to a trench, 210 feet to the south. Seven samples were taken to assess the metal content of this skarn zone and three samples (4368, 4378, 4379) contained 3.68 percent, 3.57 percent, and 6.93 percent copper, respectively, and from 16.5 ppm to 40.2 ppm silver. The highest gold value along this zone was 1,869 ppb (4379) taken across 3.7 feet. Malachite and azurite are common along this zone.

The small pit on the Jola claim was examined and a 6-foot chip sample (4381) across a pod of magnetite-pyrrhotite contained 1,867 ppm copper. This mineralized skarn is confined within a narrow hornfels zone between marble and granodiorite and probably represents an endoskarn as faint igneous textures were observed.

Bureau geologists briefly examined the privately-owned epidote crystal locality on the west side of Green Monster Mountain. The epidote crystals occur in pockets within a much larger zone of garnet-amphibole skarn. These pockets have received considerable attention over the years and many quality crystals have been removed. Small irregular pods of sulfide mineralization (mainly pyrite and chalcopyrite) occur here and a 2-foot sample (4382) contained 9,160 ppb gold and 16.2 ppm silver.

COPPER MOUNTAIN
(fig. 11, No. 39)

Between 1903 and 1906, the Copper Mountain Mine produced 5,768 tons of ore containing 224,285 pounds of copper, 10,331 ounces of silver, and 145 ounces of gold *(88)*. The Copper Mountain Mine supported a smelter at Coppermount, in Copper Harbor, one of the only two smelters ever constructed in Alaska. Surface concentrations of copper carbonates were mined but these were not as extensive as originally predicted and the Coppermount smelter closed down within 3 years. Many workings were constructed in search of copper ore and according to Mineral Survey plats, the following work was done on these Copper Mountain properties prior to patenting:

MS 419A/B - 8 tunnels and 15 open cuts
MS 886 - 4 tunnels (extensions on 3 others) and one open cut
MS 1006 - 3 tunnels and 5 open cuts
MS 1023 - 3 tunnels

Most of the historic literature, however, suggests that advanced development occurred only on the New York, Indiana, and Oregon claims which occur between 2,400 and 3,500 feet elevation on M.S. 419. An open cut at elevation 3,300 feet on the New York claim exposed high quality ore which was further prospected by two adits 150 feet and 300 feet below these outcroppings. The adits are 200 feet and 700 feet long and are connected by raises *(92)*.

Bureau geologists could not confirm this connection during 1990 as the upper adit was caved 100 feet back from the portal. There were several raises and ore chutes found in the lower adit. At elevation 2,350 feet, a 2,000-foot adit with 1,000 feet of drifts and crosscuts undercuts this same orebody. This working was thoroughly mapped and sampled by Cominco, Alaska during their 1989 assessment program.

The principal development on the Indiana claim is a large open pit, 800 feet northeast of the cut on the New York claim. This pit occurs at elevation 3,500 feet, and three adits were driven from 20 feet to 300 feet below this pit. Two trenches were also discovered in the vicinity. A 1,400-foot surface tram connects the Indiana workings with those at the New York claim, where a 6,000-foot aerial tram connects with the smelter bins *(92)*.

Three short adits were found open in the basin northwest of Copper Mountain on MS 1006.

Bureau geologists mapped 2 open pits, 5 adits, and 2 trenches on the New York and Indiana claims and took 41 samples. Three short adits on MS 1006 in upper Jumbo Basin were also mapped and sampled.

The ore exposed in the main pit on the New York claim contained the highest copper values with one sample (5627) assaying 39.48 percent copper and another assaying 26.39 percent copper (4326). Samples were taken from the hornfels zones and altered granodiorite exposed in the long adit on the New York claim to investigate the possible presence of a low-grade high-tonnage deposit. Representative chip samples taken across 15-foot zones did not contain more than 1,196 ppm copper. Gold values were negligible. A large, low-grade porphyry system outside of these high-grade pods is not present.

Select chip samples contain upwards of 40 percent copper. One of the samples taken from a rock pile found in an ore chute in the main New York adit assayed 1.04 percent cobalt and 28.6 ppm silver. Several other samples also contained over 20 ppm silver and over 10 percent copper. Sample results taken from the adits driven below the surface concentrations of ore found in the open pits were low. Additional high-grade reserves have not been identified at this property.

CORBIN
(fig. 11, No. 40)

The Corbin Mine was initially staked in 1905, along the east shore of Hetta Inlet. Ore was sent from the mine to the Coppermount smelter during 1906 and in the same year, the Alaska Metals Mining Company purchased the property and began active development. The property was equipped with an air compressor, a hoist, a steam-power plant, wharf, and other buildings. Low copper, gold, and silver values in the underground workings forced the company to abandon the property in the winter of 1907 *(92)*.

A 100-foot shaft (currently flooded) was sunk on the property and drifts and crosscuts were run at depth to explore the ore body. A 337-foot adit, including crosscuts, a stope, and a winze was driven in a southeasterly direction near the shaft. Trenches were excavated north of the mine. A 45-foot adit, presently caved, is found 50 feet north of the long adit. Other surface facilities and abandoned equipment lay idle on the property.

The massive sulfide ore body at the Corbin is enclosed in a package of quartz sericite schist and dark green chlorite schist. Shearing occurs along the ore body in two places along its contact with the Wales Group schists; slickensides and intense limonite staining occur on both sides of the vein. Thin quartz veinlets and azurite staining are concentrated in a fault zone near the stope. These faults are parallel with foliation in the schists. Mineralization consists of pyrite, chalcopyrite, copper carbonates, and sphalerite in a quartz-rich gangue.

Bureau geologists mapped the adit, surveyed the surface facilities and trenches, and took 11 samples. The 337-foot adit contains a 60- by 42-foot-high stope which was mined across 4 feet. Chip samples taken near the stope (3077, 3078) contained silver values of 2.03 ounces per ton and 1.75 ounces per ton, and gold values of 3,131 ppb and 7,575 ppb, respectively. These numbers confirm historical reports that combined gold and silver values amounted to $3.00 per ton (at $20.67 per ounce gold and $0.50 per ounce silver) *(44)*. A 4-foot chip sample taken across the back of the main adit contained 3.25 percent copper, 4.15 percent zinc, 24.0 ppm silver, and 1,395 ppb gold (3080). This zone merits additional work to determine extension of the mineralization at depth.

GOULD (HETTA INLET)
(fig. 11, No. 41)

The Gould prospect is south of Reynolds Creek at 300 feet elevation, and consists of a 50-foot adit along with a 40-foot shaft at the north end of the claim *(95)*. A 22-inch water pipe extends through the property and at one time supplied water from Reynolds Creek to the smelter at Coppermount. The Bureau found a 20-foot adit with a 35-foot open cut and a large dump at this site.

The Bureau mapped and sampled the adit and dump on the Gould prospect. An altered granodiorite intrusive has been sheared and mineralization localized in these 160°-trending structures. Quartzite and calcareous schist beds were seen in outcrop west of the prospect workings. The highest copper value obtained from four samples was 2,012 ppm (4131).

Two prospect pits on the Iron Crown claim, located just north of the Gould prospect, were sampled and no significant metal values were obtained. A shear zone identified in these pits was seen in the adjacent creek and sampled (4130). Copper values were low. Massive sulfide boulders in the creek just above these pits (elevation 550 feet) were sampled and analysis revealed values of 1,340 ppm nickel and 247 ppm cobalt.

HETTA MOUNTAIN
(fig. 11, No. 42)

The first historical reference to these claims was made by Wright *(90)* after his 1907 investigations. By that time, short adits and trenches had been driven to explore the copper skarn mineralization on the property. No production occurred at Hetta Mountain, but a total of 13 claims were ultimately patented.

Hetta Mountain is composed essentially of marble and albite-epidote hornfels with minor occurrences of altered granodiorite. Mineralization occurs on both sides of a contact between the hornfels unit and marble. The contact strikes east-west and has a nearly vertical dip. The contact is shear-related and is best exposed in a 79-foot trench located on the ridgetop. Small contact-metamorphic deposits containing chalcopyrite, malachite, and pyrite are exposed there.

Bureau geologists mapped and sampled three short adits and two trenches near the summit of Hetta Mountain. The two short adits near the summit undercut pods and lenses of chalcopyrite, malachite, azurite, and pyrite mineralization seen in outcrop. The contact between marble and garnet epidote skarn occurs along an 087°-striking shear in the westerly adit. The contact between marble and albite epidote hornfels occurs along a fault striking 060° in the easterly adit. Mineralization does not continue at depth in either of these workings.

Samples from the hornfels unit and the marble in the eastern adit did not contain significant metal values. Samples from outcrops above the two principal adits (4349, 4350, 4354, 4355) contained copper values ranging from 192 ppm to 4.17 percent. A high-grade sample was taken across 1.4 feet of fresh hornfels above the eastern adit and assayed 4.17 percent copper, 43.8 ppm silver, and 572 ppb gold (4354). An overlying 0.5-foot-thick gossan cap was removed prior to sampling. Other pods of surface mineralization in the area were sampled (4340, 4347) and minor copper mineralization was encountered.

The short adit at elevation 2,380 feet cuts hornfels which contains stringers and disseminations of pyrite, pyrrhotite, and minor chalcopyrite. Two samples were taken from this adit and neither contained significant metal values.

The two trenches near the summit of Hetta Mountain expose the contact between marble and altered granodiorite. A thin, discontinuous cap of mineralized garnet skarn occurs over a portion of the marble. Three samples were taken from the main trench, two from the mineralized skarn, and the other from the altered granodiorite. The sample of altered granodiorite (4348) contained 4,819 ppm copper compared with 192 ppm copper obtained from altered granodiorite near the east adit (4355). The short trench exposes hornfels and coarse garnet skarn with minor copper mineralization. Sample 4353 contained 6,019 ppm copper across 6 feet of skarn material.

HET (HETTA LAKE)
(fig. 11, No. 43)

There are no workings at these properties. The Het occurrence is located northeast of the head of Hetta Lake at elevation 1,500 feet. The CPY occurrence is located 0.75 miles west of Lake Marge at elevation 1,400 feet *(82)*.

Rocks surrounding the Het occurrence consist of actinolite hornfels which has been thrusted over albite-epidote hornfels near an unaltered granodiorite pluton *(44)*. Pyrite is nearly ubiquitous in this hornfels unit.

Samples were taken from shoreline outcrops in Hetta Lake while approaching the drainage containing the Het occurrence. Chalcopyrite-bearing float was noted at the creek mouth and similar rocks were encountered up the drainage. The Bureau took six samples of this occurrence and high copper values were 1,251 ppm (4123) and 1,098 ppm (4127), obtained at the creek mouth and in outcrop at elevation 1,325 feet, respectively. Gold values were less than detection limit in all six samples.

MARION (NUTKWA INLET)
(fig. 11, No. 44)

This gold prospect is reportedly on the north shore of Nutkwa Lagoon, about 1 mile west of the head of the lagoon, at an elevation of 100 feet *(63)*. Workings consist of a 400-foot adit with a 50-foot-deep winze driven 200 feet back from the portal *(22)*. The adit was driven along a 330-340° shear zone occurring in Wales Group chlorite schist, phyllite, and greenstone. This main shear is crosscut by smaller shears trending 290-300° and mineralization associated with quartz veins is concentrated in these intersections *(63)*.

Metallic mineralization consists of galena, chalcopyrite, pyrite, and arsenopyrite with associated gold and silver. J.C. Roehm, a geologist with the Territorial Department of Mines, took 22 samples across the back from the face to a point 190 feet from the portal spaced 5 to 10 feet apart. The majority of these samples contained from a trace up to 0.10 ounces per ton gold. Two samples contained 0.22 and 0.66 ounces per ton gold *(63)*.

Bureau geologists did not find these workings after an extensive search. The area has been selectively logged and slash and deadfall obscure the dump and old buildings.

COPPER CITY
(fig. 11, No. 45)

E.E. Wyman discovered the Red Wing claims in 1898. These four claims became the Copper City Mine after production began in 1903. Ore was sent to the Tacoma Smelter, and in 1906, 140 tons were delivered *(18)*. The mine was worked intermittently until 1910 at which time it thoroughly flooded because of an errant drillhole placed into Hetta Inlet. The Copper City Mine produced 1,600 tons of ore valued at $60,000 by 1905 *(94)*. Besides copper values, the ore assayed from $3.00 to $6.00 in gold, $1.00 to $3.00 in silver, and 6 to 9 percent zinc *(92)*. In addition, between 1906-1908, 169,197 pounds copper, 4,711 ounces silver, and 339 ounces gold were also produced.

The Copper City Mine is hosted by Wales Group metavolcanic and metasedimentary rocks. Grayish-red quartz mica schist, metakeratophyre, and metaspilite are the major rocks present, the general strike being 020°, dipping 60° northwest *(44)*. The schist near the vein is bleached pale green to white and grades into the characteristic dark green color of the schists away from the ore. The deposit is faulted and alteration, as described above, is prevalent. Ore minerals include chalcopyrite and sphalerite.

The main underground workings at the Copper City Mine are flooded. A partially caved adit at the north end of the property leads into an inclined stope which was mined to the surface. No sampling was performed in this working because of unstable ground conditions. Three samples were taken from surface exposures of the massive sulfide and one select sample of high-grade material from the dump. Sample 4085 contained massive chalcopyrite ore taken from a mined-out rib seen on the surface; copper values were 3.30 percent, with 1.92 ounces per ton silver, 5,658 ppb gold, and 2.81 percent zinc. Sample 4119 was taken across 3 feet of altered metavolcanic rocks near the flooded shaft and contained 4.92 ounces per ton silver, but only 4,622 ppm copper. The dump sample (4121) contained 4.96 percent copper, 9.44 percent zinc, 2.96 ounces per ton silver, and 6,511 ppb gold, which may represent the ore tenor mined historically.

Bureau personnel walked up the drainage south of the mine in search of parallel zones of massive sulfide mineralization, but nothing significant was encountered. However, high precious metal values were obtained across a genuine mining width in the old workings and is a significant stimulus for additional work on this property. The mine was closed because of flooding, not lack of ore.

LIME POINT
(fig. 11, No. 46)

The initial discovery at Lime Point was made in June, 1914, by Charles Sulzer *(9)*. A test shipment of barite was sent to San Francisco in 1915 *(31)*. The property was surveyed and a patent issued for MS 1430 in 1924 *(33)*. The barite was never mined commercially. There are two adits on the property, both in the southwest corner of the claim.

The barite deposit at Lime Point occurs as interlayered lenses trending oblique to a semi-crystalline, blue-weathering, pitted, white marble host. Dolomite is common in the area. Wales Group greenstone is prevalent in the area and talc schist also occurs. The rocks strike 009° and dip steeply to the west. Several diabase dikes from 1 to 8 feet thick occur to the north. Small, irregular stringers of barite occur in marble north of the main barite mass.

The barite is white with minor impurities. The main deposit is 11 to 40 feet wide (average 21 feet), 100 feet long, and the vertical extent above sea level is 20 to 50 feet. The deposit is discontinuous along strike and pods of barite occur to the south, submerged in Nutkwa Inlet.

Bureau geologists mapped and sampled the two adits and surface exposures of the barite. The quantity of $BaSO_4$ in these samples ranged from 22 percent (4113) to 96.6 percent (4111). Low values of $BaSO_4$ were obtained in samples taken from the face of each adit (4081, 4113), while samples taken across surface outcrops contained high $BaSO_4$ values (4083, 4111). This deposit is structurally confined and large tonnages of barite are not present.

KEETE INLET
(fig. 11, No. 47)

The Keete Inlet prospect was discovered prior to 1915 on the west shore of Keete Inlet. There is an inclined shaft on the property which is water-filled below the 10-foot level and an adjacent dump. The property is located a short distance from tidewater.

The Keete Inlet prospect contains a 1- to 2-foot-thick copper-bearing massive sulfide occurrence striking 020° and dipping 50°

southeast. The mineralization occurs in a quartz-filled brecciated zone within altered chlorite schist hanging wall and tan, quartz sericite schist footwall (Wales Group metavolcanic rocks). Disseminated sulfides occur in the adjacent wall rock. The massive sulfide zone crops out along the beach just south of the workings.

Five samples were collected from outcrops adjacent to the flooded shaft and on the beach and from the dump. Rock found on the dump contained bornite and chalcopyrite and is presumed to have come from the water-filled decline.

Copper values range from 1.75 percent in dump material (4069) to 183 ppm across 4 feet of beach outcrop to the south (4076). A sample across the mineralized zone adjacent to the flooded shaft carried 1,230 ppb gold, 10.7 ppm silver, and 2,891 ppm copper (4100). Another sample across a 3-foot mining width in this same zone carried 614 ppb gold, 5.0 ppm silver, and 1,522 ppm copper (4101).

KEETE INLET/NUTKWA INLET
(fig. 11, No. 48)

An extensive sequence of tuffaceous chlorite schist, pyroclastic breccias (lithic tuff), greenstone flows, metabasite, black phyllite, and marble crops out on the beach along the west side of Keete Inlet. This area was prospected for massive sulfide deposits similar to those occurring on the east side of Hetta Inlet and at the head of Keete Inlet.

Bureau geologists sampled a 100-foot section of porphyritic tan lithic tuff with up to 8 percent pyrite (4067, 4068, 4102, 4103), but no significant metal values were obtained. A few thin quartz-fissure veins with minor sulfides were sampled (4074, 4104) and gold values were less than detection limit.

This area is geologically favorable for hosting massive sulfide deposits and additional prospecting is warranted. Occurrences of massive pyrite mineralization have been found upstream from the lake (section 16) draining into Keete Inlet and should be investigated.

HOZER
(fig. 11, No. 49)

During the 1980s private industry staked a group of claims on the south shore of Keete Inlet in pursuit of massive sulfide type deposits. In 1990, Bureau personnel prospected the creeks and took samples to confirm the presence of mineralization. Rock types present include chloritic and silicified metatuffs (phyllitic sheen) with minor quartz veining, brecciated greenstone, and metabasite in an interlayered sequence.

Disseminated and stringer pyrite and sphalerite were observed in greenstone breccias and a select sample contained 302 ppb gold, 1.6 ppm silver, 987 ppm copper, and 7,662 ppm zinc (4062). A spaced chip across 30 feet contained 116 ppb gold, 0.6 ppm silver, 428 ppm copper, and 418 ppm zinc (4063).

A traverse was made along a creek to the east of this occurrence and several samples were taken from mineralized bedrock and float. A quartz chlorite schist boulder with up to 60 percent pyrite was sampled (4078) and it contained 336 ppb gold and 1.3 ppm silver. Similar host rocks with much less pyrite were seen in outcrop and sample 4077 contained 9 ppb gold and nil silver.

FRIENDSHIP
(fig. 11, No. 50)

The Friendship prospect is along the west shore of South Arm Cholmondeley Sound, 2 miles from the mouth, at elevation 100 feet. There is a flooded pit and a shallow, 15-foot shaft which expose a mineralized quartz-calcite vein cropping out along a 350-foot shear zone.

The Friendship prospect workings are developed along a resistant quartz-calcite vein filling a steeply-dipping 020°- to 030°-striking shear zone. The country rocks in the vicinity include white to dark gray marble to the northeast and silicified tan felsic schist to the northwest. The shear zone cuts marble near the beach and intersects the felsic schist-marble contact near the water-filled pit to the northwest. Abundant partings of felsic schist occur in the vein near the two pits and marble occurs within the vein closer to the beach.

Vein width varies from 1.1 feet near the creek falls up to 3.8 feet in the flooded shaft. Ore minerals include chalcopyrite, malachite, and azurite. Rare earth elements have been detected on both sides of South Arm Cholmondeley Sound, but Bureau sampling did not confirm their presence at the Friendship prospect (table 2).

The Bureau mapped the workings and mineralized outcrops along the shear zone and collected 7 samples. Gold values range from 2,574 ppb to 0.456 ounces per ton for five of these samples, the high value coming from sample 4276 taken on the southwest side of the water-filled pit. Copper values exceeded 2 percent in the two samples (4258, 4259) taken from the shallow shaft. The vein was not traceable past the small creek occurring to the northwest of the main shaft.

Table 2. --Friendship prospect, REE results
(fig. 11, No. 50)

Map No.	Sample	La	Ce	Nd	Sm	Eu	Tb	Dy	Ho	Yb	Sc
23	4258	18.0	43	26	10.7	3.7	1.6	7.6	1.5	1.6	0.6
23	4259	5.6	12	7	2.21	0.8	<1	1.7	<1	0.7	0.9
24	4276	10.2	21	10	4.47	2.5	<1	2.7	<1	0.9	5.2
24	4277	6.1	15	<10	3.49	1.2	<1	2.9	1.2	0.8	0.9
25	4278	2.6	6	<10	1.17	0.5	<1	<1	<1	<0.5	1.8
25	4279	9.8	24	15	7.16	3.3	1.1	5.7	1.3	1.0	1.3
25	4280	6.9	16	<10	4.33	2.3	<1	2.2	<1	<0.5	<0.5

all values in ppm

MOONSHINE
(fig. 11, No. 51)

The Moonshine Mine is on the west side of South Arm Cholmondeley Sound on the crest of a ridge between elevations 2,300 and 2,500 feet, about 1.5 miles from tidewater. Development commenced in 1906 and reported workings at the property include two adits (200 feet and 1,600 feet in length), a 90-foot shaft and glory hole, numerous trenches and pits, and a dilapidated mining camp. An unknown amount of production occurred in 1900 and 1910 *(27)*.

The Moonshine Mine developed high-grade silver-bearing galena ore from a well defined quartz-calcite fissure vein occurring in marble and quartz chlorite schist host rock. Vein width varies from a gouge seam in the schist to a 2- to 4-foot vein in marble *(90)*.

Bureau geologists mapped and sampled 946 feet of the 1,600-foot adit (the remainder was caved in 1990), the glory hole, and two pits occurring along the strike of the fissure. Trenches to the east of the glory hole were examined but no samples were taken. The 200-foot adit which cut the orebody at depth was not found. The shaft was collared but the timbering and ladders were dilapidated and considered unsafe.

The only outcrops of the ore-bearing vein were seen in the small pits to the west of the main glory hole. Two well-defined shears were seen in the glory hole but these were not mineralized. Samples of high-grade ore lying in the glory hole contained over 74 percent lead (4360, 4362) and 136 ounces per ton silver (4373). Some of the ore also contained appreciable chalcopyrite (up to 2.29 percent copper) and sphalerite (up to 19.92 percent zinc).

The small pits exposed thin mineralized shears up to 1 foot wide. Additional outcrops of quartz-calcite veins parallel to the Moonshine vein occur but they are barren of mineralization. Similar mineralization occurs at the Hope-Cholmondeley prospect, 0.33 miles southeast of the Moonshine Mine.

HOPE-CHOLMONDELEY
(fig. 11, No. 52)

The Hope-Cholmondeley prospect is on the west side of South Arm Cholmondeley Sound between elevations 2,350 and 2,450 feet, about 0.33 miles southeast of the Moonshine Mine. Workings consist of four trenches, a shallow shaft, and a short adit which line up along a southeast-northwest trend. The prospect exposes mineralized quartz-calcite fissure veins and pods in silty marble and chlorite schist host rock.

Bureau geologists mapped and sampled these workings. The primary ore minerals are sphalerite and galena, although varying amounts of chalcopyrite and pyrite also occur. These mineral showings are discontinuous and may be replacement deposits along numerous shears in the marble. Two of the trenches expose both ends of a quartz-calcite vein nearly 4 feet thick containing disseminated galena, sphalerite, and chalcopyrite. Metal values from this vein peaked at 6 ppb gold, 10.9 ppm silver, and 1.8 percent zinc (4374), much lower than the values obtained in the other showings.

The most concentrated mineralization was obtained from a 3-foot-thick sphalerite-galena pod situated in folded silty marble exposed in the 25-foot adit. Assays revealed 4.16 ounces per ton silver, 8.71 percent lead, and 17.53 percent zinc (4376). A high-grade galena sample taken along the trench wall near the 20-foot shaft contained 28.23 percent zinc, 24.49 percent lead, and 4.21 ounces per ton silver (4366).

SOUTHEAST PRINCE OF WALES SUBAREA: MINE, PROSPECT, AND OCCURRENCE DESCRIPTIONS

The Southeast Prince of Wales Island subarea is the land area bounded by Cholmondeley Sound to the north; South Arm, Klakas Inlet and Cordova Bay to the west; Dixon Entrance to the south and Clarence Strait to the east (figure 14). During the 1990 field season, work within this area extended from May 15th to September 15th and was conducted by a two-man crew. It was based out of Ketchikan using float planes and helicopters for access, and out of the Dolomi and Lancaster Cove logging camps where all-terrain vehicles were the primary method of transportation. From June 12th to 30th the M/V Hyak provided a base for work in the Barrier Islands, Nichols Bay, Stone Rock Bay, McLean Arm, Moira Sound, Niblack Anchorage, North Arm and Dora Bay. Over 70 mineral occurrences and prospects were examined in detail ranging from a few minutes reconnaissance to detailed mapping and sampling that occupied many days. Over 400 rock samples and two limestone samples were collected.

The mines, prospects, and occurrences are generally listed north to south (figure 14). Figures 15 to 19 show sample locations within the area and corresponding analytical results are listed in appendix table A-3. Sample numbers referred to in the following descriptions (e.g. 5054) correspond to field numbers listed in appendix table A-3.

EQUATOR
(fig. 14, No. 1)

The Equator prospect is one mile northeast of Lancaster Cove at an elevation of 360 feet. According to a 1908 report by Wright and Wright (*95*) it consists of a 50-foot tunnel driven on a 3-foot-wide quartz vein containing chalcopyrite and pyrite.

Bureau investigation of this prospect revealed a shear up to 10 feet wide striking 305° to 330° and dipping 40° to 55° southwest that is hosted in marble with interbedded schist. Quartz-marble breccia zones bearing chalcopyrite and pyrite occupy this shear in places. A 50-foot-long drift ending with a 15-foot dog leg to the northeast exposes a quartz-marble breccia zone, located in the shear, with variable chalcopyrite and pyrite. On the surface this zone outcrops through slash and cover immediately to the northwest of the drift and across a small gulch about 20 feet to the northeast of the adit portal. The zone width may be over 20 feet. Chip samples (from 0.6 to 5 feet long) collected across portions of the quartz-marble-breccia zone contain from 19 to 190 ppb gold and from 1,742 ppm to 2.05 percent copper.

DOLOMI AREA
(fig. 14, No. 2)

Reconnaissance samples were collected at a variety of locations in the Dolomi area. These are at sample locations 1, 3-8, 10, 15, 18, 23-26, 47, 54, and 55 (fig. 17).

Most interesting of these are sample locations 10, 23, and 24. At sample location 10, a 0.7-foot chip sample (5054) across a quartz vein contained 28 ppb gold, 221 ppm lead, and 3,150 ppm zinc. At sample location 23, greenstone boulders with bands of pyrite from a nearby borrow pit are strung out along the shoulder of a road as road fill. A select sample (5038) of pyrite from a boulder assayed 6,243 ppb gold. At sample location 24, a sample (5040) of gossan rubblecrop collected at the edge of a borrow pit contained 1,686 ppb gold.

ROY CREEK
(fig. 14, No. 3)

The Roy Creek veins are 8.5 miles north of Dolomi via logging road and were discovered by Sealaska geologists during 1988. According to information supplied by Sealaska geologists, there are two veins exposed in road cuts separated by about 1,000 feet. These are quartz-pyrite-chalcopyrite veins, striking 310° and vertical, that are hosted in chlorite-quartz greenschist. The western vein is 0.17 to 0.25 feet thick and assayed 173 ppb gold and 23.6 ppm silver. The eastern vein is 0.3 to 0.5 feet thick and assayed 847 ppb gold and 0.4 ppm silver. A 0.33-foot-wide chip sample from the eastern vein assayed 4.3 ounces per ton gold, 27.9 ppm silver, and 8.1 percent copper.

Bureau investigation located one quartz-pyrite-chalcopyrite vein exposed in a roadcut at 8.5 miles along the road from Dolomi (fig. 17, No. 13). This may be the west vein. It is from 0.1 to 0.17 feet thick, strikes from 319° with a dip of 78° north to 340° with a vertical dip and is hosted in quartz-chlorite schist foliated at 65° with a dip of 67° northwest. It is exposed in the roadcut for about 15 feet and pinches out toward the top of the roadcut. Samples (5542, 5543) 12 feet apart and collected across the vein (one sample included an adjacent stringer and country rock) assayed 4.506 and 1.379 ounces per ton gold, 11.5 and 17.6 ppm silver, and 2.24 and 4.86 percent copper, respectively.

At a distance of about 500 feet easterly from the above vein (west vein) a quartz-calcite stringer zone hosted in chlorite schist is exposed in a road cut (fig. 17, No. 14). A 3.7-foot-long sample (5544) across the stringer zone assayed 694 ppb gold and 242 ppm copper. A select sample (5545) of quartz-calcite stringer material assayed 148 ppb gold.

7-MILE GOLD
(fig. 14, No. 4)

The 7-Mile Gold prospect is 7 miles by logging road north of Dolomi and was discovered by a Sealaska geologist in 1988. According to information supplied by Sealaska geologists, it consists of a 10-foot-thick silicified limestone-marble breccia zone containing pyrite-chalcopyrite clots up to 0.5 feet across. This zone is hosted within an outcrop of altered limestone some 100 feet across. Exposures of this zone are along a road cut and in a borrow pit. This prospect is located along the southern side of a lineament that connects with the Roy Creek veins to the east and the Kael Pit and Lancaster Cove to the west. It was diamond drilled in 1990 for American Copper and Nickel Co.

Bureau investigation revealed a 30-foot-thick silicified marble breccia zone with sparsely scattered chalcopyrite-pyrite blebs hosted in marble. This zone strikes 305°, dips 65° to 80° east and is exposed in a roadcut across from a borrow pit, which now occupies what was formerly a small knob. Large blocks of sulfide-rich marble breccia are found in the floor and down the edge of the borrow pit. The rubblecrop in the borrow pit locally contains significantly more sulfides than the bedrock exposures across the road in the cut. Samples (5502-5505) 6 to 10 feet long collected of bedrock limestone located in the footwall and hanging wall of the mineralized zone contained from 18 to 165 ppb gold and from 17 to 154 ppm copper. Samples (5002-5008) 2 to 8 feet long collected across portions of the silicified brecciated zone contained from 105 to 566 ppb gold and from 11 to 182 ppm copper. Select sulfide-rich samples (5001, 5501) collected from the borrow pit rubble crop contained from 0.388 to 0.784 ounces per ton gold, 5.5 to 14.5 ppm silver, and 1.0 to 2.18 percent copper.

KAEL PIT
(fig. 14, No. 5)

The Kael Pit is a borrow pit located along a USFS road 1.25 miles southeasterly from Lancaster Cove. Gold-copper mineralization was discovered at this pit by Sealaska geologists in 1988. It consists of a silicified limestone breccia zone containing scattered pyrite-chalcopyrite clots up to 0.33 feet across. It is similar to the 7-Mile Gold prospect, in terms of host rock mineralized zone and sulfides, and is on the southern edge of the lineament connecting Lancaster Cove and the 7-Mile Gold prospect.

Bureau investigation of the Kael Pit revealed two silicified marble breccia zones about 15 feet thick separated by 50 feet of gray-white marble with interbedded greenstone. These zones contain sparse clots of pyrite-chalcopyrite. Samples across portions of these zones (on both walls of the pit) from 1.2 to 9.5 feet long contained from 13 to 1,938 ppb gold and from 23 to 2,860 ppm copper. A select sample (5196) of massive pyrite float with chalcopyrite assayed 0.360 ounces per ton gold and 4,809 ppm copper.

CROESUS
(fig. 14, No. 6)

The Croesus prospect is one mile northeast of the south end of Kitkun Bay. Brooks *(7)* commented on this prospect and Wright *(91)* described this prospect as consisting of two tunnels 360 feet long and 135 feet long. These are driven along a quartz vein varying from 0.17 feet to 4 feet wide.

Bureau investigation of this prospect revealed quartz veins along narrow shears that are hosted in marble with thin interbedded bands of greenstone. The most prominent vein is exposed in a 322-foot drift (650 feet elevation, fig. 16, No. 30), a 130-foot drift (825 feet elevation, fig. 16, No. 32), and a trench (925 feet elevation, fig. 16, No. 33). Although the two drifts and trench approximately align in a southerly direction, cover prevents determination of continuity between the workings. The vein generally dips 60° to 70° easterly. In the upper 825-foot-elevation drift, a vuggy section of crystalline quartz was mined through a raise-stope that reached 20 feet above the drift floor and extracted quartz for a strike distance of about 15 feet. A 20-foot adit on a quartz vein is 125 yards east of the 825-feet-elevation drift and a caved shaft adjacent to a small trench is 80 feet down slope from the 20-foot adit.

The Bureau located, mapped, and sampled the prospect workings. Samples (5170-5174, 5636) collected across the vein in the 650-feet-elevation drift contained from 34 to 6,500 ppb gold. A dump sample (5638) selected for its high sulfide content contained 0.624 ounces per ton gold. Samples collected from the 20-foot adit (5643) and the caved shaft (5644) contained from 1,210 to 1,970 ppb gold, respectively. Samples (5178-5180, 5641, 5642) collected from the 825-feet-elevation drift contained from 1,021 ppb to 0.430 ounces per ton gold. Samples (5175-5177, 5639, 5640) collected across vuggy quartz in the upper drift raise-stope contained from 4,350 ppb to 0.636 ounces per ton gold from widths ranging from 1.2 to 5.2 feet. Samples (5645, 5646) collected from the 925-feet-elevation trench assayed from 6,190 ppb to 0.503 ounces per ton gold.

SAN JUAN
(fig. 14, No. 7)

The San Juan prospect is 0.5 miles northwest of the southeast corner of Kitkun Bay. The prospect was discovered in 1899 *(7)*. By 1908 *(95)* the prospect is described as consisting of a 500-feet-elevation crosscut tunnel 320 feet in length driven 115°. Above this tunnel is a second tunnel 20 feet long. It is reported that neither tunnel exposed ore. High assays with a low average value are reported to come from a 680-feet-elevation quartz vein, 6 feet wide, striking 340° and dipping 30° northeast. In 1967, Bufvers *(18)* reported a caved 500-feet-elevation tunnel near a small stream and a quartz vein located some distance above the tunnel. A 0.33-foot-wide heavily mineralized black seam on the footwall of the vein assayed $5 in gold at $20.67 per ounce *(18)*.

Bureau examination revealed a 680-feet-elevation adit consisting of 165 feet of crosscut driven at 055°, and 35 feet of drift along a 310°-striking northeast-dipping shear-controlled quartz vein. A caved shaft, measuring 5 by 5 by 11 feet deep and a quartz dump were discovered at 725 foot elevation, 110 feet from the adit portal along a 045° trend. A trench exposed a quartz calcite vein at an elevation of 725 feet, 250 feet northerly from the adit portal. A caved portal was discovered in the north bank of a steep gulch at an elevation of 580 feet, about 350 feet northwesterly from the open portal.

The 680-feet-elevation adit is hosted in limestone with interbedded schist that strikes from 298° to 330° and dips from 18° northeast to 56° southwest. The drift portion of the adit exposes a shear zone up to 10 feet thick containing fault gouge, sericite schist, quartz-schist-marble breccia, and quartz all containing variable amounts of pyrite. This zone strikes 310° and dips 50° northeast. Samples (5182-5186, 5647-5651) from this shear zone contain from 16 to 860 ppb gold. A sample (5654) from the 2.1-foot-thick quartz-calcite vein exposed in a trench contained 31 ppb gold.

A dump sample from the caved shaft (5653) of milky quartz with blebs of limonite, pyrite, and clasts of tan marble contained 6,680 ppb gold.

GOLDEN FLEECE
(fig. 14, No. 8)

The Golden Fleece Mine is one mile north of the abandoned town of Dolomi near the inlet to James Lake. It was discovered in 1899 and by 1902 *(7)* the deposit was developed with two drifts and several shafts, a mill was erected, and a tram connected the mine to the town of Dolomi. The drifts followed two shallow-dipping veins and were separated by some distance of limestone. A five-stamp mill was reported on the property in 1908 and a two-stamp mill in the 1920s. Small amounts of gold production were reported in the early 1900s and early 1920s, with grades ranging from $12 to $60 per ton at $20.67 per ounce. At least 600 feet of tunnels and a 400-foot raise were driven on the property *(18)*. By about 1922 the vein above the upper tunnel was mined to the surface. By 1967 *(42)* all that remained of the mine was the old mine workings, the ruins of a mill on the shore of James Lake, and the almost obliterated tram connecting Dolomi to the mine and mill. In 1987-89 the area in the vicinity of the mine was logged off from roads connecting to Dolomi. The property is covered by several patented mining claims, the ownership of which is reportedly in dispute.

The Golden Fleece deposit is hosted in marble and consists of irregular lenses of quartz up to 8 feet thick that generally follow the contact between blue and white marble, but slightly cut bedding. The deposit strikes 045° and dips 40° southeast. The veins contain sparse gold, tetrahedrite, and pyrite. Brooks reported two specimens of ore that assay 2.36 ounces per ton silver and 0.05 ounces per ton gold and 9.96 ounces per ton silver and 4.17 ounces per ton gold *(7)*. Mill recovery was $40-60 per ton (at $20.67 per ounce gold). Bufvers reported returns of $12 per ton for ore mined in the 1920s and that samples from a parallel vein exposed at the surface in 1899 assayed $13.95 and $56.69 per ton (at $20.67 per ounce gold) *(18)*.

Bureau investigation revealed a 428-foot-long lower adit at 150 feet elevation, consisting of 334 feet of crosscut in marble and 92 feet of drift along a shear containing sporadic quartz and quartz-marble breccia. An upper adit at elevation 240 feet consists of 195 feet of drift. At some locations 3- to 6-foot-wide stopes reach the surface. These stopes follow a shear containing quartz and quartz-marble breccia. A 222-foot-long raise that is stoped in places connects the upper and lower adits.

The quartz and quartz-marble breccia-bearing shear exposed in the mine workings strikes from 320° to 352° and dips from 18° to 49° easterly and is hosted in marble. It contains small amounts of pyrite, tetrahedrite, and chalcopyrite with secondary malachite, azurite, and limonite stain.

Fifteen samples were collected across quartz and quartz-marble breccia zones in the lower and upper adits and in the raise stopes. These assayed from 19 ppb to 1.585 ounces per ton gold. Those collected in the lower two-thirds of the raise stope and lower adit (5016-5019, 5515) contained from 328 to 2,493 ppb gold.

The highest gold values were found in the upper portion of the raise stope. Samples (5013-5015) from 0.5 to 3 feet across the quartz rich portion at the edges of the stoped area contained from 0.550 to 1.585 ounces per ton gold.

ALPHA
(fig. 14, No. 9)

The Alpha prospect is 0.5 miles east of the north end of James Lake. Wright *(95)* reports a 5-foot-thick quartz vein, striking north-south and dipping 45° west, hosted in banded limestone that has been traced for 2,000 feet. Development work reportedly consists of a 35-foot-deep shaft and open cuts *(95)*.

Bureau investigation of the Alpha prospect revealed a rubble-filled shaft at 150 feet elevation (fig. 17, No. 41). Three hundred feet east of this shaft a 5-foot-long adit, two trenches, and a dump containing pyrite-chalcopyrite-rich quartz were examined (fig. 17, No. 40). Quartz-marble veins and zones up to 4 feet thick and striking northerly and dipping 45° west are exposed on this prospect. Samples collected from veins, zones, and dumps contained up to 62 ppb gold (5538), and up to 1.8 percent copper (5045).

VALPARAISO
(fig. 14, No. 10)

The Valparaiso Mine is on the north side of Paul Lake. It was discovered in 1899 and consists of a quartz vein up to 14 feet thick striking 305° and dipping 30° to 50° northeast. This vein is comformably hosted in limestone and follows the Valparaiso Fault. Brooks *(7)* reported a test shipment from this mine that yielded $185 per ton (at $20.67 per ounce gold). This mine was developed with two shafts and three levels of drifts by 1908 *(95)*. Four or more shafts and several levels to a depth of at least 400 feet were reported by Berg *(4)*. This deposit was mined sporadically between 1900 and 1933. Bureau records indicate production of 730.19 ounces of gold and 521 ounces of silver in 1913 and 1933.

Bureau investigation revealed a 126-foot-long shaft inclined at 38° that connects two mine levels located 53 feet and 120 feet down the shaft. The upper portions of the shaft are choked by large blocks of marble that have fallen from the back. Small caves and loose rock may inhibit safe access to some portions of these underground workings.

The mine shaft was driven along the vein and stoping has been conducted along its sides. The upper mine level extends for 150 feet along the vein. Chutes and stopes extend both above and below this level. Loose rock in the back inhibits safe access to the northern extension of these workings.

The lower mine level extends along the vein for 550 feet. Stopes and chutes are located above this level. Near the shaft a drift and inclined shaft lead to a lower mine level that is flooded at a depth 15 feet below the lower mine level. The top of a stope was visible through the water.

A crosscut driven from near the shore of Paul Lake connects with the Valparaiso Fault at a location 680 feet westerly from the shaft. This crosscut is caved 170 feet from the fault. A drift from this crosscut was driven along the fault a distance of 140 feet westerly where little quartz is exposed. A 560-foot-long drift from this crosscut in an easterly direction intersects the western end of the lower level mine drift. This drift follows a quartz vein for most of its length.

The quartz vein exposed by the mine workings is up to 14 feet thick and consists of quartz, quartz breccia, and quartz-marble breccia and calcite. Free gold and sparse chalcopyrite, pyrite, galena, sphalerite, and tetrahedrite were observed in this vein along with limonite, malachite, and azurite. At some locations the vein is bounded on the foot or hanging wall by gouge. The vein follows the Valparaiso Fault which at some locations is formed by a series of short shears that splay into the hanging or footwall.

Vein samples were collected in the lower and upper drifts and in the shaft. In the lower drift eighteen sample lines (5208-5219, 5684-5694) up to 7 feet across the vein spaced over a distance of 1,000 feet along the vein contained from 133 ppb to 4.66 ounces per ton gold. The next highest gold sample assayed 0.847 ounces per ton gold (5215). In the shaft 3 samples (5026, 5222, 5521) collected across the vein (up to 3 feet wide) assayed from 1.579 to 3.550 ounces per ton gold. In the upper drift 5 samples (5518-5520, 5023, 5024) collected across the vein and at stope edges (up to 4.5 feet wide) assayed from 224 to 6,231 ppb gold.

PAUL LAKE
(fig. 14, No. 11)

The Paul Lake prospect is on the north side of Paul Lake about 2,000 feet easterly from the Valparaiso shaft. The vein is similar to that at the Valparaiso Mine and may in fact be the same vein. It is from 3 to 8 feet thick, strikes 290°, dips 35° northeast, and is conformable with the marble host rock. Adits, shafts, and open cuts are reported on the prospect.

Bureau investigation revealed three adits with lengths of 10, 25, and 175 feet connected by a roadway that serves as an open cut intermittently for a distance of 220 feet. These workings expose a 1.75- to 4-foot-thick quartz vein for a distance of 220 feet that strikes from 0° to 290° and dips from 10° to 25° easterly. The vein contains sparse pyrite, chalcopyrite, galena, sphalerite, malachite, azurite, and limonite. Eight sample lines were cut across this vein in the workings and on the surface; gold values ranged from 1,207 ppb to 1.105 ounces per ton and silver values ranged from 1.0 ppm to 1.84 ounces per ton. These samples contained up to 310 ppm copper, 342 ppm lead, and 935 ppm zinc.

MOONSHINE
(fig. 14, No. 12)

The Moonshine prospect is near a small stream that forms the outlet of James Lake. This prospect is reported to consist of two adits and surface cuts that expose quartz veins and quartzite that contain native gold. The veins strike 300°, dip northeast, and are hosted in schist and limestone (*22, 74*).

Bureau investigation of the Moonshine prospect revealed an open cut exposing a 3.2- to 4.3-foot-thick quartz vein for 100 feet. The vein strikes 300° and dips 40° north. Two adits 50 feet apart penetrate the hanging wall of this vein. These adits are 60 and 78 feet long and expose additional quartz veins. The 78-foot adit contains a winze and small stope. The veins are hosted in interbedded calcareous schist and grey marble.

Samples (5034, 5190, 5191, 5656, 5657) across the vein exposed in the open cut contain from 60 to 396 ppb gold. Samples of quartz veins in the lower adit (5531-5534) and to the north of the winze in the upper adit (5535) assayed from 166 to 4,400 ppb gold.

The highest gold values are in a 045°-striking, northwest-dipping 0.7-foot-thick quartz vein exposed for 13 feet in a small stope above a flooded winze in the 78-foot (most westerly) adit. Three samples (5036, 5189, 5655) across this vein assayed 4.048 ounces per ton, 63.195 ounces per ton and 0.723 ounces per ton gold. A replicate (5188) of the 63.195 ounces per ton gold sample assayed 6,504 ppb gold.

AMAZON
(fig. 14, No. 13)

The Amazon prospect is 0.3 miles east of Paul Lake. It consists of a 123-foot-deep shaft and 60 feet of drift off this shaft at a depth of 50 feet. These workings expose a quartz vein from 1 to 10 feet thick hosted in calcareous schist. Gold content is reported to be $15 to $30 a ton at $20.67 per ounce gold *(95)*.

Bureau investigation revealed a flooded shaft, dump, and surface exposures of quartz veins. Samples were collected of the dump (5031), rubble crop at the shaft (5032), and of a 2-foot-thick quartz vein (5530) exposed 50 feet west of the shaft. These assayed from 4,455 ppb to 0.272 ounces per ton gold.

BOSTON
(fig. 14, No. 14)

The Boston prospect is along the eastern side of Amazon Lake and consists of three inclined shafts, a caved adit, and some cuts and trenches *(42)*. The area was logged some time ago and is heavily grown over hindering investigations in the area.

Bureau investigation in the area revealed quartz veins hosted in calcareous schist and gray limestone that are exposed in a trench and open cut. Samples were collected across two veins 2.2 and 3 feet thick. These contained from 420 to 4,789 ppb gold. One sample (5033) also contained 3.94 ounces per ton silver and 636 ppm copper.

JUMBO
(fig. 14, No. 15)

The Jumbo prospect is hundreds of feet west of a small creek that joins James and Amazon Lakes. In 1902, Brooks *(7)* reported this prospect as consisting of a quartz-breccia vein hosted in graphitic phyllite containing gold and tetrahedrite. Development consists of a 40-foot-deep shaft.

Most of the area to the west of the creek that joins James and Amazon lakes is logged and grown over with much slash remaining. Bureau investigations failed to reveal a shaft but did locate a 115-foot-long adit driven in gray marble. At its north end this adit exposes quartz-breccia veins up to 4.3 feet thick that strike 280° and dip 30° north. Samples (5526-5529, 5029) across these veins contained up to 2,673 ppb gold. The southern portion of the adit exposes a quartz, quartz-marble breccia vein or band that forms the walls and back of the adit for 51 feet. This vein strikes from 080° to 090° and dips 30° to 35° northerly. A 51-foot-long sample (5030) of this vein along the east adit rib assayed 1,515 ppb gold.

STOCKTON QUARTZ
(fig. 14, No. 16)

The Stockton Quartz prospect is on the west side of Dolomi Bay. Workings shown on a claim map consist of a shaft. Bureau investigation revealed a shaft with a small dump which consists of quartz and greenstone blocks. Samples of greenstone and quartz from the dump contained 9 and 26 ppb gold.

MOSS POINT
(fig. 14, No. 17)

The Moss Point prospect is near Moss Point on the south shore of Port Johnson. It consists of limonite-stained, sericite-altered phyllite with disseminated pyrite. One pyrite-bearing zone has a width of 12 feet. A chip sample across this zone contained 0.01 ounces per ton gold, 30 ppm copper, and 100 ppm zinc *(42)*.

Bureau investigation of the Moss Point area revealed pyritic zones hosted in limonite-stained quartz-sericite schist located along the beach and up a creek to an elevation of 400 feet. An adit 20 feet long at an elevation of 365 feet is located on such a zone. Samples (5076-5078, 5563) up to 19.7 feet wide collected from pyritic zones exposed on the beach contained from less than 5 ppb to 44 ppb gold. A select pyrite-rich sample (5564) contained 71 ppb gold. Samples (5079, 5566) from 7.1 to 19 feet wide collected from the adit contained 6 to 144 ppb gold. Two stream (5080, 5565) sediment samples collected in the area contained up to 165 ppb gold and up to 529 ppm copper.

SOUTH ARM AND DORA BAY
(fig. 14, No. 18)

Reconnaissance samples were collected at four locations between South Arm and Dora Bay. They did not contain significant metal values.

BORROW PITS
(fig. 14, No. 19)

Samples of pegmatite dike-veins and quartz-albite-riebeckite veins were collected from borrow pits 3 and 4.5 miles southerly along the road from the Cholmondeley logging camp on the west side of Dora Bay (fig. 16, Nos. 20 and 21). These contained up to 20 ppb gold, 645 ppm zinc, 34 ppm uranium, 1,000 ppm cerium, 494 ppm lanthanum, and 62.0 ppm yttrium.

DORA LAKE NARROWS
(fig. 14, No. 20)

The Dora Lake Narrows occurrence is on the west side of Dora Lake Narrows and consists of dike-veins containing columbium, uranium, yttrium, zirconium, and other REE. This and other occurrences, with similar commodities located in the Dora Lake area, were mapped and sampled by a Bureau team during a 1984-1987 study of the area. This occurrence is described in detail in a Bureau report by Barker and Mardock *(2)*.

Bureau investigation of this occurrence during the 1990 field season consisted of reconnaissance sampling of the dikes on the west side of Dora Lake narrows at several locations. Samples from 0.4 to 1.4 feet across two dikes contained up to 47 ppb gold, 484 ppm zinc, 55 ppm uranium, 2,500 ppm cerium, 1,200 ppm lanthanum, and 260 ppm yttrium.

BORROW PIT
(fig. 14, No. 21)

A borrow pit 0.5 miles west of the Lucky Boy prospect consists of calcareous metasediments and greenstone with narrow concordant quartz-calcite-sulfide-bearing veins and stringers. It exposes a brecciated quartz-calcite zone 5 feet thick that strikes 335° and dips 66° southwest. This zone contains rock fragments with pyrite, sphalerite, and galena. A representative sample (5146) across this zone assayed 1,065 ppb gold and 4,311 ppm zinc. Chip samples (5607, 5608) from 3.3 to 7.2 feet long across the pit walls assayed up to 2,928 ppb gold, 1,508 ppm lead, and 1.2 percent zinc. A select sample (5145) of sulfide-rich material 0.1 feet thick assayed 6,797 ppb gold, 23.5 ppm silver, 3,210 ppm lead, and 8.87 percent zinc.

NORTH LUCKY BOY
(fig. 14, No. 22)

The North Lucky Boy prospect is on the east slope of the south end of Dora Lake. It is geologically similar to the Lucky Boy prospect (fig. 14, No. 23) and was developed at the same time. It consists of at least two quartz-calcite veins containing pyrite, sphalerite, galena, and chalcopyrite. It is exposed in outcrops, trenches, and a 65-foot adit. Samples collected from the vein contain up to 5.23 percent zinc, 2.05 percent lead, 8,000 ppm copper, 0.09 ounces per ton gold, and 0.15 ounces per ton silver. It is estimated to contain 7,000 tons of material averaging about 0.33 percent zinc, 1 percent lead, and minor gold and silver *(58)*.

Bureau investigation revealed a series of sloughed trenches and an open cut. Recent logging has covered some trenches with slash. Exposed in outcrop is a quartz calcite lens about 25 feet thick. Additional quartz veins are exposed intermittently or as rubblecrop in or near the trenches.

A 15-foot-long representative chip sample (5066) across the quartz-calcite lens assayed 2,065 ppb gold, 4,316 ppm lead, and

1.35 percent zinc. A select sample (5067) of sulfide-rich quartz-calcite material assayed 5,484 ppb gold, 27.6 ppm silver, 1,190 ppm copper, 4.89 percent lead, and 21.74 percent zinc. Select and representative samples (5065, 5557) of other quartz-calcite veins in the area assayed up to 0.331 ounces per ton gold, 12.8 ppm silver, 434 ppm copper, 9,690 ppm lead, and 2.44 percent zinc.

LUCKY BOY
(fig. 14, No. 23)

The Lucky Boy prospect is in the pass between Dora Lake and Miller Lake and was developed between 1902 and 1917. It consists of a quartz-calcite-breccia vein up to 8 feet thick, hosted in schist and some limestone. This vein contains pyrite, sphalerite, galena, chalcopyrite, silver, and gold. This prospect is explored with underground workings that contain 180 feet of crosscut, 120 feet of drift, a raise, and two small stopes. Surface workings consist of intermittent surface trenches that expose the vein over a strike distance of 400 feet. Samples from the vein contain up to 8.82 percent zinc, 1,500 ppm lead, 2,000 ppm copper, 0.07 ounces per ton gold, and 0.31 ounces per ton silver. Indicated reserves are estimated at 1,500 tons containing 3 percent zinc *(58)*.

Bureau investigation of the Lucky Boy prospect revealed a discordant shear zone up to 8 feet thick striking 310° and dipping 40° southwest. Host rocks are calcareous greenstone schist with interbedded limestone striking 330° and dipping 70° southwest. The shear zone contains a quartz-calcite breccia vein containing pyrite, sphalerite, chalcopyrite, and galena. This vein is exposed in a drift for 120 feet and along the surface in trenches for 400 feet. Many of the trenches are overlain with slash from a recent logging operation.

Samples (5553, 5554, 5556) across better-grade areas of the vein exposed in the trenches were collected. These were from 0.8 to 3.1 feet long and assayed 1,588 to 5,963 ppb gold, 22.5 to 38.8 ppm silver, 3,157 to 11,762 ppm copper, 4,694 to 7,482 ppm lead, and 8.92 to 20.35 percent zinc. A select sample (5058) assayed 5,147 ppb gold, 1.37 ounces per ton silver, 5,304 ppm copper, 10,957 ppm lead, and 27.65 percent zinc.

Samples (5059-5064) from 1.5 to 3.5 feet long collected across the vein exposed in the drift contained from 84 to 6,017 ppb gold, up to 40.8 ppm silver, 5,516 ppm copper, 7,742 ppm lead, and 10.28 percent zinc.

BORROW PIT
(fig. 14, No. 24)

A borrow pit 0.2 miles north of Miller Lake consists of metasediments with concordant quartz-calcite veins. A sample (5144) of pyrite-bearing schist rubblecrop with quartz and calcite assayed 498 ppb gold and 422 ppm copper.

CYMRU
(fig. 14, No. 25)

The Cymru Mine is near the southeast end of Miller Lake on the north side of its outlet to North Arm. It consists of shear-controlled quartz-calcite veins up to 6 feet wide bearing pyrite and chalcopyrite hosted in marble with interbedded chlorite schist. It was discovered in 1899 and by 1909 workings consisted of a 105-foot-deep shaft with two levels, an 85-foot-deep shaft, adits 90 and 180 feet long, and deep trenches several hundred feet in length *(91)*. Bureau records indicate a 1906 production of 28.34 ounces gold, 1,417 ounces silver, and 141,700 pounds of copper and a 1915 production of 69 ounces silver and 9,570 pounds of copper. Bufvers indicates that 662 tons of ore were shipped to the smelter in 1906 with returns totaling $9,370 *(18)*. A 4,200-foot-long surface tram connected the main workings with ore bunkers at tide water. By 1928 most of the surface improvements were in very poor condition or had disappeared altogether *(18)*.

Bureau investigation revealed subparallel shear- and bedding-controlled quartz-calcite veins up to 6 feet thick hosted in marble with interbedded chlorite schist. These veins contain disseminations, blebs, and bands of chalcopyrite. The veins and marble generally strike 305° and dip from 55° to 84° southwest.

These veins were exposed by underground drifts, two shafts and deep trench stopes, and stopes from drifts located 30 feet below the surface. One hundred feet of drift, 330 feet of crosscut, 410 feet of trench with stopes up to 8 feet wide, and 460 feet of exploration trenches are accessible. These workings expose intermittent copper mineralization for over 1,200 feet of strike length and 26 samples were collected from them.

Measured samples (5158-5164, 5613, 5620-5622) from 0.7 to 4 feet across this intermittent mineralization contained from 209 ppm to 2.77 percent copper. Select samples from outcrops and rubblecrop contained up to 18.23 percent copper (5623). Examination of the hanging and footwalls of trench stopes revealed little copper mineralization. A sample (5159) from a quartz-calcite stringer zone found at one location assayed 1.21 percent copper across 1.8 feet. The floors of these trench stopes were rubble-filled and the downward extent of mineralization was not determined.

The best mineralization is exposed in a drift 30 feet below the surface and in a shaft connecting this drift to the surface. These workings are at the northwest corner of the tram line (and prospect) and expose a quartz-calcite-chalcopyrite mineralized zone up to 4.5 feet thick and 80 feet long. Samples (5615, 5616, 5618) collected from the drift across this zone or portions of it ranging in length from 1.1 to 4.5 feet, contained from 1,256 ppm to 9,826 ppm copper. Samples (5152-5155) collected across the zone in the shaft contained up to 20.78 percent copper and averaged 3.98 percent copper across 4.3 feet. A 14-foot crosscut into the marble hanging wall of this zone revealed low-grade conformable bands and disseminations of chalcopyrite. A 14-foot-long chip sample (5617) along this crosscut assayed 1,700 ppm copper.

Silver values at the prospect ranged up to 9.06 ounces per ton (5153). The highest silver values correlated with the highest copper values. All silver values above 1 ounce per ton contained from 2.77 percent to 20.78 percent copper. Gold values at the prospect ranged up to 210 ppb, zinc values up to 436 ppm, and lead values up to 45 ppm.

NORTH ARM MARBLE
(fig. 14, No. 26)

Eleven limestone claims (MS 728) are located on the north side of North Arm near its head. Maps of these claims dated 1906 show a quarry, a tramway connecting it to the beach, and a tunnel.

Bureau investigation revealed a band of gray and cream colored marble at least 500 feet wide and extending for miles. This band is exposed in intermittent outcrop by a 135-foot-long crosscut and by a 25-foot-wide by 12.5-foot-high quarry located 0.25 miles westerly from the crosscut. A few posts and timbers are all that remains of the tramway. Near the northeast corner of the quarry sufficient 3.5- by 3.5- by 6-foot marble blocks are scattered to account for most of the material removed from the quarry. Representative marble samples were collected from the adit (1M). They contained 3.39 percent SiO_2, 0.60 percent Fe_2O_3 and 92.2 percent total $CaCO_3$.

BLUE BIRD
(fig. 14, No. 27)

The Blue Bird prospect is 1.25 miles southerly from the head of North Arm at an elevation of 1,500 feet. By 1908 the prospect consisted of a quartz vein, striking 300° and dipping 55° southwest, containing galena, sphalerite, pyrite, and occasionally free gold, exposed by a 40-foot shaft (*95*).

Bureau investigation of the Blue Bird prospect revealed a quartz vein striking 300° and dipping 45° southwest, up to 3.0 feet thick, and exposed in outcrop and rubblecrop for 90 feet. The vein consisted of smoky quartz and contained sparse pyrite, hematite, and other sulfides. A 4- by 7-foot shaft flooded at a depth of 4 feet is 10 feet from the vein in its hanging wall and several dumps are present near the vein. Samples (5148, 5149, 5609, 5610, 5612) collected across the vein (or portions of it) from 0.8 to 2.7 feet long assayed from 6 to 288 ppm gold, up to 198 ppm lead, and up to 301 ppm zinc. Vein material collected from dumps (5147, 5150, 5611) assayed from 465 ppb to 1.901 ounces per ton gold, and up to 500 ppm zinc.

A sample (5151) collected from a quartz vein hosted in granite porphyry wall rock, located 2,000 feet southeast of the Blue Bird prospect, did not contain significant metal values.

MOIRA COPPER
(fig. 14, No. 28)

The Moira Copper prospect is 1.5 miles northwesterly from the Niblack Mine on the northeast side of Lake Luelia. Mineralization is reportedly similar to the old Niblack Mine and consists of lenses of pyrite with chalcopyrite hosted in silicified schist with epidote. Development, completed in the early 1900s, consists of a 50-foot-deep shaft with a drift (*94, 95*).

Bureau investigation of the Moria Copper prospect revealed a 17-foot adit at 1,300 feet elevation; a 6- by 6-foot shaft at 1,250 feet elevation, just above a small creek; and some trenches. The shaft is flooded at a depth of 10 feet. These workings and outcrops in the vicinity expose a zone of iron-stained, epidote-rich, silicified schist extending for at least 100 feet in a vertical direction, and up to 100 feet across. This zone is hosted in greenstone. The schist contains disseminations and masses of pyrite with chalcopyrite. Chip samples (5199, 5669-5671) 1.3 to 4 feet long collected in a trench and at the adit assayed from 221 to 656 ppb gold and from 851 to 7,566 ppm copper. A select sample (5200) from the shaft dump assayed 1,732 ppb gold, 47.2 ppm silver, and 6.57 percent copper.

NIBLACK
(fig. 14, No. 29)

The Niblack copper-zinc-gold-silver prospect is located at Niblack Anchorage. It consists of 18 patented claims and numerous unpatented Federal and State claims and millsites.

The historic Niblack Mine, (fig. 15, No. 68) located on the northwest portion of the prospect, was discovered in 1899 and produced 20,000 tons of ore averaging 4.9 percent copper, 0.067 ounces per ton gold, and 1 ounce per ton silver before it closed in 1908, reportedly due to a property dispute. From 1908 to 1940 exploration in the area resulted in the discovery of the Lookout, Mammoth, Trio, Broadgauge, and Dama properties. No additional production was reported, but additional claims were patented. Between 1973 and 1983 private industry explored the prospect and conducted some diamond drilling. From 1984 to 1988 LAC Minerals USA, Inc. conducted extensive exploration on the prospect which includes the Niblack Mine and the Lookout, Mammoth, Trio, Broadgauge, and Dama properties. To date (1990), according to a LAC Minerals 1989 report, exploration has concentrated mainly on the Lookout portion of the property which is 3,000 feet southeast of the Niblack mine shaft and consists of 37 diamond drill holes totaling over 20,578 feet.

The bedrock of the Niblack area consists of metamorphosed rhyolitic to andesitic volcanic to volcaniclastic rocks of lower Paleozoic age that occur at or near the contact between the pre-Ordovician Wales Group rocks and the younger Descon Formation rocks.

The Niblack mineralized zone consists of quartz-pyrite-rich rhyolitic tuffs, flows, and plugs enclosed within a thick package of andesites and sediments. In the Lookout area, the units are overturned, strike generally northeast, and dip moderately to steeply southeast.

According to a 1989 LAC Minerals report three types of stratiform mineralization have been recognized at the Niblack prospect:

1) True massive sulfides with drill intercepts ranging up to 20 feet of 4.9 percent copper, 8.0 percent zinc, 0.265 ounces per ton gold, and 4.6 ounces per ton silver.

2) Stringer-type sphalerite mineralization in altered lithic tuff footwall. The best intercept of this type averaged 0.7 percent copper, 10.2 percent zinc, 0.150 ounces per ton gold, and 1.0 ounce per ton silver over 5.7 feet.

3) Auriferous pyritic volcaniclastics and polylithic breccia with typical grades of 0.05 ounces per ton gold, 0.5 to 1.0 ounces per ton silver, and 1 percent combined copper-zinc over intercept widths in excess of 50 feet.

A separate style of gold mineralization occurs in a coarse stockwork of ladder quartz veins which cut late stage felsic dikes in the Dama Dike area. Select samples of the quartz vein material contain up to 0.6 ounces per ton gold.

Based on diamond drill data and analogies with other similar massive sulfide deposits an aggregate of 2 to 5 million tons of high-grade polymetallic massive sulfide ore in two or more underground minable deposits is considered a realistic exploration target at Niblack according to an 1989 LAC Minerals report.

Bureau investigations of the Niblack property were confined to the Copper Cliff prospect (fig. 15, Nos. 69 and 70) and the Snowflake Lode (fig. 15, No. 67).

The Copper Cliff prospect is located between 650 and 900 feet elevation, on the south side of the bay one mile east of the head of Niblack Anchorage. It is part of the Dama prospect and between 1903 and 1905 the property was developed with a series of open cuts, an inclined shaft, and an adit with 450 feet of crosscuts and drifts. These workings expose pyritic lenses that contain from 2 to 50 percent pyrite and are hosted in silicious sericite schist and greenstone. Small amounts of chalcopyrite are found with the pyrite. Samples (5136-5141, 5600-5605) collected from the surface and underground workings contained up to 843 ppb gold, 20.7 ppm silver, 1.8 percent copper, and 2,203 ppm zinc.

The Snowflake Lode prospect (fig. 15, No. 67) is located between Niblack Anchorage and the southeast side of Myrtle Lake. Investigation of a 92-foot tunnel driven to the water level of Myrtle Lake and apparently intended as a source of hydroelectric power failed to reveal metallic mineralization.

DICKMAN BAY MARBLE
(fig. 14, No. 30)

Twelve limestone claims (MS 946 and MS 947) are located near the head of Dickman Bay. Maps of these claims dated 1906 show a quarry located on the east side of a tiny inlet. Logging of the reported quarry area about 15 years ago left it covered with slash and a tangle of brush. Examination of this area indicated a series of short marble faces and solution holes with indications at some locations that quarrying had occurred.

A sample (3M) collected across 200 feet of gray and cream colored marble with a 20-foot-thick band of greenstone in its middle contained 3.87 percent SiO_2, 0.57 percent Fe_2O_3, and 92.6 percent total $CaCO_3$.

MOIRA SOUND
(fig. 14, No. 31)

A 100-foot-long sample collected across bands of chert exposed in the tidal zone along the south side of Moira Sound did not contain any significant metal values.

GEIGER
(fig. 14, No. 32)

The Geiger prospect is on the southeast side of South Arm, 2 miles from its head. It consists of a columbium, thorium, uranium, yttrium, zirconium, REE, and tantalum mineralized dike that outcrops along the southeast shore of South Arm. This prospect was mapped and sampled by a Bureau team during a 1984-1987 study of the area (*85*). This Bureau work indicates a resource of:

7,497,000 lb columbium	6,458,000 lb yttrium
402,000 lb thorium	8,820,000 lb zirconium
862,000 lb uranium	9,061,000 lb REE
	578,000 lb tantalum

This is contained within 2,450,000 tons of rock.

Bureau investigation of this prospect during the 1990 field season consisted of reconnaissance sampling from the mineralized dike and adjacent rocks at sea level. A 4-foot sample (5082) across the dike contained 628 ppm lead, 2,012 ppm zinc, 146 ppm uranium, 7,730 ppm cerium, 4,650 ppm lanthanum, and 102 ppm yttrium.

SOUTH ARM, MOIRA SOUND
(fig. 14, No. 33)

The Moria Sound copper prospect is 0.5 miles from the head of South Arm on its west side. It consists of a shear-controlled, pyrite-chalcopyrite-bearing calcite vein, hosted in fractured, silicified, metavolcanic rocks, that is exposed by an 8-foot cut (*53*).

Bureau investigation revealed an 8-foot open cut and dump located just above the high tide line. The open cut exposed highly fractured, silicified greenstone with bands and disseminations of pyrite and chalcopyrite. A 0.7-foot chip sample (5085) across a wall of the open cut assayed 34 ppb gold, 9.5 ppm silver, and 2.48 percent copper. A select dump sample (5084) of silicified greenstone with calcite and bands and disseminations of chalcopyrite assayed 42 ppb gold, 15.7 ppm silver, and 4.29 percent copper.

NELSON AND TIFT
(fig. 14, No. 34)

The Nelson and Tift Mine is 0.75 miles from the mouth of McLean Arm on its north side. The mine consists of a 20- to 40-foot-wide septum of calcareous rock hosted in quartz diorite that intrudes the calcareous rock and forms calcareous hornfels on its contacts. The septum of calcareous rock is contorted with overturned bedding and consists of marble with chert, pyrite-bearing quartz veins, and disseminated pyrite and magnetite. Hosted within the marble and located at the tide line was a 75- by 30- by 9-foot gold-copper-bearing pyrite lens discovered in 1935 and mined out by an open cut between 1935 and 1942 (*53, 60*). Reported production is 3480.61 ounces gold, 638 ounces silver, 71,287 pounds copper, and 695 pounds lead from 2,503 tons of ore.

Between 1935 and 1942 the mine was explored with trenches and four diamond drill holes (up to 90 feet long) that failed to find additional ore *(60)*.

Bureau investigation of the Nelson and Tift Mine consisted of sampling the open cut from which the 75- by 30- by 9-foot pyrite lens was mined. A representative 10-foot sample (5087) across the floor of the cut consisting of marble with one percent sulfides assayed 288 ppb gold and 361 ppm copper. A sample (5086) across a 0.3-foot-thick lens consisting of chalcopyrite, bornite, pyrite, and quartz assayed 3.046 ounces per ton gold, 1.84 ounces per ton silver, 7.77 percent copper, and 608 ppm zinc.

APEX
(fig. 14, No 35)

The Apex prospect is on the south side of McLean Arm, 2 miles from its head and about 0.5 miles from the beach. It was discovered in 1908. Bedrock consists of monzonite grading into syenite with some quartz diorite and diorite. Steep fault zones localize quartz-calcite-barite veins bearing copper and gold. Copper-gold mineralization is also found disseminated and in fractures in silicified zones in the vein wall rock. The mineralization is exposed in three adits that are 322 feet, 58 feet, and 15 feet long; and with a number of cuts and trenches *(81)*.

An examination of the prospect was conducted in 1944 by Bureau engineers *(81)*. The examination indicated a copper-gold-silver mineralized shear zone from 80 to 300 feet wide that extends for at least 1,000 feet. The exposures of this zone are intermittent. Workers inferred a reserve of 2,263,000 tons containing 0.51 percent copper, 0.01 ounces per ton gold, and 0.81 ounces per ton silver.

Bureau investigation of the Apex prospect in 1990 found three open adits at elevations of 300 feet (322 feet long; fig. 18, No. 86), 525 feet (55 feet long; fig. 18, No. 87), and 530 feet (15 feet long; fig. 18, No. 88). The trenches were sloughed and overgrown.

Mapping of the lower adit (300 feet elevation) revealed a fault zone up to 4 feet wide that contained a quartz-calcite-barite vein containing pyrite, chalcopyrite, bornite, malachite, azurite, and limonite. Samples (5123, 5126, 5128, 5596, 5597, 5599) across this zone contained from 810 to 11,691 ppm copper and from 59 to 210 ppb gold. A 0.3-foot chip sample (5130) across the best copper mineralization observed along the fault zone assayed 2.16 percent copper and 212 ppb gold. On either side of the fault zone crosscuts expose fractured, altered syenite that contains sulfides along fractures and as disseminations. Samples (5121, 5122, 5124, 5125, 5127, 5129, 5593-5595, 5598) from 5.4 to 11.8 feet long collected on either side of the fault zone contained from 428 to 8,409 ppm copper and from 33 to 497 ppb gold. The best section (5594-5596) that included the fault zone averaged 5,750 ppm copper and 339 ppb gold across 20 feet. Samples from this adit also contained more than 2 percent barite and up to 1.7 ppm silver.

The 525-feet-elevation adit exposes a fault zone similar to that exposed in the 300-feet-elevation adit. Samples (5119, 5591) 3 and 7 feet long collected across the fault zone exposed in the adit contained from 5,964 to 6,268 ppm copper and 330 to 2,312 ppb gold. A select dump sample (5120) assayed 7.68 percent copper, 1.503 ounces per ton gold, and 5.3 ppm silver.

The 530-feet-elevation adit is located several hundred feet to the west of the 525-feet-elevation adit and exposes a fault zone similar to that found at the 300-feet-elevation adit. A 1.9-foot-long sample (5592) across the portion of the zone exposed in the adit assayed 2,831 ppm copper and 17 ppb gold.

HILLSIDE AND WANO
(fig. 14, No. 36)

The Hillside and Wano prospect is on the south side of McLean Arm, 2 miles from its head and about 0.5 miles from the beach. It was discovered in 1908 and is located along a shear zone that forms a shallow gulch. It is located just to the west of the Apex prospect and consists of a shear zone in monzonite that localizes quartz-calcite veins and zones that bear copper and gold. The mineralization is exposed in three tunnels and seven open cuts according to claim maps dated 1910 and 1912.

Bureau investigation of the Hillside and Wano prospect revealed two open adits 6 feet and 10 feet long, one caved adit, an open cut, a trench, and some sloughed opencuts. These workings are along a shallow shear controlled gulch between 275 and 435 feet elevation. Chip and representative chip samples (5663, 5664, 5666-5668) from 1 to 5.6 feet long collected of sulfide-bearing monzonite from these workings contained from 666 to 12,580 ppm copper and from 82 to 435 ppb gold. Select sulfide-rich samples (5662, 5665) from dumps contain from 1,969 ppm to 2.79 percent copper, from 0.8 to 11.2 ppm silver, and from 161 to 7,150 ppb gold.

VETA
(fig. 14, No. 37)

The Veta prospect is about 0.2 miles west of the head of Mallard Bay. It was discovered in 1908 and consists of a shear zone hosted in greenstone and altered diorite that contains quartz-calcite veins. These veins contain chalcopyrite, bornite, malachite, azurite, and specular hematite and are exposed by two vertical shafts and 78 feet of drifts and crosscuts *(53)*.

Bureau investigation of the Veta prospect revealed quartz-carbonate altered greenstone with bands and blebs of chalcopyrite near a greenstone-diorite contact. Two shafts separated by 75 feet and a pit 500 feet easterly expose the mineralization. Both shafts are flooded but a select sample from a dump and another from adjacent rubblecrop (5089, 5568) assayed from 1.28 to 6.41 percent copper, from 5.6 to 25.7 ppm silver, and from 3,024 to 3,395 ppb gold. The pit was sloughed and filled with rubble but a 0.3-foot-thick quartz stringer with chalcopyrite was exposed in the north wall of the pit. A 0.3-foot sample (5090) across it assayed 1,833 ppm copper and 94 ppb gold. A select sample (5569) from a nearby dump assayed 3.63 percent copper, 15.6 ppm silver, and 7,258 ppb gold.

JOHNSON AND GOULEY
(fig. 14, No. 38)

The Johnson and Gouley prospect is reportedly on the south side of McLean Arm at 1,500 feet elevation about one mile from the beach near the head of McLean Arm *(81)*. It consists of open cuts that expose small masses of chalcopyrite hosted in greenstone. In searching for this prospect, which was not found, two mineral occurrences were located.

The first occurrence (fig. 18, No. 92) is at 1,480 feet elevation and consists of silicified monzonite with clots of pyrite-bearing quartz-calcite that outcrops through heather and brush. A select sample (5131) assayed 208 ppb gold, 4.4 ppm silver, and 364 ppm molybdenum.

The second occurrence (fig. 18, No. 91), at 1,450 feet elevation, consists of a quartz-calcite vein up to 0.4 feet thick with pyrite, chalcopyrite, and malachite hosted in monzonite that is silicified in the vicinity of the vein. The vein outcrops for 9 feet through heather and brush. Two samples (5133, 5135) 0.3 and 0.4 feet long collected across the vein assayed 1.25 and 7.54 percent copper, 49 and 52 ppb gold, and 17.5 and 46.4 ppm silver, respectively. Samples (5132, 5134, 1 foot long) collected of the silicified monzonite on either side of the vein contained 635 to 931 ppm copper, 0.3 to 0.5 ppm silver, and 8 to 14 ppb gold.

STONE ROCK BAY
(fig. 14, No. 39)

Reconnaissance samples were collected at Stone Rock Bay (fig. 15, Nos. 93, 94, 96). Samples at locations 93 and 96 did not contain significant metallic values. At location 94, select samples (5197, 5198) of silicified syenite with disseminated chalcopyrite contained from 229 to 402 ppb gold and from 3,162 to

6,206 ppm copper.

STONE ROCK BAY OCCURRENCE
(fig. 14, No. 40)

The Stone Rock Bay occurrence is on the north side of Stone Rock Bay. It consists of dikes and syenite containing uranium, cerium, lanthanum, yttrium, and other REE. This occurrence was mapped and sampled by a Bureau team during a 1984-1987 study of the area *(85)*.

Bureau investigation of this occurrence during the 1990 field season consisted of reconnaissance sampling two diabase dikes exposed at the beach. Samples (5589, 5590) of these dikes contained up to 132 ppb gold, 2,681 ppm copper, 311 ppm zinc, 1,080 ppm uranium, 14,400 ppm cerium, 7,230 ppm lanthanum, and 54 ppm yttrium.

BARRIER ISLANDS
(fig. 14, No. 41)

A series of stratabound massive and disseminated sulfide occurrences are reported throughout the Barrier Islands. These are hosted in felsic and intermediate volcanic and volcaniclastic rocks and are reported to contain up to 3,500 ppm zinc, 10 ppm silver, and 300 ppm copper from mostly select samples *(38)*.

Bureau investigation of these occurrences (fig. 15, Nos. 75, 77-81) revealed orange iron-stained bands of quartz sericite schist, volcaniclastic rocks, tuff and interlayered slates, and graywacke up to hundreds of feet across and thousands of feet long hosted in intermediate volcanics. At sample location 77, chip samples (5104-5107) from 0.1 to 20 feet wide across portions of an iron-stained band contained up to 1.2 ppm silver, 306 ppm zinc, 435 ppm nickel, 110 ppm cobalt, and 6,600 ppm barium. At location 80, chip and representative samples (5110, 5111, 5585) from 0.4 to 4.5 feet wide across portions of an iron-stained band contained up to 62 ppb gold, 10.8 ppm silver, 570 ppm copper, 1,475 ppm lead, and 1.34 percent zinc.

LUCILE
(fig. 14, No. 42)

The Lucile prospect is 0.8 miles from the head of Nichols Bay and 0.5 miles up a stream that empties into the east side of the Bay. It was originally staked in 1916 and consists of a north-south-striking shear zone in greenstone. Quartz veins up to 3 feet thick are hosted in the shear zone and bear pyrite, galena, and minor chalcopyrite. These are developed by a shaft, a lower crosscut 500 feet northerly from the shaft, and an upper crosscut 900 feet northerly from the shaft *(4)*.

Bureau investigation revealed a flooded shaft with dump, an 18-foot-long lower crosscut, and a 17-foot-long upper crosscut. The crosscuts exposed quartz veins bearing galena and sphalerite hosted in greenstone . Samples collected from stream float, the shaft dump, and the crosscuts contained up to 9 ppb gold, 415 ppm copper, 3,870 ppm lead, and 4,865 ppm zinc.

NICHOLS BAY, EAST SHORE
(fig. 14, No. 43)

A number of copper prospects are reported along the east shore of Nichols Bay. Some were worked as early as 1916. The locations of these prospects is not specific and small workings are reported on only a few *(3)*.

The Bureau investigated the east shore of Nichols Bay for mineralized zones and took ten samples (fig. 19, Nos. 101-106, 108-111). The most significant of these is located about 1 mile from the mouth of the bay. Sulfide-bearing quartz stringer zones and lenses are hosted in silicified syenite near a contact with greenstone. Open cuts expose the mineralization at two locations. Samples (5113-5116) collected from the quartz veins and silicified syenite contained up to 172 ppb gold, 8.4 ppm silver, 1,400 ppm copper, 9,813 ppm lead, and 3,213 ppm zinc.

NICHOLS BAY SHAFT
(fig. 14, No. 44)

The Nichols Bay Shaft prospect is at sea level on the east side of Nichols Bay, a mile from its head. A number of old copper prospects, some with small workings, are described at Nichols Bay, but their locations are vague *(3)*. Zinc-silver mineralization was first recognized at this location by Gehrels in 1983 *(38)*.

Bureau investigation indicates the prospect consists of a 60-foot-thick band of gray and green silicified volcanics and cherts, which host disseminations and masses of pyrite, pyrrhotite, and magnetite with sphalerite at some locations. A small shaft was driven in a sulfide-rich zone some years ago and is now flooded. Samples from 10 to 19 feet long (5094, 5095, 5098, 5099) collected across the 60-foot band consisting of silicified volcanics with disseminated sulfides contained up to 66 ppb gold, from 9 to 491 ppm lead, and from 109 to 4,907 ppm zinc. Samples from 0.3 to 4 feet long (5096, 5097, 5100, 5101) collected from more massive sulfide areas contained from 82 to 513 ppm lead, and from 7,688 ppm to 1.8 percent zinc.

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APPENDIX A --ANALYTICAL RESULTS

KEY TO TABLES A-1 to A-3

All assays were conducted by a commercial laboratory. Results are given by chemical element symbol in the following units except when noted by an asterisk(*):

Au - ppb;
Ag, Cu, Pb, Zn, Mo, W, Ni, Co, Ba, Sn, Cr, Bi, V, As, Sb, Hg - ppm;
Fe - percent.

If followed by an asterisk, Au and Ag values are in ounces per ton, and other elements are in percent.

ABBREVIATIONS

Abbreviations for sample types are as follows: (see Appendix B for definitions)

C	continuous chip
CC	chip channel
CH	channel
G	grab
O	other
Rep	representative chip
S	select
SC	spaced chip

Sample dimensions are in feet, designated by an apostrophe.

Abbreviations used in the sample descriptions consist of the capitalized first letter of the four cardinal directions, as well as the following:

an	andesite
ar	argillite
aspy	arsenopyrite
azur	azurite
bi	biotite
br	breccia (brecciated)
ca	calcite
cg	conglomerate
chl	chlorite (chloritic)
cp	chalcopyrite
di	diorite
dissem	disseminated
el	elevation
ep	epidote
fest	iron stained
fw	footwall
gd	granodiorite
gl	galena
gp	graphite (graphitic)
gs	greenstone
gw	graywacke
hb	hornblende
hn	hornfels
hw	hanging wall
ls	limestone
mag	magnetite
mal	malachite
mb	molybdenite
MD	mine dump
min	mineralized
msv	massive
OC	outcrop
pl	phyllite
po	pyrrhotite
porph	porphyry (porphyritic)
py	pyrite (pyritic)
qt	quartzite
qz	quartz
RC	rubblecrop
sed	sediment
sc	schist
sl	sphalerite
sulf	sulfide
TP	trench or pit
UW	underground workings
w/	with
xc	crosscut

Sample data and analytical results are tabulated in appendix A-1 to A-3. In addition to the sample results, the following information is listed in the table: prospect name, prospect location number, map number, field sample number, sample type, sample size, and sample lithology. The results, organized by sample location number and cross referenced to prospect number, are keyed to the sample location maps.

Table A-1.--Selected sample results, Craig subarea

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
Noyes Island (fig. 8, No. 1)																				
12	3015	CC	.5'	<5	21.7	505	8966	10789	5	<1	9	58	19	180	3.059	7.18	20	19	<10	OC, qz ca vein is br and recemented
13	3054	SC	10'	<5	<0.2	28	160	704	<1	13	15	7	32	<5	0.225	6.27	180	14	<10	OC, silicified ls, brown fest outcrop w/qz veinlets
Steamboat Bay (fig. 8, No. 2)																				
27	3014	O		50	1.0	81	20	146	<1	38	32	5	6	<5	0.170	7.30	220	57	<10	Stream sediment, poor quality sample due to lack of fines
St. Ignace Island (fig. 8, No. 3)																				
64	3016	Rep	2'	<5	0.5	11	40	124	2	1	10	7	<5	5	0.125	4.41	1600	54	<10	OC, chert-jasper zone in conglomeratic ls
65	3055	C	1'	14	0.9	650	11	49	<1	14	19	9	<5	<5	0.058	4.59	720	23	<10	OC, ca vein in lithic wacke, possible Ba
San Juan Bautista Island (fig. 8, No. 4)																				
66	3006	C	.5'	21	2.4	149	32	1125	13	76	10	<5	40	6	0.280	>10.00	1700	41	29	OC, oxide-filled fractures cutting ls
66	3007	C	.8'	107	2.8	54	30	56	5	39	5	<5	79	9	0.086	1.13	2500	42	<10	OC, carbonaceous ls, possible sedimentary msv sulf
67	3005	O		7038	21.6	66	17	181	2	29	24	<5	24	8	0.661	9.89	480	31	12	Stream sediment sample
68	3004	Rep		130	1.3	15	75	84	<1	<1	4	19	21	<5	0.148	0.19	450	12	<10	OC, ls, sample taken for background geochemistry
69	3008	O		683	5.2	66	13	306	2	61	19	7	73	<5	0.268	6.85	1400	35	<10	Stream sediment sample
Port San Antonio (fig. 8, No. 5)																				
83	3010	C	2'	145	2.6	27	21	69	26	25	2	<5	26	10	0.090	1.12	630	152	<10	OC, gp black ar, sedex environment
87	3011	C	3'	14	2.1	89	17	184	22	37	10	5	<5	<5	0.075	2.44	1000	145	<10	OC, black ar, sedex environment
91	3051	C	2'	24	1.2	42	196	291	15	23	4	<5	33	13	0.126	2.03	1400	99	<10	OC, carbonaceous argillic pl
93	3012	C	3'	10	3.0	14	33	131	1	3	6	13	<5	<5	0.067	0.57	30	40	<10	OC, qz layers in ar, veins parallel to foliation
94	3052	C	5'	7	1.2	78	19	77	2	22	8	<5	6	<5	0.031	1.70	1200	128	<10	OC, carbonaceous pl, sample 127 degrees from Point San Roque 300' el
95	3053	Rep	15'	26	0.6	123	18	110	1	10	21	<5	9	9	0.062	6.45	600	31	10	OC, silicified ar, N side of steep outcrop
96	3013	S		<5	1.4	50	11	49	9	100	25	5	288	<5	0.059	5.99	410	175	15	Rubblecrop, siliceous ar, debris close to insitu
Veta Bay (fig. 8, No. 6)																				
100	3009	CC	.5'	1294	11.23*	2192	16	28	1	5	9	7	150	8	1.003	>10.00	<20	128	22	OC, min qz vein in gd
Pelegroso (fig. 8, No. 7)																				
8	3326	SC	10' @ .5'	6	0.3	15	24	75	9	4	6	<5	<5	<5	0.047	4.15	610	45	<10	Quarry, 40' el, syenite
8	3327	C	4'	11	1.9	136	130	331	7	14	12	<5	94	11	0.217	4.61	670	61	<10	Quarry, 40' el, sheared syenite
8	3328	SC	10' @ .5'	<5	0.3	41	20	109	7	2	8	<5	12	7	0.047	3.92	560	51	<10	Quarry, 40' el, altered syenite
8	3329	C	5'	12	0.5	5	16	400	<1	12	3	<5	<5	11	0.057	2.41	90	49	<10	Quarry, 30' el, limy hn
8	3475	S		20	0.7	182	2	16	1	6	2	6	<5	12	<0.010	3.08	220	11	<10	S wall pit, ca vein, Pelegroso carbonatite

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
8	3476	Rep	10'	47	1.0	253	14	31	13	2	3	<5	<5	<5	0.046	1.35	300	65	<10	OC, syenite, altered porph at contact
8	3477	S	1.5'	36	4.2	550	242	363	<1	7	14	50	851	30	0.363	3.37	100	44	26	OC, calcareous skarn, small pod along foliation and across fracture
11	3324	S	3'	<5	0.6	13	19	110	6	3	10	<5	<5	<5	0.066	5.64	560	49	<10	Float, 700' el log road, syenite
14	3323	SC	13' @ 1'	12	0.4	17	34	173	8	16	3	<5	<5	5	0.092	2.51	1600	121	<10	Quarry, 900' el, ls, chert, and gw
15	3325	SC	20' @ 1'	6	0.2	6	7	51	4	2	9	<5	<5	6	0.028	5.13	710	36	<10	Quarry, 880' el, syenite, sample taken along strike
								Black Lake (fig. 8, No. 8)												
1	3169	SC	8' @ .5'	<5	1.3	357	<2	42	23	7	112	<5	12	<5	<0.010	>10.00	840	97	23	Road cut, 500' el, porph di
1	3240	SC	20'	<5	1.3	143	<2	45	101	6	34	<5	11	<5	0.022	>10.00	2000	145	10	Road cut, br di porph
1	3241	SC	20'	9	1.1	127	<2	35	48	6	18	<5	8	5	<0.010	>10.00	970	175	12	Road cut, br di porph
2	3166	SC	10' @ .5'	<5	0.4	199	<2	32	5	16	27	<5	<5	<5	<0.010	4.40	900	58	<10	Quarry, S wall, skarn, altered di
2	3167	C	2'	7	1.1	718	4	48	40	29	82	<5	30	12	<0.010	>10.00	870	83	<10	Quarry, S wall, skarn and ep hn
2	3168	SC	8' @ .5'	<5	0.5	207	2	21	33	7	12	<5	12	<5	<0.010	4.03	2000	56	<10	Quarry, S wall, skarn and hn
2	3238	SC	14'	23	2.5	2288	6	185	90	29	72	<5	6	<5	0.046	>10.00	1400	79	13	Quarry, iron skarn in di, exposed in quarry wall
2	3239	C	4'	6	<0.2	5317	27	92	2	153	315	43	<5	21	<0.010	5.42	240	32	<10	Quarry, iron skarn exposed in quarry walls
								Lucky Nell Mountain (fig. 8, No. 9)												
17	3211	C	5'	11	0.5	14	9	27	<1	12	3	<5	30	<5	0.017	3.41	390	154	<10	OC, on ridge, qt and chert, local slate interbeds
19	3048	C	4'	2051	42.1	48	871	502	2	9	11	<5	>2000	35	0.097	6.55	570	154	<10	OC, qz vein and shear zone, qz contains extensive boxworks
19	3049	CC	1'	9105	1.97*	56	374	870	2	6	7	<5	>2000	70	0.127	3.19	30	248	<10	OC, qz vein, exposure on steep slope
20	3046	CC	.5'	1.066*	10.04*	1520	7.02*	19330	7	6	29	50	>2000	384	3.919	2.61	<20	62	<10	Rubblecrop, br msv sulf
20	3047	CC	.5'	1.752*	276.37*	7937	7.16*	6.79*	11	8	16	36	>2000	>2000	5.936	>10.00	90	123	251	Rubblecrop, qz vein, trend estimated
20	3062	S		0.755*	25.49*	2133	12.54*	4.84*	28	22	42	74	>2000	1365	5.392	>10.00	30	130	<10	Rubblecrop, qz vein, possible trench, vein could parallel structure
20	3098	C	10'	162	5.4	75	164	339	<1	38	22	<5	645	10	0.019	5.66	530	70	<10	OC, w/some rubblecrop, br qz vein may not be in place
20	3205	SC	12'	17	2.8	55	108	262	<1	35	20	<5	56	6	0.021	5.99	510	43	<10	OC, silicified br zone contains highly min vein material
20	3206	CC	1'	0.918*	94.17*	3103	1.49*	14333	11	9	5	19	>2000	>2000	2.076	5.37	<20	308	<10	Rubblecrop, altered zone, qz vein, br at contact
22	3212	C	12'	<5	0.7	15	9	46	<1	11	5	<5	<5	6	<0.010	2.53	500	108	<10	OC, on slope, silicified ar w/chert, on strike to Lucky Nell workings
								Dew Drop (fig. 8, No. 10)												
18	3208	CC	1'	21	5.9	9	19	19	<1	<1	7	10	59	21	0.018	0.90	<20	10	14	OC, incised creek, ca vein pinches and swells along strike
18	3209	CC	.5'	327	2.1	12	5	30	<1	6	4	<5	1170	<5	0.015	2.86	40	220	<10	OC, incised creek, qz vein, local br, vein width changes along strike
19	3099	Rep	5'	477	7.1	46	167	244	1	23	20	<5	878	11	0.075	6.41	490	53	<10	Rubblecrop, sheared di, directly across from Dew Drop adit

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
21	3207	C	4'	116	7.2	47	61	136	3	164	32	6	112	16	0.057	6.62	270	162	<10	UW, back of adit, sheared di, py only sulf noted
23	3150	C	3.5'	40	1.1	88	16	93	2	36	21	<5	123	7	0.036	6.14	300	68	<10	OC, chl sc, sample 3210 is adjacent
23	3210	C	3'	250	2.6	56	40	30	2	3	4	<5	40	6	0.044	4.22	220	82	<10	OC, steep slope, sheared chl sc, local stockworks
											Lucky Nell No. 1 (fig. 8, No. 11)									
28	3412	C	2.8'	489	1.4	29	412	539	2	3	4	<5	103	<5	0.021	2.54	360	91	<10	UW, adit 1, qz vein, 6' in from portal, S rib
28	3413	C	2.1'	7653	47.5	262	2.13*	16885	13	7	11	13	947	42	0.765	>10.00	80	104	<10	UW, adit 1, qz vein, 17' in from portal
28	3414	C	2.5'	49	1.0	99	42	465	4	7	15	<5	33	<5	0.038	6.19	420	14	<10	UW, adit 1 S rib, sheared qz vein, 39' in from portal
28	3417	C	1.8'	191	1.1	41	13	57	1	4	9	<5	77	<5	0.014	4.12	480	29	<10	UW, 69' total length, qz vein and sheared an, vein pinches out at face
28	3418	C	2.4'	168	1.4	113	52	108	1	6	13	<5	76	<5	0.347	5.14	350	26	<10	UW, sheared vein, gouge at hw and fw
28	3422	CC	1.8'	202	1.8	69	166	227	1	6	13	<5	83	<5	0.026	5.04	310	31	<10	UW, vein at face, sheared qz vein
											Lucky Nell No. 2 (fig. 8, No. 11)									
29	3419	CC	1.8'	1.197*	3.02*	665	6.44*	19430	13	6	11	40	1883	113	1.609	2.09	80	72	<10	UW, face sampled, ribbon qz vein, hw is mafic dike
29	3420	CC	2'	3854	6.3	75	223	285	1	10	13	<5	385	10	0.052	6.73	220	98	<10	UW, N rib, ribbon qz vein, sample site portal + 52'
29	3421	CC	1.5'	4245	32.5	357	336	13582	10	7	13	15	475	71	0.667	8.57	110	94	<10	UW, portal + 38', ribbon qz vein, sulfs concentrated at contact
29	3478	C	3'	4239	19.4	317	1658	1799	7	10	13	7	592	40	0.127	8.20	100	170	<10	UW, adit 2, qz vein, sample cut across portal
29	3479	C	3.1'	4136	14.9	178	702	2178	4	8	11	7	293	29	0.160	6.52	200	64	<10	UW, N rib, qz vein, sample site 20' in from portal
29	3480	C	2.3'	2800	8.8	110	880	2061	2	8	10	6	274	10	0.148	5.88	220	89	<10	UW, N rib, ribbon qz vein, sample site 26' in from portal
											Lucky Nell No. 3 (fig. 8, No. 11)									
30	3337	C	1.2'	3.444*	10.18*	2834	3.40*	4.58*	15	26	39	55	>2000	754	3.573	2.68	<20	194	<10	UW, 8' from portal, back, qz w/msv sulf
30	3338	C	1'	1.562*	6.75*	4724	1.70*	7.30*	22	14	47	66	1695	518	3.737	2.24	<20	114	170	UW, 17' to portal, back, qz w/msv sulf
30	3339	C	.6'	3988	20.7	262	337	793	<1	10	20	<5	1064	47	0.414	>10.00	170	118	<10	UW, 25' to portal, back, qz w/msv sulf
30	3340	C	2.4'	2436	16.2	271	326	736	<1	8	13	<5	329	26	0.460	6.82	310	124	<10	UW, 25' to portal, back, sheared di
30	3341	C	1.5'	2253	6.7	325	1054	3192	3	8	14	7	190	10	0.477	6.74	360	57	<10	UW, 42' to portal, N rib, sheared di
30	3342	C	.5'	3276	22.6	2462	88	127	1	9	28	10	223	12	0.351	8.85	120	107	<10	UW, 55' to portal, N rib, qz in sheared di
30	3343	C	2.8'	0.978*	18.63*	2507	8.19*	11281	9	27	19	17	1635	1285	1.074	>10.00	30	186	<10	OC, 18' from portal, qz w/msv sulf
30	3355	C	5'	233	1.8	105	92	126	<1	5	12	<5	48	<5	0.435	5.57	290	20	<10	UW, altered di, hw to main vein
30	3356	C	1.5'	0.488*	2.48*	1834	489	1031	13	12	44	12	1214	141	0.707	>10.00	140	136	<10	UW, qz vein, local shearing, irregular contact w/intrusive
30	3357	C	2'	7813	37.7	754	1289	1713	5	9	21	5	476	66	0.670	9.51	180	85	<10	UW, ribbon qz vein, ribbon vein, not continuously min
30	3358	C	5'	137	1.6	89	51	112	<1	5	12	<5	35	6	1.163	5.52	220	28	<10	UW, altered di, hw of adit 3 vein

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
30	3359	CC	.6'	1909	3.6	167	82	208	<1	9	11	<5	149	8	0.146	4.08	150	175	<10	UW, qz ca vein, splay from main vein
30	3360	CC	.2'	1912	24.3	3566	210	1799	2	7	17	9	97	<5	0.176	>10.00	90	68	<10	UW, qz ca vein, crosscutting vein, gp partings
30	3361	CC	.4'	0.840*	2.38*	3955	2044	9966	5	13	52	44	1405	51	0.314	2.37	80	160	<10	UW, qz vein, not sure if sample penetrated fw
30	3362	C	6'	7136	14.3	769	438	817	<1	14	24	8	275	7	0.187	8.00	230	60	<10	UW, altered di, across back, includes 2 splays of veins
30	3363	SC	10' @ .5'	49	1.0	65	26	92	<1	6	14	<5	71	5	0.032	6.23	250	41	<10	OC, by portal to adit 3, altered di, fw to No. 3 vein
									Lucky Nell No. 4 (fig. 8, No. 11)											
32	3002	S		1.055*	3.38*	2926	6987	6692	3	25	56	19	>2000	511	0.847	>10.00	<20	112	<10	Min qz vein, dump of Lucky Nell No. 4 adit
32	3344	C	3'	2639	19.1	107	1323	639	56	8	16	<5	600	35	2.499	7.22	110	110	<10	UW, 135' from sta 6, sheared di
32	3345	C	.5'	1649	16.1	87	1174	311	3	17	13	<5	480	46	0.685	4.68	40	205	<10	UW, 135' N of sta 6, qz vein
32	3346	C	2.8'	48	1.9	26	104	91	14	7	19	7	40	15	1.004	7.20	120	29	12	UW, 50' N of sta 6, sheared and altered di
32	3347	C	.7'	8203	22.2	1125	1212	1758	4	9	27	11	265	11	1.309	8.30	110	116	<10	UW, 57' N of sta 6, qz vein
32	3348	C	3'	9618	18.5	155	157	686	<1	11	14	<5	496	41	0.174	7.05	140	212	<10	UW, 28' S of sta 5, sheared di
32	3349	C	2.5'	356	7.8	171	89	169	<1	7	15	<5	275	10	0.095	5.48	440	72	<10	UW, 28' S of sta 5, sheared di
32	3350	C	.2'	0.423*	3.24*	3241	147	118	<1	8	57	18	599	162	0.222	>10.00	<20	195	17	UW, 28' S of sta 5, qz vein
32	3364	CC	.8'	0.290*	1.94*	1087	5576	4449	8	24	18	10	637	95	0.143	9.23	110	154	83	UW, qz vein in hw, back of adit 4
32	3365	C	4'	1031	6.8	90	705	925	2	40	25	<5	316	15	0.162	8.84	120	60	<10	UW, altered di, across back to include vein
32	3366	C	1.5'	1.961*	5.16*	5227	3.03*	14467	9	22	41	46	>2000	549	1.146	3.09	30	104	<10	UW, qz sulf vein, high-sulf vein in sheared di
32	3367	C	4'	748	29.8	744	199	232	<1	6	18	<5	250	66	0.953	8.93	160	19	<10	UW, altered di w/sulf, sample excludes vein
32	3368	C	3'	0.449*	2.81*	534	3941	2472	2	19	46	19	1813	247	0.598	1.96	<20	157	<10	UW, qz sulf vein, very siliceous
32	3369	CC	.6'	7560	23.8	388	769	759	<1	17	42	21	1903	81	0.142	2.58	<20	121	<10	UW, qz sulf vein, gouge at hw contact
32	3370	C	3.5'	1005	9.3	190	774	1549	1	8	15	<5	451	13	0.162	5.77	280	63	<10	UW, sheared di, gouge at fw contact
32	3371	C	1.6'	7162	1.48*	547	1.38*	9670	8	21	21	11	954	111	0.373	>10.00	<20	222	<10	UW, qz sulf vein forms hw of drift
32	3372	C	4'	116	2.9	69	169	197	<1	58	28	<5	96	<5	0.237	8.27	860	68	<10	UW, bleached micro di, fw to main vein, py in veinlets
32	3373	C	4'	18	0.8	58	50	137	1	8	16	<5	26	<5	0.020	6.19	330	56	<10	OC, portal of adit 4, altered and sheared di, at portal to adit 4
32	3380	C	3.9'	3239	17.6	135	479	686	5	27	20	11	1389	36	3.316	7.84	70	76	<10	UW, drift, qz vein 0.9' thick
32	3381	C	1.1'	0.366*	1.61*	463	841	1695	7	19	23	13	1820	56	1.230	8.90	120	171	<10	UW, drift, 0.9' qz vein w/sulf
32	3382	C	4.1'	7498	17.8	760	1128	2315	2	7	15	8	411	38	1.082	7.34	200	81	<10	UW, drift, qz vein 1.8' thick
32	3383	C	2'	0.356*	1.47*	2824	1899	4332	4	14	24	7	655	107	0.828	>10.00	90	182	<10	UW, drift, qz vein w/sulf
32	3384	C	3.8'	407	2.2	147	55	112	<1	5	12	<5	71	<5	0.094	4.45	210	42	<10	UW, drift, qz vein
32	3385	Rep	.4'	2359	5.2	167	49	65	<1	5	12	<5	169	8	0.087	4.21	50	41	<10	UW, drift, ca qz vein, argillic alteration along fault
32	3386	C	4'	51	0.8	48	8	25	<1	10	14	5	37	<5	0.199	4.80	210	35	<10	UW, drift, altered di, no discrete qz veins

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
Lucky Nell No. 5 (fig. 8, No. 11)																				
31	3415	C	3'	661	1.6	25	117	306	2	5	8	<5	282	<5	0.045	4.85	130	103	<10	UW, face of lower adit, qz vein splits and also dips 66N
31	3416	C	2'	711	2.5	84	38	1785	2	3	8	<5	229	<5	0.051	4.77	190	82	<10	UW, past cribbing, qz vein more msv here than at face
31	3423	CC	.8'	2042	6.9	199	223	4755	6	7	18	6	570	9	0.187	8.90	130	152	<10	W wall of trench, 5' from portal to adit 5, ribbon qz vein
31	3424	CC	1.5'	86	1.1	34	15	152	<1	16	18	<5	76	7	<0.010	5.62	770	30	<10	TP 25' from portal, py ar
31	3425	CC	1.5'	458	0.9	8	51	61	<1	6	4	<5	148	<5	<0.010	2.67	<20	217	<10	OC, updip projection, qz vein, updip extension of sample 3416
Granite Mountain (fig. 8, No. 12)																				
7	3112	Rep	2.5'	14	0.9	177	7	45	<1	26	20	6	<5	5	<0.010	6.71	<20	51	<10	OC, diabase dike of similar morphology to Flagstaff dike
Last Chance (fig. 8, No. 13)																				
6	3042	S		4971	43.1	23	204	11	86	4	1	<5	5	<5	0.799	1.22	<20	275	<10	Qz vein on upper mine dump
6	3068	S		505	4.0	54	54	13	6	2	2	<5	17	<5	0.290	1.46	<20	230	<10	MD, qz vein, adit still covered by snow
6	3110	S		1676	13.7	116	88	14	27	3	3	<5	5	<5	0.425	2.71	<20	267	11	MD, lower adit, qz vein, portal still covered w/snow
6	3111	S		2163	18.9	40	247	12	43	3	1	<5	<5	8	0.872	1.25	<20	303	<10	MD, qz vein from upper adit dump
6	3254	C	4'	2278	10.7	75	48	38	4	6	2	<5	<5	<5	0.172	0.89	<20	340	<10	Trench at upper workings, qz vein
6	3255	C	1'	<5	0.6	11	4	103	<1	8	15	<5	<5	<5	0.078	7.48	190	124	<10	UW, sheared qz vein, back of adit 2
6	3256	C	1'	249	0.5	8	<2	88	<1	3	8	5	6	<5	0.017	4.09	180	116	<10	UW, shear zone, adit follows shear
Lucky Jim (fig. 8, No. 14)																				
16	3393	S		14	1.3	221	9	38	5	23	6	<5	58	<5	0.089	1.10	50	164	<10	Rubblecrop, br jasperoid, on strike w/prospect
16	3394	S		1623	29.3	3601	9904	251	179	8	1	6	290	1210	>50.000	2.50	<20	286	<10	MD, vuggy qz vein, similar to vein W of Flagstaff
16	3395	Rep		8	0.5	44	80	17	5	8	3	<5	8	12	0.693	1.17	50	148	<10	OC, gd, hw to vein
16	3409	CC	1'	1282	26.9	749	9270	55	202	7	2	<5	74	311	31.900	2.91	<20	226	<10	Trench at 2660', qz vein
Buckhorn (fig. 8, No. 15)																				
9	3179	S	4' X 4'	1055	9.4	143	76	31	3	6	5	<5	5	<5	0.581	2.20	<20	265	<10	Lower dump, qz vein
9	3180	S	3'	2151	15.7	105	13	8	4	8	6	<5	9	<5	0.545	3.48	<20	316	<10	MD, 3'x 6' area, qz vein
9	3257	C	1'	7	0.8	10	4	4	1	8	4	<5	<5	<5	0.124	1.19	<20	389	<10	TP, qz vein, vuggy and crystalline
9	3258	S		528	3.2	143	101	8	1	5	5	<5	8	<5	0.292	1.68	<20	302	<10	MD, qz vein, vein from top of trench
9	3259	C	1'	126	0.6	6	2	9	<1	6	4	<5	<5	<5	0.066	1.51	<20	285	<10	UW, qz vein, downdip from upper trench
Flagstaff (fig. 8, No. 16)																				
10	3001	S		0.321*	2.94*	2817	2771	7	94	15	6	<5	<5	7	2.027	6.27	<20	195	159	Sheeted qz vein from mine dump
10	3031	C	2.5'	28	1.3	6	52	7	2	2	2	9	<5	<5	0.052	0.79	540	41	<10	UW, ca qz vein at back of Flagstaff

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
10	3032	CC	1.5'	339	3.7	49	26	21	41	40	22	7	<5	<5	0.375	5.16	150	139	<10	UW, qz ca vein, floor of drift
10	3033	C	2.5'	0.935*	10.77*	15148	7.04*	13	120	20	5	40	50	12	>50.000	>10.00	<20	219	<10	UW, qz ca vein, xc before winze, highly fractured
10	3034	C	1.7'	5423	1.40*	1701	3697	12	82	24	13	8	10	<5	<0.010	3.36	<20	214	<10	UW, qz vein, vein moderately fractured
10	3035	C	2.8'	4869	1.86*	1763	2224	4	52	9	3	20	39	8	<0.010	3.37	<20	292	<10	UW, qz vein, between raises in stoped area
10	3036	C	2'	3798	33.1	5182	2098	6	132	13	6	<5	<5	6	<0.010	3.68	<20	212	<10	UW, qz vein, highly fractured
10	3037	CC	1.1'	7831	3.44*	3336	1247	5	117	13	6	<5	<5	<5	<0.010	4.85	<20	265	<10	UW, qz vein, highly stoped area, moderately fractured
10	3038	CC	1.5'	3019	27.3	964	710	6	129	11	5	8	<5	<5	0.904	3.42	<20	224	<10	UW, qz vein, 0.1' gouge on HW and FW
10	3039	C	2'	320	5.8	56	51	3	56	12	5	<5	<5	<5	0.024	1.52	<20	314	<10	UW, qz vein, sulf content dropping off
10	3040	C	2.8'	238	1.7	38	8	3	10	8	3	<5	<5	<5	0.117	1.02	<20	259	<10	UW, qz vein, stoped area
10	3041	C	2.5'	872	6.3	46	146	2	32	8	3	<5	<5	<5	0.093	2.00	<20	305	<10	UW, qz vein, taken at stope 1
Stella (fig. 8, No. 17)																				
24	3067	C	3'	17	0.7	17	5	196	4	3	1	<5	138	<5	0.247	1.41	<20	252	<10	OC, vuggy qz vein w/sulf
24	3109	C	4'	20	10.5	161	6	1109	5	4	1	<5	<5	<5	0.708	5.68	<20	248	<10	Small prospect pit in milky qz vein
25	3066	Rep	8'	<5	<0.2	6	<2	68	<1	7	3	<5	<5	<5	0.015	0.36	<20	269	<10	OC, msv milky qz; Stella prospect not found
25	3108	Rep	10'	15	0.8	49	7	126	2	7	2	<5	7	<5	0.033	3.14	<20	291	<10	OC, milky qz veins in limy ar
Puyallup (fig. 8, No. 18)																				
37	3043	CC	.6'	9198	7.6	76	659	173	2	5	2	<5	97	<5	0.083	1.40	<20	277	<10	OC, qz vein
37	3044	CC	.5'	0.238*	12.0	70	580	504	2	9	9	6	107	9	0.139	4.05	510	139	<10	OC, qz ca vein, top of open stope, 0.3' gouge on hw
37	3045	CC	.4'	0.537*	6.0	52	200	187	1	17	6	<5	47	<5	0.123	2.49	<20	216	<10	OC, qz ca vein pinches and swells along strike
37	3060	C	.7'	44	2.1	60	40	89	1	16	8	<5	35	<5	<0.010	3.51	270	140	<10	OC, qz vein in altered ls, small vein 50' below main workings towards creek
37	3061	C	1.7'	0.378*	47.8	123	1619	1757	2	16	13	9	218	8	0.544	6.22	450	156	<10	Qz vein in gs, outcrop on bank of creek
38	3159	C	4'	7	1.2	169	5	71	2	105	38	<5	12	5	<0.010	6.67	370	66	<10	OC, 145' el in creek, chl sc, intense weathering, some br
38	3181	C	.2'	2.201*	4.07*	275	5807	864	6	11	13	<5	371	31	1.155	4.67	70	242	<10	UW, 190' stope at surface, qz vein
38	3182	C	3.5'	69	1.2	39	48	91	16	8	21	<5	20	6	0.010	5.14	360	41	<10	UW, 280' stope at surface, gs
38	3227	CC	.5'	0.495*	13.1	94	84	63	<1	7	4	<5	170	5	0.149	3.49	30	183	<10	OC, ribbon qz, Puyallup (Lucky Jim) vein
38	3228	CC	1'	4609	8.1	110	225	188	2	17	11	<5	83	<5	0.196	5.52	<20	183	<10	OC, ribbon qz, Puyallup (Lucky Jim) vein
39	3147	CH	.5'	4903	2.6	71	365	285	<1	10	4	<5	>2000	6	0.030	1.63	<20	282	<10	OC, by creek, qz ca vein, country rock 295/22S
Crackerjack (fig. 8, No. 19)																				
41	3226	C	4'	3702	8.6	79	198	312	10	10	2	<5	66	53	1.147	1.45	220	407	<10	OC, qz vein, ar parallel to vein
42	3104	Rep	3'	1.298*	6.24*	323	459	380	20	12	1	<5	145	217	0.346	1.58	60	271	<10	OC, siliceous limy ar, qz vein swarm
42	3105	Rep	1.5'	8523	2.63*	130	259	1111	9	9	4	<5	169	75	0.643	2.69	320	171	<10	TP, overgrown, siliceous limy ar

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
47	3152	C	1.7'	2204	14.1	251	927	6058	15	18	3	9	137	117	10.869	1.97	730	277	<10	OC, W side creek at 960', qz vein
47	3153	C	2.5'	1034	7.8	79	2202	1317	7	10	2	<5	85	58	5.249	1.52	240	393	<10	OC, W side creek at 985', qz vein, sample 3152 is 15' downstream
47	3214	CC	.3'	1041	6.1	70	57	180	5	14	2	<5	62	41	1.286	0.99	<20	242	<10	OC, by creek, qz vein along fold axis
47	3215	CC	1'	3.560*	41.24*	3097	4664	4156	14	10	2	9	266	>2000	>50.000	1.45	70	300	<10	Open cut, qz vein, crackle br
47	3216	C	3'	6205	10.4	160	2112	1792	16	27	5	<5	262	47	3.027	4.28	160	251	<10	OC, qz vein, mineralization spotty, crackle br
49	3218	CC	1'	14	0.5	7	6	38	<1	4	2	<5	<5	<5	0.040	0.43	<20	164	<10	OC, by creek, qz ca vein w/abundant ar fragments in vein
50	3217	C	.5'	185	3.3	26	42	260	7	19	3	<5	10	11	0.401	0.71	<20	282	<10	OC, ar and qz, highly friable, much br
									Crackerjack No. 2 (fig. 8, No. 19)											
40	3374	CH	.3'	10	0.8	40	6	278	2	17	3	<5	5	6	0.039	5.78	720	80	<10	OC, br vein
43	3225	C	2.8'	977	3.9	50	1073	829	5	20	6	<5	160	17	3.158	1.91	600	352	<10	UW, drift, qz vein, foliation parallels vein
43	3375	CC	1'	87	2.8	134	163	576	10	40	5	<5	82	9	0.321	2.56	450	286	<10	UW, crackle br and qz vein, fw is dike
43	3376	C	3.5'	94	1.9	20	11	76	1	2	12	<5	23	7	0.119	4.98	1900	14	<10	UW, aphanitic dike, fw to vien
43	3377	C	2.5'	428	1.7	64	483	652	4	18	2	<5	44	<5	0.718	1.12	150	362	<10	UW, crackle br, main adit 2 vein
43	3378	C	4.5'	183	1.1	32	17	90	1	3	9	<5	18	<5	0.891	4.02	1100	12	<10	UW, aplite dike, fw to vein
43	3379	C	3.5'	1232	3.2	123	1057	248	6	39	5	<5	67	17	1.746	2.07	330	350	<10	UW, crackle br, abundant gp
43	3387	C	3.9'	148	3.1	87	35	282	6	50	9	5	97	7	0.102	3.80	720	71	<10	UW, face of small drift, ar, qz vein/lens is discontinuous and irregular
43	3388	C	2'	119	3.8	34	42	52	2	12	9	<5	207	6	0.628	5.45	600	87	<10	UW, xc off main drift, dike
43	3389	C	2.5'	42	4.5	87	498	593	9	20	3	<5	124	20	1.411	1.86	140	225	<10	UW, rib of xc, qz vein in ar
43	3390	C	2.1'	81	1.9	48	30	452	22	74	9	<5	99	18	3.493	2.32	140	248	<10	UW, along main drift, ar and crackle br
43	3391	C	4'	0.486*	25.11*	1425	2133	1520	10	34	3	<5	196	905	2.267	1.23	90	301	<10	UW, main drift, br qz vein w/sulfs is 3' thick
43	3401	C	3'	619	5.3	46	62	213	6	39	4	<5	51	7	1.582	1.63	140	275	<10	UW, 68' from sta 2a, qz vein in ar
43	3402	C	3.5'	565	4.7	38	31	126	2	7	13	<5	90	<5	0.863	5.63	700	27	<10	UW, 70' S from sta 2a, dacite dike
43	3403	C	7'	160	1.1	18	31	200	5	23	3	<5	57	<5	1.219	1.36	<20	294	<10	UW, 85' from sta 3, qz vein
43	3404	C	4.5'	1693	3.7	89	999	486	13	32	6	<5	28	19	2.947	1.57	570	208	<10	UW, ar
43	3405	C	2.3'	145	5.6	87	264	943	10	33	5	<5	131	21	2.009	2.60	250	172	<10	UW, 7' from sta 5a, qz vein in ar
43	3406	C	2'	205	2.3	62	531	656	8	10	2	<5	22	19	4.099	0.78	70	331	<10	UW, 50' S of 1st stope, qz vein
43	3407	C	2'	128	4.9	92	217	519	11	39	6	<5	78	23	3.229	1.92	550	234	<10	UW, qz vein in ar
43	3450	CC	1'	34	0.6	11	47	160	7	12	2	<5	32	<5	0.424	0.72	<20	312	<10	UW, qz vein, aplite dike forms fw
43	3451	C	1.5'	9103	17.3	111	4139	1003	5	16	3	<5	122	30	3.583	2.04	70	398	<10	UW, qz vein, aplite dike forms fw
43	3452	C	1.5'	1642	3.3	38	140	567	6	5	<1	<5	17	17	1.693	0.53	<20	327	<10	UW, qz vein, ar fw, aplite hw
43	3453	CC	1'	313	1.1	11	146	87	3	10	<1	<5	18	<5	0.919	0.58	<20	398	<10	UW, qz vein, dike fw, crackle br hw
43	3454	C	3.2'	1.841*	5.17*	1708	6837	3920	20	9	1	11	179	186	6.340	2.40	<20	295	<10	UW, qz vein, very siliceous
43	3461	Rep	4'	70	1.8	80	50	165	12	53	6	<5	37	7	0.685	1.83	510	158	<10	UW, 29' W from sta 2a, ar w/qz
43	3462	C	.8'	78	3.5	37	46	87	2	14	14	7	79	6	0.456	7.36	640	18	<10	UW, dacite dike
43	3463	C	5'	507	4.9	104	139	1312	16	57	5	<5	43	27	4.266	1.48	230	226	<10	UW, 26' past sta 5, face, ar w/qz

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
43	3464	C	4'	0.457*	1.34*	190	1142	1117	5	6	3	<5	136	62	3.252	1.35	100	251	<10	UW, br qz vein
Crackerjack No. 3 (fig. 8, No. 19)																				
46	3297	C	2'	1826	10.33*	852	534	729	2	19	6	<5	125	636	>50.000	1.25	270	254	<10	UW, br qz vein
46	3298	CC	1.5'	467	12.0	88	195	303	2	15	4	<5	78	31	2.257	1.10	110	300	<10	UW, crackle br in black ar
46	3299	C	2'	1869	24.2	57	127	436	<1	8	8	<5	261	23	2.089	4.03	460	153	<10	UW, mafic dike, fw to crackle br
46	3300	C	1'	2102	9.1	508	1056	1365	9	24	3	<5	94	9	1.541	1.81	180	292	<10	UW, qz and crackle br, enclosed within black ar
46	3330	C	4'	22	1.2	262	12	992	15	134	15	<5	68	15	0.435	1.82	950	176	<10	UW, face, main xc, ar
46	3331	C	1.2'	0.434*	14.6	713	260	1353	2	15	4	<5	159	78	3.811	1.59	40	195	<10	UW, SW rib, SE drift, qz vein
46	3332	C	.8'	1372	4.0	153	14	56	<1	49	38	<5	462	19	0.724	8.17	210	45	<10	UW, hw above 3331, dacite dike
46	3333	C	3'	1401	12.1	136	44	740	5	31	5	<5	81	16	1.407	2.08	200	242	<10	UW, NW rib, SE drift, ar
46	3334	C	.6'	345	18.3	39	68	262	5	16	2	<5	88	27	1.050	0.99	30	330	<10	UW, same as 3333, br qz vein
46	3335	C	.2'	1218	2.2	22	46	326	4	9	3	<5	65	<5	1.203	1.52	490	313	<10	UW, SW rib, portal drift, qz vein
46	3336	Rep	2'	48	0.9	41	15	125	<1	2	16	<5	10	<5	0.237	7.11	1200	21	<10	UW, SW rib, portal drift, dacite dike
46	3351	C	4'	293	11.4	121	56	372	16	54	7	<5	68	42	2.392	1.81	380	280	<10	UW, crackle br, directionless at this junction
46	3352	C	5'	1699	2.32*	532	213	3928	10	66	8	7	109	310	>50.000	1.63	2200	156	<10	UW, br ar, crosscutting qz veinlets
46	3353	C	2'	169	4.1	35	44	133	<1	7	12	<5	78	7	0.468	5.45	760	26	<10	UW, altered aplite dike, altered dike
46	3354	C	4'	1397	3.5	65	58	156	6	37	12	<5	62	9	0.608	3.49	1300	157	<10	UW, crackle br
Crackerjack No. 4 (fig. 8, No. 19)																				
43	3154	C	1.2'	2478	7.4	376	881	1458	15	18	2	<5	36	9	1.831	0.94	190	356	<10	UW, xc, S rib, qz stringers in ar
43	3155	Rep	1'	5180	23.7	64	235	1532	14	12	2	<5	137	20	1.114	1.67	170	273	<10	UW, xc, S rib, qz stringers in ar
43	3156	C	1'	1522	4.1	64	86	284	6	13	1	<5	14	26	2.438	0.51	100	370	<10	UW, xc, W rib, qz vein
43	3157	C	2.5'	0.559*	32.0	352	1337	2721	10	30	4	<5	226	196	>50.000	3.92	70	352	<10	UW, xc, W rib, qz vein in ar
43	3158	C	4'	188	4.4	92	111	276	11	42	6	<5	51	26	1.614	1.81	880	207	<10	UW, face of xc, gp ar w/qz
43	3219	CC	1.5'	2.549*	35.2	232	1507	837	8	23	6	<5	225	99	5.943	4.03	90	266	<10	UW, drift, qz vein, foliation same as vein
43	3220	C	3'	863	32.5	41	235	2303	9	14	3	<5	238	29	0.828	2.45	70	381	<10	UW, drift, qz vein, 0.2' gouge on fw, mafic dike on hw
43	3221	C	3'	5175	24.3	203	942	1414	2	20	7	<5	125	60	3.870	2.01	140	328	<10	UW, drift, qz vein, mafic dike concordant w/vein
43	3222	C	2'	1580	41.6	510	6708	5822	11	9	1	9	69	352	>50.000	0.96	130	354	<10	UW, drift, qz vein, ar same attitude as vein
43	3223	C	4'	1999	11.2	37	204	316	5	16	3	<5	113	44	3.704	1.49	<20	334	<10	UW, drift, qz vein, vein by fault, and dike
43	3224	C	3'	533	7.0	29	756	760	9	14	3	<5	112	15	2.239	1.57	70	364	<10	UW, drift, qz vein contains much br ar
44	3151	C	2'	0.851*	1.93*	315	1313	2879	30	13	3	<5	225	128	4.348	2.29	<20	292	<10	UW, stope at surface, qz vein in ar is emplaced along shear
44	3213	C	2'	0.532*	28.0	195	561	2037	3	9	3	<5	111	137	5.998	1.22	40	286	<10	Qz vein, open stope from adit 2
Crackerjack No. 5 (fig. 8, No. 19)																				
48	3183	CC	.3'	0.227*	9.9	34	874	564	7	5	<1	<5	22	43	3.354	0.52	<20	284	<10	UW, face, qz vein in ar

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
48	3184	C	1'	855	15.9	73	223	3134	14	32	3	<5	260	35	3.932	2.57	140	209	<10	UW, 102' from portal, qz vein in ar
48	3185	C	2.5'	3152	12.0	134	397	2598	26	34	3	<5	103	49	6.259	1.78	260	226	<10	UW, 100' from portal, qz vein in ar, contains samples 3183 and 3184
48	3186	C	1'	2488	5.7	39	1261	775	2	8	1	<5	58	19	1.624	1.03	<20	252	<10	UW, 78' from portal, qz vein
48	3187	C	2'	1692	5.4	160	104	1055	9	57	5	<5	95	26	3.174	1.67	60	268	<10	UW, 55' from portal, qz vein in ar
48	3188	C	1.5'	1.050*	19.2	143	1227	707	3	10	6	<5	169	125	6.149	2.58	480	198	<10	UW, 33' from portal, qz vein in ar
48	3189	C	.5'	0.778*	1.41*	247	1503	1760	17	12	2	<5	153	372	11.876	2.37	60	267	<10	UW, 14' from portal, qz vein
48	3190	C	.6'	0.642*	8.86*	628	2574	1338	15	11	2	<5	156	641	>50.000	1.18	<20	250	<10	UW, 9' from portal, qz vein
Hollis Placers (fig. 8, No. 20)																				
3	3308	O	.1 cu yd	4459	0.9	28	5	104	<1	25	23	<5	<5	9	0.019	>10.00	400	95	13	Placer, 180' el, sand and gravel
4	3307	O	.1 cu yd	59	<0.2	19	17	72	<1	36	41	13	<5	11	<0.010	2.27	210	65	<10	Placer, 250' el, sand and gravel
5	3306	O	.1 cu yd	106	0.6	29	13	215	1	16	7	<5	<5	<5	0.030	3.62	380	100	<10	Sand and silt, 6450' el, small sample
35	3305	O	.1 cu yd	8801	1.7	73	21	220	2	25	36	<5	19	6	0.100	7.23	900	77	<10	Sand and gravel, 5250' el
36	3304	O	.1 cu yd	0.491*	22.9	205	58	530	6	41	25	<5	65	20	2.128	8.06	1300	107	<10	Sand and gravel, 4140' el
45	3303	O	.1 cu yd	1815	0.8	64	17	159	2	23	22	<5	7	<5	0.149	5.74	770	89	<10	Sand and gravel, 3100' el
Cascade (fig. 8, No. 21)																				
55	3392	C	.3'	<5	0.7	15	263	22	4	8	3	<5	29	<5	0.054	0.72	100	321	<10	Rubblecrop, vuggy crystalline qz, vein may be slumped block
55	3408	CC	1.3'	817	2.8	37	75	91	4	4	5	<5	1041	11	0.204	2.30	350	136	<10	OC, 1540' el, br qz vein
56	3200	S		55	3.5	13	15	72	1	8	17	<5	24	6	0.081	9.46	<20	341	<10	Float, qz vein material, above presumed adits
Dawson (fig. 8, No. 22)																				
57	3003	S		0.293*	19.8	556	509	15614	14	16	4	18	1548	62	>50.000	>10.00	<20	232	<10	Min qz vein, qz float in trench
57	3069	CC	1.5'	190	11.3	290	569	1043	8	19	5	<5	54	24	0.593	2.19	210	222	<10	OC, br gp ar, hw above vein
57	3070	CC	1.2'	1431	6.8	134	1001	1527	6	7	2	<5	51	15	0.503	1.08	60	204	<10	OC, qz vein, bifurcated
57	3071	C	2.5'	262	9.1	47	318	537	11	30	4	<5	131	13	0.473	2.79	380	156	<10	OC, gp ar, fw below vein
57	3072	C	2.5'	300	4.2	107	118	1273	12	42	7	<5	175	15	0.626	2.99	370	182	<10	OC, sheared gp ar, fault gouge below fw
57	3081	C	2.5'	550	6.3	105	381	707	17	29	6	<5	73	37	1.641	3.59	380	171	<10	OC, stream gully, ar, fw of ore zone
57	3082	C	2.5'	3153	2.03*	181	610	2089	10	14	2	<5	190	173	4.262	2.46	160	238	<10	OC, stream gully, ar w/qz stringers from 20-80% of rock
57	3083	C	1'	1136	10.8	65	1609	963	7	11	2	<5	91	41	1.339	1.53	40	387	<10	OC, stream gully, qz vein pinches and swells from 0.5' to 1'
57	3084	C	2'	305	5.7	66	209	794	17	18	5	<5	80	27	1.351	2.77	490	169	<10	OC, stream gully, ar, hw of ore zone
57	3085	C	7'	34	1.4	52	46	171	21	15	2	<5	58	10	0.051	1.77	1200	156	<10	OC, above No. 5 adit, ar, fw of ore zone
57	3086	C	3'	28	2.2	84	26	784	10	31	4	<5	67	7	0.336	2.43	1100	106	<10	UW, Free Gold vein, sheared ar, portal entrance
57	3087	C	2'	28	2.2	215	42	1594	8	91	23	<5	107	7	0.137	4.68	970	86	<10	UW, Free Gold vein, limonitic ar, portal entrance
57	3088	C	2.5'	89	2.2	133	677	832	22	39	4	<5	108	9	0.107	3.92	510	104	<10	N side of trench above adits, ar w/qz stringers
57	3089	C	3.5'	22	2.5	61	14	188	18	10	2	<5	42	10	0.332	0.72	830	180	<10	UW, portal of doghole, ar

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
57	3113	C	3'	41	1.0	42	27	261	11	18	6	<5	33	7	0.100	1.73	920	73	<10	TP, siliceous black ar, hw of Humboldt vein
57	3114	C	2.5'	5.213*	2.67*	203	546	684	5	6	2	<5	93	160	1.921	1.47	<20	315	<10	TP, qz vein and crackle br, sulf distribution erratic
57	3115	C	3'	485	12.7	43	237	363	7	22	6	<5	96	18	0.349	2.33	370	136	<10	TP, sheared gp ar, fw of 3114 vein
57	3116	C	2'	412	3.3	90	77	329	7	17	3	<5	42	9	0.167	1.77	920	135	<10	TP, siliceous black ar, hw of 3117 vein
57	3117	C	2'	0.636*	19.7	84	2087	1498	3	20	5	<5	635	26	0.545	5.43	120	223	<10	TP, qz vein and crackle br, py is disseminated and in masses
57	3118	CC	1'	0.469*	18.8	68	3081	3121	3	16	3	<5	824	23	0.650	8.50	<20	309	<10	TP, qz vein, only vein sampled, br avoided
57	3119	C	3'	49	3.0	17	25	430	20	16	2	<5	60	13	0.435	2.02	4800	153	<10	OC, black ar, local qz along partings
57	3120	CC	1'	1089	3.5	29	314	779	2	7	2	<5	51	8	0.220	0.75	180	321	<10	OC, qz vein contains argillic partings
57	3121	C	3'	145	2.6	46	23	469	15	30	6	<5	53	10	0.293	2.12	1300	240	<10	OC, crackle br in ar, fw to 3120 vein
57	3122	C	3'	331	1.8	8	64	89	2	7	2	<5	41	<5	0.032	0.65	<20	358	<10	OC, qz vein, weathered and locally vuggy
57	3123	C	4'	305	2.7	59	35	695	10	30	8	<5	156	8	0.137	2.78	730	165	<10	OC, sheared black ar, intense gouge at contact
57	3124	CC	1'	<5	0.4	20	2	29	2	17	8	<5	8	<5	0.034	0.60	420	408	<10	OC, qz vein pinches and swells
57	3125	C	5'	347	2.6	140	261	830	23	52	11	<5	183	14	0.463	3.74	440	215	<10	OC, sheared and intensely br ar
57	3126	CC	2'	13	2.6	47	13	525	<1	30	28	<5	15	6	0.039	7.45	950	24	<10	OC, an dike on vein trend
57	3127	CH	.5'	23	1.0	56	40	256	12	25	3	<5	44	7	0.035	2.18	680	230	<10	OC, qz ca crackle br zone
57	3128	C	3'	35	1.3	112	57	725	14	38	7	<5	153	17	0.046	4.94	730	131	<10	OC, highly sheared limy ar
57	3129	C	4'	22	1.1	22	17	352	11	16	1	<5	41	<5	0.112	1.48	890	116	<10	OC, siliceous limy ar, W portal
57	3130	S		0.337*	44.0	58	855	2323	1	6	3	<5	46	9	0.584	1.12	40	259	<10	Crusher pit, qz vein sampled from crusher rejects
57	3131	C	3'	26	0.5	30	23	214	10	16	7	<5	21	<5	<0.010	0.91	110	312	<10	Crackle br, old surface workings
57	3132	S		749	3.6	89	77	2018	5	6	2	<5	191	<5	0.559	2.00	60	314	<10	Sloughed pit, vuggy qz vein
57	3133	C	3'	19	0.9	27	12	207	20	18	2	<5	34	10	0.064	1.27	470	172	<10	W end of open cut, limy ar
57	3134	CC	1'	121	6.1	57	2182	80	2	24	13	10	159	10	0.022	5.71	70	45	<10	Quarry, qz carbonate vein in highly sheared ar
57	3135	Rep	3.5'	29	1.9	82	61	1434	27	53	6	<5	58	14	0.135	1.70	250	198	<10	Quarry, siliceous black ar, fw to 3134
57	3136	CC	2'	14	1.2	53	19	389	<1	12	18	<5	74	6	0.074	4.57	500	21	<10	Quarry, an dike, similar to other dikes in quarry w/py
57	3137	Rep	4'	0.312*	14.2	223	896	1388	5	10	3	<5	95	52	1.169	1.45	370	262	<10	UW, adit, strong qz vein and crackle br
57	3138	Rep	3'	1114	5.9	135	176	374	4	23	7	<5	118	33	0.302	1.57	110	329	<10	UW, Humboldt adit, qz vein, very poor ground
57	3410	C	3'	1.068*	25.7	106	755	512	10	14	3	<5	87	73	1.191	2.54	120	232	<10	TP, 12' S of 3184, qz vein in ar
Harris River Mine (fig. 8, No. 23)																				
58	3170	C	.5'	<5	0.7	45	4	95	<1	14	11	5	81	<5	0.032	3.60	820	149	<10	OC, along river, N side, qz vein is in pl foliated 315/34S
59	3171	S	1'	154	4.6	85	17	401	8	32	12	<5	128	9	0.073	3.79	3200	159	<10	Base of dump B, qz in pl
59	3172	S	1'	26	2.2	61	65	712	4	24	6	<5	28	10	0.135	1.74	2600	221	<10	MD, 5' above base of dump B, silicified pl
59	3173	S	1'	134	2.4	10	8	8	3	9	1	<5	29	7	0.011	0.60	350	358	<10	MD, near dump B, qz vein
59	3174	S	1'	1978	6.4	62	95	23	1	14	29	<5	391	14	0.040	8.48	2700	119	11	MD, near Dump B, silicified an w/qz
59	3242	B		2524	2.3	66	78	478	5	37	15	<5	50	6	0.572	7.26	800	101	<10	Ball mill tailings

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
59	3243	S		9548	5.8	23	323	860	5	9	2	<5	30	13	0.438	0.98	730	267	<10	Qz vein debris, selected from dumps and mill area
59	3244	S		1138	4.5	119	983	489	1	62	29	<5	267	<5	0.084	6.33	2100	103	<10	Min gt and gw, from pit dug in mine dump A
59	3245	S		6	1.3	49	16	170	<1	17	20	8	17	<5	0.033	5.61	2600	29	<10	Qz vein, 2' pit from dump
										Kina Peninsula (fig. 8, No. 24)										
33	3103	Rep	8'	10	0.5	20	10	77	<1	21	11	<5	<5	7	<0.010	3.44	430	56	<10	OC, calc-silicate sc, exoskarn? 500' from contact
34	3064	C	4'	<5	0.6	74	7	68	1	32	17	<5	<5	<5	<0.010	3.73	530	75	<10	OC, skarn, sample on point E of Jarvis Island
										Kina Cove (fig. 8, No. 25)										
51	3050	CH	.1'	73	3.3	459	59	40	6	18	75	<5	41	10	<0.010	>10.00	230	215	15	OC, vuggy qz vein in siliceous gs
52	3102	C	2'	19	3.3	28	6	92	1	<1	32	12	16	15	0.031	>10.00	1800	22	30	OC, silicified ls, exposed in roadbed by quarry
53	3063	C	.5'	103	4.9	18	555	190	3	7	3	<5	52	8	0.013	0.88	50	286	<10	Qz vein in altered ls, lowest quarry on clearcut road el 490'
54	3101	C	1.5'	10	0.9	85	7	70	<1	6	15	<5	<5	<5	<0.010	5.39	5400	20	<10	Road cut, py dacitic tuff
										Baker Point (fig. 8, No. 26)										
26	3100	CH	.5'	14	9.6	128	<2	92	2	19	45	<5	52	36	0.019	>10.00	<20	49	103	OC, magnetite pod, local foliation
										Shelton (fig. 8, No. 27)										
60	3092	Rep	5'	9	1.2	130	15	135	<1	57	13	<5	75	<5	0.062	8.10	50	167	13	OC, 80' el on creek, calcareous pl
61	3093	Rep	1'	8	11.8	1.92*	4	15	3	10	5	26	18	<5	0.047	4.64	<20	261	<10	Float, 600' el in creek, br qz vein
62	3094	Rep	1.5'	<5	0.9	926	3	43	6	13	8	<5	10	<5	<0.010	0.97	<20	294	<10	Float, 760' el in creek, br qz vein
63	3144	Rep	3'	11	2.5	4820	3	10	3	8	5	<5	<5	<5	<0.010	1.02	<20	291	<10	Rubblecrop, in creek, vuggy qz vein
63	3145	Rep	2'	8	4.2	7810	3	12	<1	11	12	8	10	<5	<0.010	1.92	<20	227	<10	Rubblecrop, in creek, qz vein
63	3146	Rep	1'	8	12.3	18136	6	19	6	15	11	13	54	<5	0.039	4.79	<20	265	<10	Rubblecrop, in creek, br vein material w/large fragments
										Big Harbor (fig. 8, No. 28)										
72	3021	C	5'	297	2.9	456	29	181	103	<1	46	31	20	7	1.118	3.29	<20	72	<10	UW, sulf zone
72	3022	C	5'	261	5.1	2173	45	2909	40	<1	16	26	6	9	1.445	2.87	<20	28	<10	UW, sulf zone in qz mica sc at back of adit
72	3056	SC	20'	157	2.8	2480	13	451	18	<1	8	7	22	<5	1.799	5.09	<20	96	<10	UW, qz mica sc, E rib 55' to 35' from portal
72	3057	SC	20'	131	2.8	4406	4	113	11	<1	13	<5	47	<5	0.763	>10.00	<20	64	<10	UW, qz mica sc, E rib 35' to 15' from portal
72	3058	SC	15'	77	1.3	1382	4	68	8	<1	8	11	19	<5	0.145	6.97	<20	81	<10	UW, qz mica sc, E rib 15' to portal
73	3017	C	5'	35	1.6	270	22	87	11	<1	4	<5	40	<5	0.068	>10.00	30	41	14	UW, qz mica sc, rib of 60' adit
73	3018	C	5'	37	1.6	113	8	79	8	<1	8	<5	29	<5	0.113	>10.00	<20	36	15	UW, qz mica sc, rib of 60' adit
73	3019	C	5'	47	2.1	1658	5	89	5	<1	10	<5	30	<5	0.157	>10.00	<20	36	15	UW, qz mica sc, local intense chl
73	3020	C	5'	39	2.2	1126	6	110	4	<1	7	5	34	<5	0.118	>10.00	<20	28	20	UW, qz mica sc, rib of 60' adit

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
74	3028	CC	1'	129	2.3	794	142	8043	5	<1	4	12	25	<5	1.754	2.61	90	39	<10	UW, qz mica chl sc, E adit, main workings
74	3029	C	3'	40	3.1	917	65	1149	1	<1	2	<5	8	<5	0.180	5.86	290	51	<10	OC, qz chl sc, across creek from upper adit
74	3030	CC	2'	1590	1.59*	11.01*	132	2376	<1	<1	6	<5	<5	<5	0.705	2.20	<20	18	<10	OC, msv py, cp, above portal E adit
74	3059	C	4'	106	1.4	196	58	1511	<1	<1	11	8	12	<5	0.178	8.87	210	12	<10	UW, chl sc, face of upper adit
75	3023	S		181	7.6	7032	517	2040	4	<1	4	<5	21	<5	0.434	7.58	100	58	<10	UW, mafic sc w/sulf,muck sample from bottom of stope
75	3024	CH	.5'	470	32.8	15.20*	871	11195	57	<1	9	<5	<5	10	4.112	3.03	80	28	<10	UW, msv py, cp, sulf zone in mafic sc
75	3025	C	3'	134	13.9	2119	43	1063	<1	<1	<1	<5	11	<5	0.327	8.52	600	45	<10	UW, qz mica chl sc, hw, E drift, main workings
75	3026	CC	1'	3560	38.9	8.80*	409	1931	43	<1	1	<5	16	<5	0.620	>10.00	100	79	<10	UW, qz w/cp, min in E drift
75	3027	CC	2'	239	24.6	5359	783	7.37*	45	<1	3	19	17	8	>50.000	>10.00	530	31	661	UW, chl sc, fw of msv sulf zone
									Trocadero Bay to Polk Inlet (fig. 8, No. 29)											
70	3396	Rep		6	0.4	94	<2	60	<1	38	39	6	9	<5	<0.010	5.52	290	60	<10	Road cut, gs, same section as Franks Ridge
71	3201	CH	.5'	132	12.6	29	15	120	1	8	8	<5	55	19	0.059	3.68	<20	327	<10	Road cut, qz vein, fresh shot face
76	3091	C	.4'	<5	0.9	138	10	34	2	7	14	<5	<5	<5	0.094	4.46	<20	120	<10	Quarry, qz veins in marble
76	3142	CH	.2'	49	0.8	109	15	59	1	7	13	<5	6	7	0.016	5.82	<20	125	12	Quarry, qz vein crosscuts msv gs
79	3090	C	2'	7	0.8	100	17	82	1	21	21	<5	10	11	0.273	7.11	700	57	<10	OC, boulder in quarry, chl sc
79	3140	Rep	3'	6	0.8	134	14	74	<1	25	18	<5	22	<5	0.241	4.92	730	82	<10	Quarry, chl sc, local jasperoid
88	3143	Rep	6'	6	1.0	97	8	29	<1	45	28	<5	14	5	<0.010	4.89	890	70	12	Quarry, qz chl sc, weathers brick red
90	3141	Rep		111	1.9	169	13	50	2	26	36	<5	66	5	<0.010	>10.00	140	27	18	Quarry, py marble, weathers brick red
92	3139	C	2'	11	1.8	180	16	87	<1	12	38	6	18	<5	0.020	>10.00	<20	26	18	Quarry, qz chl sc, numerous ca veinlets
97	3097	Rep	3'	<5	<0.2	33	<2	22	1	3	3	<5	<5	<5	0.012	1.76	<20	150	<10	Float above pit floor, chert
97	3202	S		28	0.4	28	<2	22	<1	3	3	<5	<5	<5	0.030	2.60	<20	147	<10	Quarry face, silicified chl sc, 50'-thick zone
97	3203	Rep		<5	0.2	47	3	22	<1	3	3	<5	<5	<5	<0.010	2.31	<20	128	<10	Quarry face, altered silicified chl sc, leached part of min zone
97	3204	Rep	50'	<5	<0.2	39	<2	21	<1	2	3	<5	<5	<5	0.025	2.27	<20	141	<10	Quarry face, altered silicified chl sc, sample across the zone
101	3398	Rep		<5	0.7	102	<2	69	<1	8	22	<5	17	<5	<0.010	7.39	<20	28	<10	Quarry, intermediate sc, flat shear likely a thrust
103	3397	Rep		<5	0.6	22	<2	26	<1	11	31	<5	13	<5	<0.010	5.94	<20	57	<10	Quarry, mafic sc
									Dolly Varden (fig. 8, No. 30)											
98	3107	C	4'	98	1.6	49	8	81	2	14	13	6	28	5	<0.010	7.91	860	59	<10	Muscovite sc, exposed by blowdown
99	3065	C	3'	<5	<0.2	3	4	42	3	1	2	<5	<5	<5	<0.010	2.98	490	44	<10	OC, bleached qt
102	3106	Rep	8'	13	0.6	46	9	26	3	25	7	<5	49	<5	<0.010	3.93	720	135	<10	Silicified ls, exposed in blowdown
									Franks Ridge (fig. 8, No. 31)											
77	3294	SC	11' @ .5'	11	0.2	144	<2	4	11	25	5	<5	<5	<5	<0.010	1.28	<20	181	<10	OC, chert, local qz veining
77	3295	SC	8' @ .5'	<5	0.3	96	3	4	12	30	4	<5	9	<5	<0.010	2.18	<20	267	<10	OC, black ar, w/infolded cherts

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
77	3321	C	5.8'	<5	<0.2	51	<2	2	6	14	2	<5	<5	<5	<0.010	0.73	40	281	<10	OC, 3321' el, qz vein in chert
78	3296	CH	.8'	140	1.6	703	<2	4	3	4	2	<5	<5	<5	<0.010	0.71	<20	313	<10	OC, milky qz vein, enclosed in coarse fragments
78	3322	C	3.5'	19	0.7	326	4	5	15	39	9	<5	<5	<5	<0.010	1.40	<20	236	<10	OC, 3030' el, qz vein
										Lucky Monday (fig. 8, No. 32)										
80	3284	C	5'	14	0.7	59	5	14	11	5	3	<5	6	5	0.016	7.96	1500	51	12	Rubblecrop, se sc
81	3285	SC	10' @ .5'	8	0.6	14	13	29	3	2	5	<5	<5	<5	0.017	6.74	850	61	<10	OC, se py sc
82	3314	SC	10' @ .5'	<5	0.3	23	107	190	6	3	1	<5	<5	<5	0.128	2.21	890	176	<10	OC, 2550' el, qz se sc
82	3315	SC	10' @ .5'	16	0.6	38	21	201	3	13	5	<5	8	<5	0.058	7.41	1100	217	<10	OC, 2550' el, qz se sc
84	3286	C	4'	16	0.5	11	8	52	3	29	29	<5	<5	<5	0.033	6.86	860	106	<10	OC, chl se sc
84	3287	C	5'	10	0.6	29	6	41	3	19	25	<5	<5	<5	0.016	7.88	920	104	<10	OC, chl se sc, adjoins sample 3286
84	3288	C	3'	<5	0.5	37	30	68	5	27	31	<5	<5	<5	<0.010	7.29	970	119	<10	OC, qz se sc, locally very siliceous, trace Cr mica
84	3316	C	.7'	<5	0.2	23	23	59	1	15	13	<5	<5	<5	0.023	2.99	190	217	<10	OC, 2250' el, qz boudin
84	3317	C	.8'	<5	<0.2	18	9	75	<1	12	8	<5	<5	<5	<0.010	1.49	570	254	<10	OC, 2250' el, qz boudin
84	3318	C	5'	<5	0.2	7	3	13	5	6	8	<5	<5	<5	0.016	2.90	11300	125	<10	OC, 2540', se sc
84	3319	C	1.5'	<5	<0.2	6	<2	11	2	6	3	<5	<5	<5	<0.010	1.22	3300	294	<10	OC, 2240', qz se sc
84	3320	C	5'	<5	0.3	6	3	46	4	7	10	<5	<5	<5	<0.010	4.82	9600	113	<10	OC, 2240', se sc
85	3289	C	4'	12	0.9	51	258	443	4	14	14	<5	9	<5	0.091	6.06	1400	104	<10	OC, se sc, minor Cr mica
85	3290	C	8'	24	0.9	44	19	87	3	10	18	<5	17	<5	0.017	6.64	1400	71	<10	OC, se sc, separate min zone
85	3291	C	3'	51	1.3	58	16	237	4	12	20	<5	8	<5	0.066	6.98	1200	99	<10	OC, se sc, contacts mafic dike
85	3292	SC	10' @ .5'	8	0.6	171	7	40	7	27	23	<5	<5	<5	<0.010	7.74	880	246	<10	OC, se sc, adjoins 3293
85	3293	SC	10' @ .5'	10	0.5	113	4	35	11	23	20	<5	9	6	<0.010	6.78	820	188	<10	OC, chl sc, local qz eyes
86	3280	SC	10' @ .5'	7	0.4	34	7	64	<1	9	13	<5	6	<5	<0.010	5.23	1500	129	<10	OC, siliceous sc, glacial polish
86	3281	SC	10' @ .5'	15	1.3	54	8	104	3	7	8	<5	<5	6	0.015	6.72	3900	103	<10	OC, chl se sc, 3280 adjoins to N
86	3282	SC	10' @ .5'	7	0.8	36	7	153	2	10	12	<5	<5	6	<0.010	8.83	1300	69	<10	OC, chl se sc, adjoins 3281 to N
86	3283	SC	8' @ .5'	7	0.5	18	7	98	7	8	7	<5	<5	<5	0.015	7.12	2200	114	<10	OC, qz se sc, adjoins 3282 to N
86	3310	SC	13' @ .5'	15	0.7	38	35	73	4	9	4	<5	13	<5	<0.010	7.65	1000	228	<10	OC, 2300' el, qz se sc
86	3311	C	1.5'	<5	<0.2	25	16	12	1	6	2	<5	<5	<5	<0.010	1.19	160	282	<10	OC, 2300' el, qz vein in sc
86	3312	SC	12' @ .5'	6	0.5	32	9	77	3	5	3	<5	7	<5	0.023	4.63	1300	184	<10	OC, 2300' el, qz se sc
86	3313	SC	10' @ .5'	<5	0.7	37	17	104	3	7	5	<5	<5	<5	0.039	7.66	1400	121	<10	OC, 2300' el, qz se sc
89	3277	C	5'	45	0.6	108	7	164	1	11	20	<5	7	<5	<0.010	8.12	1900	63	<10	OC, py sc, at cliff face
89	3278	C	4'	15	0.8	141	7	73	4	16	26	<5	<5	<5	0.023	9.73	2500	75	11	OC, chl py sc
89	3279	CC	1'	8	<0.2	15	<2	6	<1	4	5	<5	6	<5	<0.010	1.25	430	176	<10	OC, qz boudin in sc
89	3309	C	4'	11	0.7	31	5	83	4	7	6	<5	<5	6	<0.010	7.46	3000	93	<10	OC, 2260' el, qz se sc
										Khayyam (fig. 8, No. 33)										
104	3234	C	5'	11	0.2	149	<2	50	<1	12	8	<5	<5	<5	0.179	2.77	<20	81	<10	UW, hb gn, very thinly foliated
104	3235	SC	10'	<5	0.4	84	<2	28	<1	8	11	<5	<5	<5	0.560	3.00	<20	54	<10	UW, hb gn
104	3236	C	6'	502	22.3	19769	<2	1490	4	35	219	20	99	65	0.117	>10.00	<20	165	29	Open cut, msv sulf lens
106	3196	C	5'	826	4.5	1465	17	131	46	11	71	24	<5	23	0.112	3.87	<20	132	<10	S end of trench, msv sulf
106	3266	C	12'	468	4.4	6408	20	9628	9	8	58	43	<5	24	0.402	3.75	<20	165	<10	OC, exposed gossan, msv sulf lens above Powell adit
106	3267	C	5'	1445	42.4	9.57*	21	4722	14	10	17	121	<5	15	0.382	2.88	<20	70	<10	OC, msv sulf lens or pod
106	3268	C	8'	2029	18.5	2.74*	42	14610	20	15	172	73	<5	21	0.749	3.87	<20	170	<10	Prospect pit above trench, msv sulf pod
										Khayyam No. 1 (fig. 8, No. 33)										
104	3160	C	4'	9	0.8	50	<2	234	1	43	16	<5	12	<5	0.504	8.80	<20	179	<10	UW, 2440' el, mafic sc, N rib, 40' from portal
104	3229	C	4.5'	10	0.7	51	3	35	<1	73	15	7	15	<5	0.169	6.53	<20	259	<10	UW, hb-bi gn

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
104	3230	C	8'	55	9.2	208	<2	146	5	22	44	22	122	37	0.794	>10.00	<20	183	55	UW, irregular msv sulf lens
								Khayyam No. 2, Powell Adit (fig. 8, No. 33)												
106	3192	S	3'	354	9.0	6459	18	545	1	9	133	33	<5	15	0.452	3.56	<20	121	<10	UW, 2nd stope, E side, msv sulf
106	3193	S	25'	630	7.7	3602	19	2353	7	9	54	35	<5	11	0.768	3.70	<20	140	<10	UW, 2nd stope, E side, msv sulf
106	3194	C	5.5'	2614	23.2	4402	14	152	8	9	295	28	<5	18	0.355	3.58	<20	171	<10	Stope at surface, msv sulf, 3rd stope of Powell adit
106	3195	C	3'	5802	14.8	1408	23	80	72	5	6	45	21	14	0.833	3.91	<20	51	<10	Surface of 2nd stope, gossan
106	3260	S		872	4.8	8992	39	5833	29	11	75	42	<5	10	0.253	3.44	<20	137	<10	UW, msv sulf lens, from muck pile in stope
106	3261	S		658	7.3	2.61*	46	15384	18	11	76	62	<5	18	0.256	3.77	<20	106	<10	UW, muck pile in stope, msv sulf lens
106	3262	S		961	5.5	13415	34	16720	22	10	71	63	<5	29	0.525	3.69	<20	140	<10	UW, muck pile in stope, msv sulf lens
106	3263	C	6'	48	0.9	448	<2	293	2	36	18	<5	8	9	0.296	4.97	<20	184	<10	UW, drift, mafic sc along strike to sulf lens
106	3264	S		1602	14.6	7340	30	611	19	9	40	39	<5	14	0.852	3.51	<20	157	<10	UW, msv sulf lens, muck pile from floor of stope
106	3265	S		1148	14.5	7576	17	280	13	11	83	40	<5	20	1.010	3.73	<20	209	<10	UW, msv sulf pod, muck pile from floor of stope
								Khayyam No. 3 (fig. 8, No. 33)												
104	3162	Rep	3'	8	0.6	477	<2	24	<1	10	104	<5	13	<5	1.466	5.68	<20	30	<10	UW, 2430' el, mafic sc, 144' past portal entrance, S rib of dog hole
104	3163	SC	10' @ .5'	7	0.7	764	<2	60	2	19	102	<5	11	<5	0.666	7.60	<20	42	<10	UW, 2430' el, mafic sc, 35' to 45' from portal, N rib
								Khayyam No. 4 (fig. 8, No. 33)												
104	3161	C	3'	<5	0.3	102	<2	21	<1	9	16	6	<5	<5	0.020	3.92	<20	29	<10	UW, 2430' el, mafic sc, sample taken at the face
104	3231	C	3'	859	40.7	4.66*	36	1.66*	14	54	433	92	231	8	0.624	>10.00	<20	132	<10	UW, msv sulf lens or pod, minor qz stringers
104	3232	C	3'	50	2.8	2406	16	1569	4	72	29	7	22	<5	0.071	>10.00	<20	175	<10	UW, hb gn separates msv sulf lenses
104	3233	C	5'	2144	34.0	4.68*	33	4256	7	55	888	146	195	17	0.140	>10.00	<20	144	<10	UW, msv sulf lens, local qz eyes
								Khayyam No. 5 (fig. 8, No. 33)												
106	3164	C	1.5'	315	9.9	3897	<2	162	7	26	225	11	125	68	0.073	>10.00	<20	110	52	UW, 2580' el, portal, msv py ore
106	3165	C	1.7'	1390	19.2	2888	<2	862	10	36	616	34	178	23	0.259	>10.00	<20	120	71	UW, 2580' el, portal, msv py ore
106	3237	C	8'	1007	34.0	3.38*	4	3663	12	82	945	35	205	11	0.159	>10.00	<20	158	14	Open cut, msv sulf lens
								Khayyam No. 6 (fig. 8, No. 33)												
106	3178	C	5'	1910	15.1	2.85*	41	6319	6	14	211	82	<5	22	0.232	4.42	<20	92	<10	UW, E rib, msv sulf
106	3253	C	7'	796	12.7	16523	47	15413	44	15	147	53	<5	25	0.719	4.22	<20	95	<10	UW, msv sulf zone, at portal of adit 7, joins sample 3178
								Khayyam No. 7 (fig. 8, No. 33)												
106	3177	C	3'	146	<0.2	1894	40	127	<1	12	7	41	<5	16	0.067	5.36	<20	24	<10	UW, just outside portal, gossan
106	3251	C	4'	<5	0.9	451	3	560	<1	29	49	7	20	5	<0.010	>10.00	<20	87	<10	UW, py hb gn, back of adit

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
106	3252	SC	18'	<5	0.5	110	<2	82	2	32	16	<5	<5	<5	0.017	6.71	<20	123	<10	UW, hb bi sc, sample across rib
Khayyam, Kimball Adit (fig. 8, No. 33)																				
104	3175	C	4'	<5	0.5	121	2	18	<1	10	14	<5	<5	<5	2.099	4.18	<20	49	<10	UW, 116'-120' from face, mafic sc
104	3176	SC	10' @ .5'	<5	0.4	39	4	19	<1	9	16	6	<5	<5	3.924	3.78	<20	57	<10	UW, 313'-323' from face, felsic sc, abundant qz stringers
104	3246	C	5'	25	0.5	27	6	38	<1	5	23	6	12	<5	0.054	6.58	30	41	<10	UW, mafic gn, back of adit
104	3247	C	5'	<5	0.4	34	<2	16	<1	17	16	6	<5	<5	0.500	3.36	<20	92	<10	UW, mafic gn, Fe seep in gneiss
104	3248	S	5'	<5	<0.2	<1	21	3257	3	12	24	33	<5	23	0.541	4.20	90	16	<10	UW, Fe seep, yellow gookenpucky
104	3249	SC	10'	<5	0.8	13	<2	111	2	16	33	6	7	7	0.909	>10.00	110	44	13	UW, mafic gn, local sulf concentrations
104	3250	SC	10'	<5	0.3	18	<2	42	<1	18	13	<5	<5	<5	1.376	3.59	<20	61	<10	UW, mafic gn, in Fe seep zone
Stumble-On (fig. 8, No. 34)																				
105	3197	SC	7.5' @ .5'	2067	12.8	16222	31	4494	24	16	178	59	<5	15	0.804	3.66	<20	152	<10	W end trench near adit 1, msv sulf lens
105	3198	C	2'	2873	<0.2	1074	4	549	19	9	46	14	<5	12	0.201	2.00	<20	110	<10	OC, 8' NW of sample 3197, gossan
105	3199	C	10'	242	2.4	1057	<2	537	19	9	43	<5	18	13	0.036	>10.00	290	109	13	MD, SW of E adit near creek, siliceous bi sc
105	3269	C	3'	1994	15.7	3.17*	64	13866	20	13	183	101	<5	26	0.297	4.00	80	108	<10	UW, msv sulf, abundant pyrrhotite
105	3270	C	5'	49	1.5	707	<2	273	3	28	21	<5	<5	<5	0.033	7.44	120	130	<10	UW, chl sc, sample from back of adit
105	3271	C	5'	5249	46.4	8.93*	38	17440	38	15	82	133	<5	30	0.620	3.90	<20	124	<10	UW, at portal to adit, msv sulf lens, part of main zone
105	3272	C	1'	381	0.7	6459	10	286	28	16	102	25	<5	9	0.039	2.87	<20	242	<10	OC, sulf-rich sc, E of adit, same min zone
105	3273	C	10'	228	1.6	1047	<2	331	36	7	54	<5	<5	8	0.027	>10.00	130	131	16	OC, chl sc, strike extent of min zone
105	3274	S		2832	23.6	2.99*	31	12738	34	13	215	57	<5	16	0.905	2.97	<20	189	<10	UW, msv sulf lens, muck sample from 6' sulf zone
105	3275	C	6'	<5	0.8	168	<2	168	3	9	31	<5	<5	8	0.174	9.39	<20	92	<10	UW, chl sc, back of main xc
105	3276	S		3916	43.7	5.96*	39	3.61*	40	25	260	103	<5	33	0.954	3.87	<20	125	<10	Hand cobbed ore stockpile, msv sulf
105	3301	S	2'	2016	33.2	4.89*	32	3.27*	23	11	255	75	<5	28	0.986	3.30	<20	136	<10	Ore car in adit, msv sulf ore
105	3302	S	1'	658	10.3	15049	47	3.37*	23	11	106	58	<5	13	0.922	2.57	80	111	<10	UW, muck pile, E end, msv sulf ore
105	3399	C	4.9'	21	1.2	246	<2	72	13	11	30	<5	28	<5	0.214	>10.00	80	41	12	UW, lower adit, bi sc, local qz-ca veinlets
105	3400	C	7'	87	2.1	1078	<2	289	17	9	45	<5	53	7	0.752	>10.00	60	60	15	UW, lower adit, py sc, located at station 3 + 50'
105	3411	C	4.5'	110	1.8	866	<2	842	14	6	19	<5	50	7	0.052	>10.00	240	43	<10	OC, exposed in creek, chl sc and tuff, abundant dissem sulf
105	3455	C	5'	90	2.0	1231	3	236	14	8	32	<5	68	5	0.935	>10.00	120	56	13	UW, lower adit, py sc, to 5% py
105	3456	C	5.5'	101	2.7	1933	4	555	25	9	32	7	48	5	0.824	>10.00	120	49	<10	UW, lower adit, mafic sc, local abundant bi
105	3457	C	5'	133	2.1	1220	6	432	29	8	54	<5	42	<5	0.720	>10.00	<20	68	10	UW, lower adit, chl sc, local msv py
105	3458	C	3.5'	406	2.1	1739	4	91	4	13	51	<5	668	7	0.885	>10.00	<20	49	19	UW, lower adit, py sc, fault 124/68N

Table A-1.--Selected sample results, Craig subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	Ni	Co	Bi	As	Sb	Hg	Fe	Ba	Cr	W	Sample description
105	3459	C	6'	172	2.8	3274	2	1974	12	7	35	11	134	9	0.884	>10.00	70	47	<10	UW, lower adit, intermediate sc, local msv py
105	3460	C	8'	36	1.6	360	4	243	4	11	63	<5	46	6	0.301	>10.00	50	24	12	UW, lower adit, chl sc
105	3465	C	4'	145	<0.2	767	7	307	18	8	58	21	<5	8	0.968	1.95	50	79	<10	UW, lower adit, py tuff, best sulfs in drift
105	3466	C	3'	60	1.7	299	<2	79	20	5	29	<5	45	<5	0.400	>10.00	50	78	18	UW, lower adit, siliceous tuff, by first xc
105	3471	SC	6' @ .5'	87	1.7	584	<2	406	12	6	38	<5	36	<5	<0.010	>10.00	50	72	<10	OC, exposed in creek, bi se sc,local sulf concentrations
105	3472	C	2.5'	27	1.9	166	<2	110	4	9	46	<5	35	<5	0.010	>10.00	70	53	20	OC, above falls, well-developed siliceous msv sulf layer
105	3473	C	5'	4350	31.1	13782	18	110	120	8	71	50	33	9	1.414	2.61	90	83	<10	OC, by trench, se sc, S of small pit
105	3474	C	5'	6909	15.4	4.57*	31	3519	149	27	221	79	<5	8	0.242	2.51	230	92	<10	Small trench 6'x 20', se sc w/sulf, on E side above bridge
									Deer Bay (fig. 8, No. 35)											
107	3076	SC	20' @ 1'	65	1.3	30	11	60	4	12	17	<5	<5	<5	0.118	8.27	70	92	<10	OC, qz mica sc, fest outcrop near point behind dike
108	3095	C	.7'	28	0.5	310	3	391	4	5	4	<5	<5	<5	0.050	2.33	<20	260	<10	OC, outside portal, qz vein
108	3096	C	1'	210	1.2	161	<2	37	10	6	7	<5	<5	<5	0.121	9.69	<20	236	<10	OC, outside portal, qz se sc
108	3149	C	5'	31	0.8	32	4	66	1	17	16	<5	16	<5	0.028	6.19	20	126	<10	OC, py tuff zone parallel to and 50' N of adit, other similar zones nearby
109	3148	CC	1.2'	17	0.5	53	<2	19	3	6	8	<5	5	<5	0.038	2.99	40	312	<10	UW, qz vein in py sc, most min in schistose partings
110	3073	C	4'	40	1.6	400	12	146	13	24	18	<5	<5	6	0.242	9.91	40	137	12	UW, qz mica sc, face of short 15' adit
110	3074	C	2'	9	1.4	105	18	155	1	207	44	7	<5	10	0.074	8.33	<20	305	18	UW, dacite dike, reported niobium, possibly in garnet
110	3075	C	1'	125	1.0	91	6	26	6	9	14	<5	<5	<5	0.183	7.75	40	166	<10	UW, qz boudin, top of N rib near face

Table A-3.--Selected sample results, Dall Island subarea

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
Archipelago (fig. 11, No. 1)																				
63	4142	O	2 pans	<5	0.9	43	3	114	1	<10	53	29	300	-	99	<5	-	12	7	Pan concentrate, coarse gravels
64	4170	O	3 pans	<5	0.6	46	4	91	2	<10	48	25	200	-	99	<5	-	10	9	Pan concentrate, poor location
Breezy Bay (fig. 11, No. 2)																				
73	4146	S	10'	<5	<0.1	2	5	24	-	-	-	-	-	-	-	-	-	-	-	OC, rockpit: dacite dike w/py
78	4153	Rep	15'	<5	<0.1	72	<2	30	-	-	-	-	-	-	-	-	-	-	-	OC, rockpit: altered latite dike
79	4145	Rep	3'	<5	<0.1	61	3	45	-	-	-	-	-	-	-	-	-	-	-	OC, rockpit: ls cg/diabase dike
80	4144	C	5.2'	9	<0.1	5	7	15	-	-	-	-	-	-	-	-	-	-	-	OC, rockpit: altered latite dike
82	4143	C	5'	6	0.2	37	12	139	-	-	-	6	370	-	-	-	-	-	-	OC, rockpit: ar, gw, dissem py
82	4151	C	4'	<5	0.4	54	21	119	-	-	-	10	490	-	-	-	-	-	-	OC, rockpit: ar, gw, siltstone, py
82	4152	C	5'	<5	0.2	30	9	102	-	-	-	-	-	-	-	-	-	-	-	OC, rockpit: ar, gw, siltstone, py
84	4150	C	5'	<5	<0.1	41	5	105	-	-	-	-	-	-	-	-	-	-	-	OC, rockpit: shear zone in gw, py

Map No.	Sample No.	Sample type	Sample size	LB	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Total S as SO_3	LOI	Na_2O	K_2O	Total Na_2O	Total	Titrated $CaCO_3$
66	LS 22	SC	110' X 3'	13.0	0.18	0.63	0.15	55.30	0.44	-	42.63	-	0.05	0.03	99.38	97.0
67	LS 15	SC	4' X 2'	10.1	0.07	0.47	0.06	56.10	0.36	-	41.78	-	0.03	0.02	98.87	97.0
68	LS 20	Rep	25'	13.4	0.22	0.67	0.10	55.70	0.66	-	42.04	-	0.08	0.05	99.47	95.8
69	LS 14	SC	95' X 2'	30.9	0.75	0.73	0.10	54.40	1.25	-	41.98	-	0.07	0.05	99.28	97.0
70	LS 19	SC	75' X 2.5'	12.7	0.19	0.72	0.26	52.00	3.44	-	43.69	0.01	0.07	0.06	100.38	95.8
71	LS 18	SC	35' X 2	8.6	1.63	1.25	0.24	50.20	2.56	0.15	42.71	0.04	0.28	0.22	99.06	93.6
72	LS 21	SC	100' X 3'	11.9	0.25	0.59	0.11	54.00	1.00	0.07	43.27	-	0.07	0.05	99.36	96.8
74	LS 17	SC	75' X 3'	13.8	0.08	0.57	0.35	49.70	4.82	-	44.01	-	0.04	0.03	99.57	94.0
75	LS 11	Rep	35'	12.6	0.08	0.44	0.07	55.60	1.16	-	42.28	-	0.03	0.02	99.66	96.4
75	LS 12	Rep	75'	12.7	1.35	1.11	0.30	51.50	2.10	0.20	42.71	0.07	0.23	0.22	99.57	94.0
75	LS 13	Rep	110'	12.8	0.12	0.54	0.08	56.20	0.94	-	41.98	-	0.05	0.03	99.91	94.4
99	LS 16	SC	125' X 3'	12.7	0.64	0.69	0.13	54.50	0.47	-	42.38	-	0.06	0.04	98.87	97.8
102	LS 9	SC	150' X 4'	14.5	0.25	0.50	0.13	55.60	0.45	-	42.77	0.04	0.04	0.07	99.78	96.4
104	LS 10	SC	25' X 0.75'	12.0	0.14	0.40	0.05	56.80	0.49	-	41.89	-	0.03	0.02	99.80	95.8
View Cove (fig. 11, No. 3)																
107	LS 45	SC	75' X 3'	13.6	0.05	0.34	0.04	55.20	0.44	-	42.13	-	0.01	0.01	98.21	98.4
108	LS 46	SC	240' X 5'	16.9	0.74	0.79	0.18	53.70	0.55	-	42.86	0.05	0.08	0.10	98.95	97.2
110	LS 36	SC	100' X 5'	12.2	1.17	1.02	0.23	52.10	1.23	-	43.09	0.02	0.15	0.12	99.01	94.6
110	LS 37	SC	100' X 5'	12.5	1.88	0.77	0.13	49.90	3.37	-	42.06	0.05	0.07	0.10	98.23	96.6
110	LS 38	SC	70' X 5'	11.5	1.17	1.14	0.19	53.50	0.99	-	41.76	0.01	0.15	0.11	98.91	96.4
110	LS 39	SC	102' X 5'	12.9	1.19	0.60	0.13	53.70	0.53	-	42.69	0.01	-	0.01	98.85	97.0
110	LS 40	SC	100' X 5'	13.6	0.35	0.66	0.11	54.30	0.55	-	42.68	0.02	0.05	0.05	98.72	97.8
110	LS 41	SC	100' X 5'	14.4	0.22	0.49	0.09	54.00	0.51	-	42.73	-	0.02	0.01	98.06	97.8
110	LS 42	SC	104' X 5'	15.7	0.36	0.57	0.10	54.00	0.60	-	43.06	-	0.08	0.05	98.77	97.6
110	LS 43	SC	75' X 3'	14.1	0.27	0.55	0.05	54.50	0.50	-	42.35	0.22	0.05	0.25	98.49	98.2
110	LS 44	SC	116' X 5'	13.0	0.16	0.43	0.07	54.80	0.43	-	42.55	-	0.01	0.01	98.45	97.6
112	LS 24	SC	125' X 5'	13.6	0.18	0.61	0.09	54.70	0.51	-	42.66	-	0.06	0.04	98.81	96.2
119	LS 23	SC	150' X 5'	13.6	0.18	0.61	0.09	54.70	0.51	-	42.66	-	0.06	0.04	98.81	96.2

Table A-2.--Selected sample results, Dall Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
Manhattan Moonshine (fig. 11, No. 4)																				
83	4149	Rep	2.8'	<5	<0.2	21	<2	404	4	<10	9	2	<20	-	240	<5	-	13	<5	OC, qz vein in ar;aspy, py
86	4171	S	3'	<5	0.3	58	3	584	4	<10	12	3	<20	-	250	<5	-	<5	<5	Qz float w/gl, py, aspy to 4%
87	4154	C	1'	<5	<0.1	30	<2	9	2	<10	19	4	70	-	186	<5	-	19	<5	OC, qz vein in ar;py, aspy, gl 1-3%
88	4172	Rep	2'	<5	0.5	112	<2	18	4	<10	31	13	30	-	232	<5	-	7	<5	Qz float upstream from 4171
89	4173	C	1.5'	<5	<0.1	60	<2	67	15	<10	44	7	110	-	179	<5	-	<5	<5	OC, qz vein in ar, sulf to 8%
90	4148	O		<5	0.6	24	11	127	8	<10	24	12	1900	-	20	<5	-	20	<5	Stream sediment, intense fest
91	4155	S	0.5' x 0.5	<5	1.7	158	10	90	3	<10	73	32	1600	-	56	<5	-	<5	<5	Dacite float w/dissem py to 5%
92	4147	Rep	5'	<5	0.2	55	14	55	2	<10	34	10	1800	-	165	<5	-	6	<5	OC, silicified ar w/qz veins, py
Cape Lookout-Sakie Bay (fig. 11, No. 5)																				
85	4288	Rep	2'	21	0.4	759	4	28	4	<10	8	4	520	-	356	<5	-	<5	<5	OC, qz vein in ar w/minor py
93	4289	Rep	2'	7	0.4	409	89	189	-	<2.0	-	9	3100	-	-	-	-	-	-	OC, ar w/qz vein, py
97	4290	Rep	16'	<5	0.3	111	19	89	-	<2.0	-	11	740	-	-	-	-	-	-	OC, black ar w/qz veins, py
121	4282	Rep	10' x 30'	40	3.0	70	41	48	-	-	-	3	2400	-	-	-	-	-	-	OC, py clots w/qz in argillite
122	4283	Rep	3' x 5'	31	3.9	117	12	56	18	20	40	6	760	-	275	<5	-	211	56	OC, qz vein & py clots in argillite
123	4284	Rep	3'	20	0.9	54	13	99	-	-	-	2	1100	-	-	-	-	-	-	OC, qz vein & small py clots in ar
124	4293	Rep	30'	6	<0.2	33	3	67	2	<10	12	4	800	-	346	<5	-	14	<5	OC, qz/ar breccia zone
125	4292	C	3'	10	<0.2	48	4	124	3	<10	27	6	680	-	302	<5	-	17	5	OC, qz/ar fault-breccia zone
126	4291	Rep	10'	10	<0.2	49	4	32	<1	<10	6	2	<20	-	305	<5	-	<5	<5	OC, qz vein in ar, trace py
127	4285	Rep	3'	12	1.0	61	26	220	2	<10	18	8	960	-	110	<5	-	24	<5	OC, qz veins in ar w/py to 5%
Yellowstone (fig. 11, No. 6)																				
106	4182	S		<5	0.2	314	4	90	1	<10	34	35	910	-	50	<5	-	<5	5	MD, altered di dike, po to 2%
109	4183	S		13	7.2	12487	102	7.89*	81	<10	42	197	250	-	54	100	-	48	76	TP, mafic dike w/cp, py, po
109	4184	Rep	10'	7	11.9	18362	3	1104	7	338	96	171	100	-	62	44	-	13	17	TP, mafic dike w/cp, py, po
109	4185	C	6'	8	5.8	11703	7	2128	13	1431	17	61	90	-	51	7	-	<5	<5	TP, altered mafic dike, dissem sulf
109	4186	C	4'	14	0.8	1595	7	88	12	30	24	23	1300	-	42	<5	-	17	<5	TP, altered mafic dike in shear
Oswego (fig. 11, No. 7)																				
114	4181	C	4'	<5	0.6	46	<2	63	<1	<10	43	23	474	<20	84	<5	120	12	<5	OC, splayed diabase dike, dissem py

Map No.	Sample No.	Sample type	Sample size	LB	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Total S as SO_3	LOI	Na_2O	K_2O	Total Na_2O	Total	Titrated $CaCO_3$
111	LS 7	SC	56' X 0.5'	-	0.34	0.25	0.09	55.17	0.72	-	43.50	0.03	-	0.03	100.10	97.6
113	LS 3	SC	57' X 0.5'	-	0.70	0.39	0.17	54.36	1.39	0.01	43.63	0.03	-	0.03	100.68	97.1
113	LS 3	SC	57' X 0.5'	-	1.62	0.54	0.34	51.45	2.68	-	42.80	-	-	-	99.43	
116	LS 5	SC	35' X 0.25'	-	1.02	0.23	0.15	52.59	2.68	-	43.52	0.03	-	0.03	100.22	

Table A-2.--Selected sample results, Dall Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
Coco Harbor (fig. 11, No. 8)																				
136	4189	Rep		<5	0.9	215	<2	16	1	<10	8	23	60	<20	53	<5	61	6	<5	Altered gd float w/py to 2%
137	4188	Rep		<5	0.7	188	4	51	13	<10	81	20	43	<20	111	<5	134	16	<5	Siliceous gw float w/py, po to 6%
138	4157	C	1'	<5	<0.1	107	4	58	1	<10	35	31	64	<20	60	<5	85	<5	<5	OC, skarn w/py to 20%
138	4158	C	2'	<5	0.6	69	4	36	2	<10	11	10	77	<20	83	<5	92	<5	<5	OC, qz veins in hornfels w/py, aspy
138	4165	C	2'	<5	<0.1	168	<2	29	3	<10	10	16	40	<20	87	<5	248	11	<5	OC, hornfels w/cp, py/po
138	4166	Rep	6'	<5	0.4	122	5	50	2	<10	14	25	25	<20	116	<5	82	8	7	OC, hornfels/skarn w/cp, py to 10%
138	4167	C	5'	<5	<0.1	134	<2	21	4	<10	34	35	50	<20	62	<5	59	7	<5	OC, green hornfels w/py, po clots
138	4174	SC	20' @ 0.5'	<5	0.8	176	<2	34	10	<10	37	27	29	<20	123	<5	131	9	6	OC, qz, garnet-epidote hornfels
138	4175	C	2.9'	<5	<0.1	96	3	43	3	<10	11	12	139	<20	114	<5	73	6	<5	OC, skarn along beach w/15% sulf
138	4176	SC	15' @ 0.33	<5	0.4	30	<2	56	2	<10	12	8	188	<20	86	<5	62	7	<5	OC, hornfels w/py, po to 4%
138	4177	C	4.2'	<5	0.7	338	5	26	6	13	8	17	18	<20	130	<5	96	<5	<5	OC, skarn/hornfels zone w/50% sulf
140	4169	C	1.8'	34	0.3	44	20	90	18	<10	40	13	79	<20	74	<5	34	51	6	OC, qz-calc sericite sc, py to 3%
142	4187	Rep	10'	<5	0.7	11	3	127	<1	<10	11	12	57	<20	62	<5	86	<5	<5	OC, metagraywacke w/py to 5%
143	4156	Rep	1'x 2'	<5	0.9	115	4	18	4	<10	1	12	51	<20	62	<5	43	13	<5	Dolomitic marble float w/20% sulf
144	4161	S	0.5' x 0.5	<5	<0.1	44	5	55	174	-	32	14	-	-	-	-	-	-	-	Gabbro float qz vein: mb, py, aspy
146	4160	C	1'	<5	0.4	97	3	14	<1	<10	11	21	29	<20	30	<5	142	10	<5	OC, hornfels/skarn zone w/py
146	4162	C	1'	<5	0.8	573	<2	6	2382	12	60	24	<5	<20	89	<5	16	<5	5	OC, qz vein w/ mb, py, cp, tr sl
146	4163	S		<5	<0.1	185	<2	5	25	<10	54	26	<5	<20	184	<5	11	<5	<5	Qz float w/ abundant sulf
146	4164	Rep		<5	0.4	229	3	7	47	<10	9	19	9	<20	63	<5	76	<5	<5	RC, calcareous-sc, py/po to 10%
146	4178	C	1.6'	<5	1.1	487	<2	15	2	11	62	77	13	<20	73	<5	65	<5	<5	OC, calc-silicate skarn up creek
146	4179	C	3.5'	6	<0.1	69	<2	32	<1	<10	4	12	126	<20	78	<5	23	11	<5	OC, altered di, qz, hornfels combo
146	4180	C	2.7'	21	1.2	601	<2	11	8	22	38	109	13	<20	62	<5	69	<5	6	OC, calc-silicate hornfels;30% sulf
149	4234	RC	2'	13	0.4	10	20	8	16	18	26	25	54	<20	20	43	43	172	<5	RC, dolomite w/dissem py to 5%
150	4168	Rep		8	0.4	7	5	23	<1	<10	4	4	100	<20	7	8	18	17	<5	Metarhyolite float w/dissem py
Shellhouse (fig. 11, No. 8)																				
131	4191	C	3.5'	<5	1.5	2859	6	40	59	<10	37	397	10	<20	66	27	45	<5	10	Msv sulf boulder in calc-silicate
131	4192	S	2'	142	1.7	3256	8	34	<1	<10	49	592	<5	<20	84	28	35	16	9	MD, py to 90%, cpy to 5% in skarn
132	4190	Rep		<5	1.1	2965	5	33	48	<10	37	378	13	<20	67	26	49	<5	8	Altered gd float w/py to 3%

Coco Harbor marble (fig. 11, No. 9)

Map No.	Sample No.	Sample type	Sample size	LB	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Total S as SO_3	LOI	Na_2O	K_2O	Total Na_2O	Total	Titrated $CaCO_3$
139	LS 8	SC	80' X 4'	9.5	1.19	0.39	0.13	54.00	0.59	-	42.96	0.05	0.01	0.06	99.32	93.4

Table A-3.--Selected sample results, Dall Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
Waterfall Bay (fig. 11, No. 13)																				
155	4053	S	1' x 3'	<5	0.2	81	3	29	5	11	3	4	20	<20	126	<5	11	10	6	OC, qz rich gossanous sulfide pod
156	4035	S	2'	39	<0.1	28	4	6	-	<2.0	-	7	<20	-	-	-	-	13.0	-	OC, qz vein w/sulfide clots
157	4052	C	3'	<5	<0.1	8	16	38	-	-	-	2	30	-	-	-	-	-	-	OC, silicified felsic tuff, 1% py
158	4039	C	4'	<5	<0.1	5	6	80	-	-	-	-	-	-	-	-	-	3.3	-	OC, marble/ls
159	4034	S	5.5'	7	<0.1	9	<2	70	-	<2.0	-	-	-	-	-	-	-	1.6	-	OC, qz vein swarm in siliceous volc
162	4032	C	12'	<5	<0.1	79	6	76	<1	<10	104	37	50	<20	179	10	66	62	<5	OC, agglomeratic chl sc w/py to 20%
162	4033	S	5'	<5	0.2	83	6	10	-	-	-	-	-	-	-	-	-	-	-	OC, hi-grade py cubes
163	4031	C	7.5'	15	<0.1	22	6	87	-	-	24	22	-	-	-	-	-	-	-	OC, porphyritic basalt dike

Waterfall Bay marble (fig. 11, No. 14)

Map No.	Sample No.	Sample type	Sample size	LB	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Total S as SO_3	LOI	Na_2O	K_2O	Total Na_2O	Total	Titrated $CaCO_3$
160	LS 2	SC	80' X 10'	17.1	0.54	0.56	0.14	53.40	1.97	-	43.16	0.02	0.10	0.09	99.89	97.2
161	LS 1	SC	200' X 10'	15.4	0.50	0.51	0.19	54.00	2.28	-	42.31	-	0.08	0.05	99.87	98.0
164	LS 4	SC	150' X 5'	17.9	0.09	0.40	0.06	57.00	0.61	-	41.74	-	0.03	0.02	99.93	98.4

Gold Harbor (fig. 11, No. 15)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
166	4047	C	5'	<5	<0.2	36	3	53	3	<10	2	7	39	<20	68	8	25	<5	<5	OC, skarn + hornfels py, trace mb
166	4048	C	1'	<5	<0.1	11	6	39	14	69	2	4	8	<20	8	11	75	6	12	OC, garnet skarn
167	4054	Rep	20'	<5	0.3	40	3	61	<1	<10	3	5	22	<20	82	5	32	7	<5	OC, gd porphyry w/4% py
168	4055	Rep	13'	<5	<0.1	200	3	86	7	<2.0	12	13	-	8	-	-	-	-	-	OC, skarn w/py to 3%, cp clots
169	4204	S	8'	14	0.2	93	<2	27	8	<10	3	4	51	<20	142	<5	12	<5	<5	OC, altered di w/cp, py
171	4056	S	3'	<5	1.5	64	6	91	220	23	7	5	12	<20	27	11	134	<5	6	RC, hornfels w/cp, mb, py
171	4057	CC	1.2' x 0.2	9	2.0	4097	7	178	113	4.1	18	47	-	28	-	-	-	-	-	OC, msv py, quartz, trace mb
171	4058	C	4.8'	<5	1.5	58	5	264	431	22	3	6	41	<20	35	16	203	<5	8	OC, skarn/hornfels in gd w/py, mb
172	4205	SC	20' @ 1'	8	<0.2	7	<2	81	<1	13	18	10	<5	39	13	60	22	15	17	OC, brec ls cong, chert, dolomite
173	4221	Rep	10'	<5	<0.2	37	<2	63	166	31	11	11	6	27	116	46	205	55	<5	OC, hornfels, qz veins in gd mb, py
174	4232	SC	20' @ 0.75	<5	<0.1	10	<2	77	<1	<10	18	14	<5	<20	22	70	30	45	5	OC, brec marble cg, near skarn zone
174	4233	SC	20' @ 0.75	<5	<0.1	6	<2	73	<1	<10	10	14	<5	<20	10	44	20	50	<5	OC, brec marble cg, hydrofracture
180	4042	S	0.25'	<5	<0.2	27	6	65	1	<10	2	2	26	<20	33	<5	24	<5	<5	OC, skarn near gd contact
182	4043	S		-	-	-	-	-	-	-	-	-	0.04	-	0.02	-	-	-	-	OC, gd
183	4044	S	0.1'x 0.5'	141	4.39*	160	5067	228	149	<2.0	8	2	-	<5	-	-	-	-	-	OC, qz vein w/tennantite, py, cp
183	4045	C	5'	<5	1.7	5	83	162	9	3.1	16	2	-	7	-	-	-	-	-	OC, skarn near marble contact
185	4046	G		45	<0.1	31	5	129	<1	14	4	17	58	<20	29	<5	53	<5	<5	Hornfels float w/60% py
Mount Vesta (fig. 11, No. 16)																				
177	4252	S	3' x 0.25'	763	11.48*	12000	8243	1940	2	<10	12	10	10	<20	30	392	8	1799	>2000	UW, tetrahedrite, mal
177	4253	S	0.33'	1139	25.95*	2917	3.34*	395	<1	<10	3	3	<20	<20	49	>2000	9	350	1108	UW, tetrahedrite, mal in marble
178	4263	S	2'x 1'	391	5.79*	7847	114	1238	3	-	19	6	<20	-	-	-	-	-	-	Marble float w/ mal, tet

Grace Harbor (fig. 11, No. 17)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
201	4241	C	3'	<5	0.5	61	13	140	-	-	-	18	19300	-	-	-	-	-	-	TP, tuffaceous metavolcanics w/py
201	4247	S	0.33'	<5	0.7	157	40	37	6	<10	17	56	<5	<20	113	18	8	>2000	28	TP, qz & msv py to 50% in volcanics
201	4248	C	1.3'	<5	0.5	346	27	694	16	-	-	32	2000	-	-	-	-	-	-	TP, silicified chl sc, agglom, 20% py
201	4249	S	0.33'	6	1.0	106	32	143	-	-	-	19	>20000	-	-	-	-	-	-	TP, chloritic metavolcanics, dissempy
201	4250	SC	5' @ 0.5'	<5	<0.1	26	3	96	-	-	-	20	760	-	-	-	-	-	-	TP, dissem py in chl sc
201	4251	SC	5' @ 0.5'	<5	0.2	18	4	98	-	-	-	22	300	-	-	-	-	-	-	TP, chloritic metavolcanics,
201	4260	C	1.2'	<5	0.5	170	12	24	<1	<10	12	16	95	<20	46	13	64	63	9	RC, silicified chl sc w/dissem py
202	4240	S		7	0.6	300	<2	43	-	-	-	18	<20	-	-	-	-	-	-	TP, qz/ca vein in chl sc, cp, fest
202	4246	Rep		<5	0.2	143	<2	101	-	-	-	32	<20	-	-	-	-	-	-	TP, gs w/ qz veins, copper staining
205	4261	Rep	1.2'	<5	0.5	25	14	34	-	-	-	31	100	-	-	-	-	-	-	TP, chl sc in contact w/marble, py
205	4262	C	3'	<5	0.7	52	9	65	-	-	-	25	400	-	-	-	-	-	-	TP, diabase dike w/dissem py to 2%

Map No.	Sample No.	Sample type	Sample size	LB	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Total S as SO_3	LOI	Na_2O	K_2O	Total Na_2O	Total	Titrated $CaCO_3$
188	LS 26	SC	80' X 5'	14.1	0.16	0.57	0.25	41.80	11.10	0.12	44.80	-	0.05	0.03	98.85	95.2

Lucky Strike (fig. 11, No. 18)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
198	4222	S	10'	<5	<0.1	22	<2	8	<1	<10	5	4	<20	-	246	<5	-	<5	<5	OC, qz veins in chl sc, trace sulf

Dolgoi Island (fig. 11, No. 19)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
222	4050	C	2.5'	<5	<0.1	54	-	-	-	-	22	36	-	-	74	-	375	10	-	OC, pyroxenite, trace py/po

Security Cove (fig. 11, No. 20)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
224	4026	C	2'	20	<0.1	6	6	39	-	-	-	-	160	-	-	-	-	-	-	OC, qz vein in fault
225	4029	C	1.8'	18	<0.1	60	6	12	-	-	-	-	-	-	-	-	-	-	-	OC, qz vein in basalt
225	4030	C	3'	15	0.3	46	7	58	2	<10	67	19	97	<20	127	7	69	<5	<5	OC, metabasalt, trace py
226	4022	CC	0.5'	357	6.3	42	116	2885	106	<10	200	52	>20000	<20	107	8	19	1013	34	OC, msv py in marble
226	4023	CH	0.25'	210	1.9	42	320	3647	-	-	-	69	18300	-	-	-	-	-	-	OC, msv py
226	4024	C	5'	41	0.6	28	52	1652	-	-	-	72	16900	-	-	-	-	-	-	OC, msv py, calc sc, marble, chl sc
226	4025	C	0.25'	41	4.0	21	40	3609	100	<10	189	163	26	30	92	18	12	1411	55	OC, msv py
226	4027	S	0.5'	17	1.5	34	16	67	25	25	35	15	930	<20	87	8	31	448	7	OC, msv py w/qz pods
226	4028	Rep	10'	<5	0.2	16	66	695	-	-	-	29	7500	-	-	-	-	-	-	OC, marble w/msv py
227	4019	C	5'	10	<0.1	7	4	75	-	-	-	6	-	-	-	-	-	-	-	OC, bi sc, py to 5%
228	4018	SC	10' @ 1'	<5	<0.1	257	4	65	-	-	-	-	570	-	-	-	-	-	-	OC, metadacite, trace po
229	4017	C	0.5'	<5	0.2	7	7	41	-	-	-	4	100	-	-	-	-	-	-	OC, metadacite, abundant magnetite
230	4016	C	0.6'	130	0.6	6	5	4	-	-	4	4	30	-	-	-	-	-	-	OC, qz vein w/2-5% py
231	4005	C	5'	34	<0.1	14	4	9	4	<10	2	2	37	<20	85	<5	5	6	<5	OC, qz sericite sc w/py, cp
232	4036	C	3'	<5	<0.1	7	7	42	-	-	-	3	20	-	-	-	-	-	-	OC, chl sc w/ls

Table A-2.--Selected sample results, Dall Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
McLeod Bay/Elk claims (fig. 11, No. 21)																				
247	4011	C	5'	117	0.4	30	10	115	-	14.0	-	-	-	-	-	-	-	2.0	-	UW, silicified chl sc
247	4012	C	6'	14	<0.2	20	5	60	1	<10	3	7	66	<20	58	<5	32	<5	<5	UW, silicified chl sc, py to 1%
247	4013	C	2.5'	106	0.2	122	10	124	-	7.5	-	-	-	-	-	-	-	1.2	-	UW, qz veinlets in chl sc
247	4014	C	5'	7	<0.1	19	<2	45	-	2.1	-	-	-	-	-	-	-	<1.0	-	UW, decomposed sc w/qz veinlets
248	4010	C	2'	100	0.8	11	9	13	-	12.0	-	-	-	-	-	-	-	1.7	-	OC, qz vein; fest
249	4009	Rep	1.5'	1.279*	4.87*	388	1396	784	-	3.9	-	-	-	-	-	-	-	3.7	-	OC, qz vein w/py to 5%
249	4021	S	1.5'	3.416*	14.88*	11264	2.17*	713	3	8.2	8	2	15	<20	169	<5	9	204	<5	OC, qz vein, mal to 5%, trace gl
250	4004	C	3'	287	1.4	33	4	33	-	451.0	-	-	-	-	-	-	-	-	-	OC, br qz vein
McLeod Bay/Virginia claims (fig. 11, No. 21)																				
233	4193	C	3.8'	109	0.4	50	<2	23	4	<10	7	1	<20	-	254	<5	-	<5	<5	OC, qz vein, trace gl, py
233	4194	C	2.5'	62	0.3	73	<2	21	3	<10	9	7	<20	-	87	<5	-	<5	<5	OC, qz chl sc, trace sulf
234	4195	SC	6' @ 0.5'	<5	<0.1	128	7	56	1	<10	34	28	70	-	100	<5	-	13	5	OC, silicified green pl, py to 2%
235	4207	SC	8' @ 0.33'	<5	<0.1	108	9	52	8	<10	101	30	110	-	305	<5	-	<5	<5	OC, metagraywacke w/py, po to 5%
236	4196	C	6.5'	<5	<0.1	14	3	30	<1	21	11	16	30	-	26	18	-	63	<5	OC, calc-chl sc w/4% dissem py
236	4197	C	3.5'	<5	<0.1	10	7	33	<1	<10	10	9	<20	-	24	<5	-	<5	<5	OC, pyritic white marble
236	4198	C	4.5'	1937	10.4	22	16	14	<1	<10	13	7	<20	-	190	<5	-	<5	<5	OC, br qz vein, trace cp, gl, 8% py
236	4199	C	4'	72	0.5	59	<2	15	3	83	8	6	<20	-	159	8	-	<5	<5	OC, qz vein w/cp, py to 5%
237	4200	C	2'	2151	13.4	430	60	36	<1	<10	16	7	30	-	146	<5	-	8	<5	OC, qz vein w/py stringers
238	4201	SC	11' @ 0.33	1455	8.3	18	5	12	4	<10	10	4	<20	-	261	<5	-	<5	<5	TP, qz vein w/fest, sericite
238	4202	Rep	15'	4827	33.9	9	166	84	<1	<10	6	4	<20	-	184	8	-	<5	<5	TP, qz vein/calc-sc w/py to 1%
239	4203	C	1'	1778	27.4	670	2170	957	8	<10	59	8	<20	-	221	24	-	43	6	OC, qz vein w/cp, gl, py to 3%
239	4208	Rep	3'	66	1.0	112	135	191	9	<10	163	23	210	-	111	<5	-	206	<5	OC, qz vein in qz chl sc w/cp, gl
240	4209	Rep	2.8'	7	0.2	267	<2	77	14	17	9	27	180	-	122	<5	-	13	<5	OC, qt, qz vein w/cp, py
Precious (fig. 11, No. 22)																				
241	4001	C	2'	<5	<0.1	20	5	28	-	<2.0	-	-	-	-	-	-	-	2.3	-	OC, qz vein
242	4002	C	0.5'	<5	0.2	25	119	415	-	<2.0	-	-	<20	-	-	-	-	-	-	OC, qz sericite sc
243	4003	C	5'	<5	<0.1	385	13	5945	-	-	-	-	630	-	-	-	-	-	-	OC, metarhyolite, py to 5%
244	4006	C	2.5'	<5	<0.1	44	4	83	-	<2.0	-	-	-	-	-	-	-	-	-	OC, qz vein, trace py
245	4008	C	1.5'	<5	<0.1	33	6	108	-	-	63	26	770	-	-	-	-	-	-	OC, basalt w/py to 2%
246	4007	C	0.5'	<5	<0.1	24	5	115	-	-	-	-	-	-	-	-	-	-	-	OC, felsic sc, qz vein
Goat Island (fig. 11, No. 23)																				
30	4318	Rep	1'	7	1.5	567	191	395	3	<10	45	21	360	-	38	<5	-	<5	6	Chert float w/py stringers
38	4336	C	4'	<5	0.9	70	28	107	<1	<10	51	36	2100	-	57	<5	-	9	<5	OC, mafic dike w/2% dissem py
43	4319	O		<5	1.5	121	59	115	5	11	41	71	330	-	66	5	-	46	6	Stream sediment, coarse grained
45	4337	O		31	1.3	109	115	105	2	<10	39	58	270	-	70	<5	-	24	<5	Stream sediment, coarse material
46	4322	C	3'	<5	0.8	89	94	141	<1	<10	33	14	30	-	100	<5	-	9	6	OC, siliceous volcanics/agglomerate
47	4320	O		<5	1.0	65	19	83	2	<10	30	52	240	-	73	<5	-	30	<5	Stream sediment, good sample
48	4321	O		<5	1.5	111	44	85	3	16	22	129	160	-	46	<5	-	22	<5	Stream sediment, high organics
49	4323	S	0.5' x 3'	<5	1.8	35	347	348	<1	<10	12	6	<20	-	48	<5	-	<5	5	OC, qz/ca shear vein in

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
																				phyllite
50	4338	SC	8' @ 0.5'	<5	1.2	37	105	125	<1	<10	5	15	90	-	42	<5	-	44	<5	OC, andesitic dikes/qz veins w/py
51	4324	S	2'	564	2.0	110	72	91	2	20	71	113	<20	-	234	<5	-	435	<5	RC, qz veins in mafic volcanic/ar
52	4339	O		6	0.9	46	152	105	1	<10	45	45	280	-	57	<5	-	10	6	Stream sediment, taken from moss
55	4325	O		6	1.7	136	43	104	4	11	34	123	250	-	60	<5	-	54	<5	Stream sediment, mixed organics
Blanket and Flat Islands (fig. 11, No. 24)																				
76	4115	S	15' x 20'	<5	0.3	1734	3	11	-	<2.0	-	-	-	-	-	-	-	2.9	-	Qz float pile near gs host
77	4114	C	4'	<5	<0.2	46	2	20	<1	11	19	8	1100	-	199	<5	-	8	<5	OC, qz vein in gs sc
94	4116	Rep	0.9'	<5	0.5	92	<2	40	<1	<10	24	20	118	<20	191	10	73	<5	5	OC, qz/ca vein in gs; cp, py
95	4084	S	0.2'	7	<0.1	60	6	84	-	4.5	-	-	-	-	-	-	-	4.9	-	OC, ca/ankerite vein in gs;py to 15%
95	4117	Rep	1.2' x 2'	72	<0.1	33	6	58	9	4.0	-	59	600	-	-	-	-	-	-	OC, altered ca vein w/py to 50%
95	4118	S	1.5'	10	<0.1	32	7	66	8	-	-	68	370	-	-	-	-	-	-	OC, ca/ankerite vein in shear;py
Gould-Sukkwan (fig. 11, No. 25)																				
151	4060	C	3'	<5	1.2	182	11	1187	2	<10	42	18	167	<20	134	<5	189	15	<5	OC, hornfels metasediments
152	4061	G		<5	1.2	485	4	55	<1	12	12	27	22	<20	21	<5	78	<5	<5	Metagraywacke float w/py to 5%
153	4073	G		<5	<0.1	134	4	98	-	-	-	-	-	-	-	-	-	-	-	OC, gd, syenite
Lakeside (fig. 11, No. 26)																				
154	4059	S	12' x 6'	108	3.0	15658	6	24	-	-	2804	892	-	-	208	-	152	26	-	MD, pyroxenite/gabbro, cp to 10%
154	4070	S	3' x 2'	34	0.8	4065	4	69	-	-	516	114	-	-	0.03	-	222	<5	-	MD, pyroxenite/gabbro, py, cp
154	4071	G		16	0.7	3260	4	432	-	-	361	127	-	-	0.04	-	183	49	-	MD, pyroxenite/gabbro
154	4072	S	2' x 2'	19	0.6	3437	4	26	-	-	820	167	-	-	163	-	196	45	-	MD, pyroxenite/gabbro, cp to 15%

Cleva Bay (fig. 11, No. 27)

Map No.	Sample No.	Sample type	Sample size	LB	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Total S as SO_3	LOI	Na_2O	K_2O	Total Na_2O	Total	Titrated $CaCO_3$
170	LS 47	SC	102' X 5'	15.5	1.59	0.78	0.15	54.00	2.27	-	40.74	0.03	0.12	0.11	99.68	94.6
175	LS 49	SC	250' X 10'	13.5	0.30	0.42	0.07	56.00	1.23	-	42.04	-	0.06	0.04	100.12	98.4
176	LS 48	SC	300' X 20'	12.6	0.28	0.39	0.07	56.30	0.55	-	42.49	0.01	0.05	0.04	100.14	97.2
Gotsongni Bay (fig. 11, No. 29)																
187	LS 27	SC	120' X 5'	9.8	0.70	0.72	0.20	52.70	0.96	-	43.02	0.03	0.07	0.08	98.40	96.8
Long Island (fig. 11, No. 30)																
165	LS 28	Rep	500' X 25'	10.5	0.15	0.57	0.05	53.80	1.55	-	42.37	0.01	0.06	0.05	98.56	98.4

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
179	4272	Rep	3'	<5	0.7	89	5	144	-	-	-	44	1200	-	-	-	-	-	-	TP, chl carbonate sc w/fest, 5% py
181	4256	SC	6' @ 0.5'	<5	3.2	47	122	79	-	-	-	6	1900	-	-	-	-	-	-	TP, phyllitic qz-mica-carbonate sc

Table A-2.--Selected sample results, Dall Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
184	4271	Rep	1.8'	<5	0.6	42	3	136	-	-	-	11	1800	-	-	-	-	-	-	TP, qz mica sc, felsic phyllite
186	4257	SC	6' @ 0.5'	<5	1.2	38	40	77	-	-	-	15	160	-	-	-	-	-	-	TP, qz sericite sc, sulf stringers
186	4274	Rep	3'	<5	0.8	38	7	61	3	<10	15	13	150	-	35	6	-	20	10	TP, pyritic carbonate mica qz sc
189	4270	Rep	2'	<5	<0.1	34	4	56	-	-	-	8	390	-	-	-	-	-	-	OC, carbonate mica sc w/ca veinlets
190	4255	S		10	8.6	157	367	144	-	-	-	26	370	-	-	-	-	-	-	OC, carbonate-mica sc w/qz vein
190	4269	C	3'	<5	<0.1	30	3	50	-	-	-	7	310	-	-	-	-	-	-	OC, carbonate mica/graphitic sc
191	4254	Rep	2'	14	11.1	369	374	99	-	-	-	29	1900	-	-	-	-	-	-	TP, qz vein w/chrome mica in marble
192	4267	Rep	8'	<5	0.5	53	10	51	-	-	-	14	2000	-	-	-	-	-	-	TP, carbonate sc; py/po to 8%
193	4268	S	1' x 1'	<5	0.3	72	6	70	-	-	-	11	700	-	-	-	-	-	-	OC, carbonate mica sc;sulf stringer
194	4264	C	5'	<5	2.1	179	6	144	10	-	-	8	6000	-	-	-	-	-	-	TP, qz bi sc w/intense fest, 5% py
194	4265	S	1.3'	<5	1.9	129	10	266	-	-	-	7	8500	-	-	-	-	-	-	TP, qz sericite sc w/dissem py
195	4266	Rep	10'	<5	0.3	16	6	113	-	-	-	13	700	-	-	-	-	-	-	OC, garnet bi sc/mica sc/carbonate sc

Elbow Bay (fig. 11, No. 31)

Map No.	Sample No.	Sample type	Sample size	LB	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Total S as SO_3	LOI	Na_2O	K_2O	Total Na_2O	Total	Titrated $CaCO_3$
196	LS 31	SC	100' X 5'	10.1	0.22	0.60	0.07	54.80	0.51	-	42.17	0.02	0.05	0.05	98.44	98.4
196	LS 32	SC	75' X 5'	12.4	0.21	0.52	0.09	53.40	1.26	0.07	43.15	-	0.05	0.03	98.75	98.2
197	LS 34	Rep	500' X 25'	14.7	0.31	0.55	0.10	54.30	0.86	-	42.44	0.01	0.06	0.05	98.63	99.0
199	LS 29	SC	110' X 5'	10.7	0.44	0.80	0.11	54.60	0.55	-	42.48	0.02	0.10	0.09	99.10	98.0
200	LS 30	Rep	140' X 10'	9.8	0.26	0.62	0.09	54.00	0.82	-	42.74	0.01	0.05	0.04	98.59	98.0
203	LS 33	SC	105' X 5'	10.8	0.47	0.79	0.32	41.90	11.10	0.30	44.45	0.01	0.12	0.09	99.46	96.2
204	LS 35	SC	260' X 10'	13.6	1.60	0.85	0.25	50.70	1.52	-	42.74	0.03	0.12	0.11	97.81	96.6

Heart (fig. 11, No. 32)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
206	4243	S	0.33'	8	0.3	62	15	65	-	-	-	24	330	-	-	-	-	-	-	TP, qz/carbonate vein, chrome mica
207	4242	S	2'	<5	0.6	8	6	16	-	-	-	2	70	-	-	-	-	-	-	TP, marble w/dissem and stringer py
208	4229	Rep	1.1'	10	0.5	36	162	380	-	-	-	11	220	-	-	-	-	-	-	TP, qz carbonate sc w/chrome mica
209	4239	S		<5	0.7	54	4	90	-	-	-	29	270	-	-	-	-	-	-	TP, qz chl sc w/qz veins; py, cp
210	4238	S		<5	5.5	98	32	453	19	-	-	8	1000	-	-	-	-	-	-	TP, black phyllite w/py stringers
211	4230	C	1.8'	<5	0.3	121	13	23	1	<10	42	8	40	-	333	<5	-	9	<5	TP, qz vein in gs sc, trace py

Coning Point (fig. 11, No. 33)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
213	4275	S	0.66' x 2'	<5	20.4	9169	5991	5.03*	4	<2.0	-	-	<20	<5	-	-	-	-	-	Qz ca vein w/ cp,gl,sl
214	4244	S	0.25'	-	1.6	38	39	24	2	<10	83	10	37	<20	22	10	21	18	14	TP, ca-ankerite shear vein, 2% py
215	4245	Rep	3'	<5	0.7	79	20	93	-	-	-	13	1200	-	-	-	-	-	-	OC, qz/bi sc w/dissem py to 4%, cp

Table A-2.--Selected sample results, Dall Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	LB	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Total S as SO_3	LOI	Na_2O	K_2O	Total Na_2O	Total	Titrated $CaCO_3$
212	LS 25	SC	150' X 7'	11.2	0.36	0.65	0.11	55.00	0.69	-	42.05	-	0.05	0.03	98.91	96.2

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
											Lake Seclusion (fig. 11, No. 34)									
216	4223	S	3'	<5	0.4	89	6	69	3	<10	24	18	1100	-	97	<5	-	15	10	TP, fault gouge in qz-bi gneiss
216	4235	Rep	4'	<5	<0.1	25	4	52	-	-	-	8	1100	-	-	-	-	-	-	TP, shear zone in pelitic gneiss
217	4226	C	4'	<5	0.6	23	27	72	3	<10	26	12	490	-	94	<5	-	23	9	OC, qz sericite sc w/dissem py
218	4228	C	3'	<5	0.1	15	4	28	-	-	-	4	210	-	-	-	-	-	-	TP, qz carbonate sc w/py to 3%
219	4227	S	2'	<5	0.2	32	4	35	4	-	-	6	740	-	-	-	-	-	-	TP, qz-carbonate sc, py
220	4236	S		4217	41.62*	13771	4662	7036	2	<10	45	9	80	-	145	42	-	1435	>2000	TP, ca vein in marble/chl sc
220	4237	Rep	5'	<5	12.5	157	34	105	1	<10	430	44	500	-	308	7	-	21	78	TP, chromium mica layers in marble
221	4224	Rep	2'	<5	1.0	90	4	468	-	-	-	24	440	-	-	-	-	-	-	OC, sheared pyroxenite w/cp, py
223	4225	S	2'	<5	1.3	347	4	68	44	-	339	86	30	-	-	-	-	-	-	OC, sheared pyroxenite w/cp, py/po
											Gould Island (fig. 11, No. 35)									
1	4135	C	1.1'	796	2.8	5123	50	987	60	19	15	14	25	<20	144	<5	6	<5	<5	TP, qz vein w/cp + py to 10%
1	4136	C	2'	326	4.0	6531	22	4964	15	134	5	13	20	<20	146	<5	19	7	<5	TP, wollastonite, garnet skarn
1	4137	C	4'	58	1.7	3219	57	6438	8	<2.0	14	10	-	10	-	-	-	-	-	TP, wollastonite, garnet skarn, cp, gl
1	4138	Rep	4.5'	802	6.7	17400	753	13943	17	<2.0	10	8	-	<5	-	-	-	-	-	OC, qz vein w/10% cp, sl, py
1	4139	C	2.8'	<5	1.5	510	19	233	8	16	7	28	30	<20	37	7	155	<5	<5	OC, silicified hornfels w/dissem py
2	4097	S	3' x 3'	125	4.7	13738	64	17647	24	<2.0	11	11	-	<5	-	-	-	-	-	MD, garnet hornfels/ py, trace cp
2	4098	C	2'	79	3.2	4486	72	11125	22	415	2	6	37	<20	9	17	12	9	7	OC, wollastonite skarn;py, cp
2	4099	C	1'	34	2.5	3250	1200	1000	56	<2.0	20	26	-	<5	-	-	-	-	-	TP, dark siliceous hornfels, cp, py
											Houghton (fig. 11, No. 36)									
3	4281	Rep	7'	7	0.2	179	3	48	3	<2.0	68	21	-	14	-	-	-	-	-	UW, hb ep hornfels w/py on fracture
3	4286	Rep	5" x 3'	1841	26.4	7.50*	3	383	2	17.0	105	307	-	33	-	-	-	-	-	UW, py, cp zone in skarn/marble
3	4287	Rep	6" x 3'	2630	25.1	7.00*	3	77	4	72.0	69	149	-	17	-	-	-	-	-	UW, py, cpy, magnetite skarn zone
4	4316	C	2'	157	5.4	10982	7	330	4	9.3	35	28	-	19	-	-	-	-	-	UW, cp, mal/azurite to 5% in skarn
4	4317	Rep	2' x 10'	934	46.5	10.44*	9	1300	4	3.8	188	125	-	30	-	-	-	-	-	UW, skarn pod in shear, cp, mal
4	4333	S	0.5' x 2.5	103	4.6	10345	9	40	4	2.2	38	35	-	14	-	-	-	-	-	UW, skarn pod w/cp & py to 50%
4	4334	C	2.5'	155	2.2	4719	8	90	3	<2.0	47	73	-	15	-	-	-	-	-	UW, green hornfels w/cp, py, mag
4	4335	C	1.7'	100	2.3	5042	8	58	2	<2.0	158	199	-	14	-	-	-	-	-	UW, ep/diopside hornfels w/cp & py

Table A-2.--Selected sample results, Dall Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
Jumbo (fig. 11, No. 37)																				
9	4346	C	3'	2180	37.8	8.47*	9	698	9	31.0	40	128	-	22	-	-	-	-	-	OC, skarn w/cp, qz present, marble
Green Monster (fig. 11, No. 38)																				
5	4369	CC	1.5'	217	4.6	9190	6	58	5	2.1	26	86	-	14	-	-	-	-	-	UW, ca ankerite skarn, trace cp
5	4370	CC	2.0'	214	6.4	13945	6	141	42	4.0	106	195	-	7	-	-	-	-	-	UW, ca diopside skarn, cp, mal/azur
5	4377	Rep	10'	22	0.7	1229	<2	12	3	<2.0	7	5	-	15	-	-	-	-	-	UW, hornfels and skarn, minor py
5	4378	C	5'	903	16.5	3.57*	3	207	5	<2.0	36	170	-	14	-	-	-	-	-	OC, marble skarn w/cp, py, mal/azur
6	4381	C	7'	17	1.1	1867	3	164	2	<2.0	23	82	-	30	-	-	-	-	-	TP, magnetite skarn
7	4368	Rep	6'	833	20.7	3.68*	126	502	15	21.0	31	210	-	8	-	-	-	-	-	TP, skarn in marble, cp, py to 4%
7	4379	CC	3.7'	1869	40.2	6.93*	3	245	11	<2.0	25	124	-	17	-	-	-	-	-	OC, gossanous skarn, cp/mal/azur
7	4380	Rep	10'	11	0.2	359	<2	54	6	<2.0	6	6	-	<5	-	-	-	-	-	OC, fest hornfels, ca, ep
8	4382	C	2'	9160	16.2	1658	4	31	13	6.3	24	299	-	31	-	-	-	-	-	TP, sulf pod in garnet skarn
Copper Mountain (fig. 11, No. 39)																				
10	4315	Rep	0.5'	11	0.3	5463	<2	123	6	<2.0	25	26	-	9	-	-	-	-	-	UW, mal, py in fracture w/in marble
10	4332	C	3.5'	1548	10.1	19887	5	284	4	<2.0	69	115	-	7	-	-	-	-	-	OC, cp, py, mal;shear w/in marble
11	4294	Rep	4'	20	2.7	3699	3	36	48	<2.0	21	111	-	<5	-	-	-	-	-	TP, garnet/ep/ca/qz skarn w/sulf
11	4301	S		175	3.6	6.86*	<2	162	22	2.2	36	57	-	7	-	-	-	-	-	UW, skarn w/intense mal/azur crust
11	4302	Rep	2'	<5	0.3	527	<2	22	231	<2.0	13	3	-	<5	-	-	-	-	-	UW, diopside/qz/ep/ca/ magnetite/py
11	4303	Rep	0.5'	26	6.0	5.73*	<2	180	31	<2.0	40	37	-	8	-	-	-	-	-	TP, copper stained skarn
11	4304	S		84	10.0	2.60*	<2	49	75	2.6	46	72	-	7	-	-	-	-	-	TP, mineralized pod in skarn zone
12	5169	Rep	0.2'	1424	8.3	10.33*	7	151	7	<2.0	114	162	-	7	-	-	-	-	-	OC, mal w/ep in tan garnet skarn
13	4295	Rep	6' x 3'	188	14.5	2.51*	13	49	11	17.0	30	5	-	7	-	-	-	-	-	OC, garnet/ep/qz/ca skarn w/cp, py
13	4305	S	1' x 0.66'	10	0.7	1283	<2	11	6	<2.0	105	67	-	13	-	-	-	-	-	UW, isolated py-rich pod in marble
14	4314	G	5'	9	0.2	1290	<2	43	6	3.5	47	18	-	<5	-	-	-	-	-	UW, altered gd & skarn w/trace py
14	4328	Rep	6'	<5	<0.1	3930	3	46	7	20.0	37	18	-	12	-	-	-	-	-	UW, ca/ep/qz/magnetite skarn
15	4329	C	4'	433	18.0	3.54*	<2	89	6	42.0	71	24	-	22	-	-	-	-	-	TP, ep/garnet skarn w/py, cp
15	4330	C	2'	77	6.7	15318	4	61	4	38.0	38	12	-	10	-	-	-	-	-	TP, tremolite/ep/qz/garnet skarn
15	4331	S		834	26.6	7.15*	4	152	4	24.0	135	56	-	22	-	-	-	-	-	TP, tremolite/ep/ca/qz/ garnet skarn
16	4313	S	10' x 10'	126	19.1	4.97*	<2	97	4	18.0	36	28	-	11	-	-	-	-	-	TP, mal/azurite, specular hematite
16	4327	S	3' x 10'	42	3.3	7719	<2	39	3	6.8	55	16	-	<5	-	-	-	-	-	TP, qz/ep skarn w/cp, py, hematite
17	5634	S		1392	13.4	2.26*	4	102	14	18.0	68	119	-	28	-	-	-	-	-	MD, exoskarn w/sulf + magnetite
17	5635	S		600	3.7	9345	<2	70	5	9.2	50	55	-	32	-	-	-	-	-	OC, magnetite skarn w/cp to 2%

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
18	5632	SC	5' @ 0.5'	49	3.0	5597	8	180	73	<2.0	25	51	-	<5	-	-	-	-	-	OC, intrusive w/dissem cp, py
18	5633	S	1'	856	26.3	2.77*	6	157	25	<2.0	65	203	-	9	-	-	-	-	-	OC, skarn w/abundant cp
19	4326	C	0.66'	20	1.1	26.39*	<2	306	14	<2.0	25	748	-	17	-	-	-	-	-	TP, skarn w/fest, mal/azurite zone
19	5167	G		8	1.9	28.27*	4	523	14	<2.0	24	205	-	21	-	-	-	-	-	TP, limonite, mal/azur
19	5168	CH	0.3'	28	2.2	22.32*	3	988	9	<2.0	31	221	-	12	-	-	-	-	-	OC, mal/azur limonite shear vein
19	5628	C	1.6'	36	1.7	21.77*	3	267	13	2.8	31	852	-	15	-	-	-	-	-	TP, lense of limonite w/mal/azur
19	5629	SC	8.5' @ 0.5	35	3.4	2.88*	4	244	37	2.7	32	345	-	10	-	-	-	-	-	TP, limonitic zone, minor mal/azur
19	5630	C	3'	16	4.1	7.80*	5	714	13	2.2	34	246	-	13	-	-	-	-	-	TP, lense of limonite w/mal/azur
19	5631	S		52	20.3	3.57*	5	192	4	<2.0	34	251	-	9	-	-	-	-	-	TP, skarn material w/cp, mal
20	4296	Rep	20'	50	0.6	845	4	46	3	<2.0	6	11	-	<5	-	-	-	-	-	UW, altered gd, propylitized
20	4297	Rep	16'	114	0.9	1196	8	48	4	<2.0	9	21	-	<5	-	-	-	-	-	UW, altered gd, dissem sulf
20	4298	S	3' x 4'	626	6.9	12415	<2	127	4	<2.0	54	82	-	<5	-	-	-	-	-	UW, ep/garnet/ca/qz skarn w/cp, mal
20	4299	Rep	15'	24	0.3	469	3	64	2	<2.0	61	27	-	<5	-	-	-	-	-	UW, garnet/ep/hb hornfels w/2% py
20	4300	C	2'	200	17.1	3.17*	6	114	4	<2.0	36	70	-	7	-	-	-	-	-	UW, skarn w/cp, mal/azurite, fest
20	4306	S	2' x 2'	126	2.9	5373	<2	131	3	<2.0	101	72	-	6	-	-	-	-	-	UW, skarn w/cp, py, mal/azur
20	4307	S	2' x 2'	172	3.6	6430	3	185	11	4.0	63	51	-	12	-	-	-	-	-	UW, garnet skarn w/py, cp
20	4308	S		10	28.6	24.70*	3	1626	13	<2.0	457	10461	-	14	-	-	-	-	-	UW, mal/azurite hi-grade-ore shoot
20	4309	S		1120	8.4	10.40*	3	671	6	<2.0	76	1550	-	9	-	-	-	-	-	UW, hi-grade form ore shoot
20	4310	C	0.6'	928	10.0	12.50*	3	326	6	23.0	95	2355	-	5	-	-	-	-	-	UW, mal/azurite in fractures
21	4311	C	5'	65	1.4	7548	4	63	147	10.0	28	232	-	17	-	-	-	-	-	UW, weathered skarn in altered gd
21	4312	Rep	15'	114	0.9	7254	<2	43	4	<2.0	11	70	-	<5	-	-	-	-	-	UW, gd w/skarn and cp, mal to 5%
21	5627	S		12	10.3	39.48*	5	713	2	<2.0	192	5104	-	9	-	-	-	-	-	UW, mal/azur fracture filling
										Corbin (fig. 11, No. 40)										
22	3077	C	2'	3131	2.03*	3861	62	4852	9	-	-	47	<20	-	-	-	-	-	-	UW, ore zone, msv py, cp
22	3078	C	2'	7575	1.75*	8303	26	2841	26	-	20	32	470	-	-	-	-	-	-	OC, ore zone, msv py, cp
22	3079	Rep	6'	241	9.5	850	41	461	10	-	-	32	650	-	-	-	-	-	-	UW, qz mica sc, py 5-10%
22	3080	C	4'	1395	24.0	3.25*	26	4.15*	33	1216	7	40	<5	<20	61	30	22	<5	20	UW, qz mica sc, py 20-30%
22	4091	C	3.5'	109	2.8	2185	13	656	6	-	-	19	470	-	-	-	-	-	-	UW, chl sericite sc;50% sulfides
22	4092	C	5'	105	1.0	309	12	244	7	-	-	11	1300	-	-	-	-	-	-	UW, sericite and chl sc;to 20% py
22	4093	Rep	5'	209	2.2	218	35	175	8	-	-	9	1100	-	-	-	-	-	-	UW, qz sericite sc;10-20% py
22	4094	C	2.5'	550	7.6	5792	129	7762	39	284	5	43	<5	<20	118	43	13	<5	12	UW, main ore zone, msv py, cp, sl
22	4095	C	3'	108	0.7	91	13	131	5	-	-	5	930	-	-	-	-	-	-	TP, qz sericite sc;2% dissem py
22	4096	S		1227	24.8	18600	133	3.65*	9	1101	8	39	<5	<20	93	72	5	<5	20	MD, msv sulfide, py, cp, sl
22	4134	C	2.5'	501	12.7	11245	39	7.32*	15	-	25	17	1400	-	-	-	-	-	-	UW, msv py in chl sc, trace cp
										Gould (Hetta Inlet) (fig. 11, No. 41)										
26	4128	C	1.7'	<5	0.5	74	3	52	-	<2.0	35	6	2400	-	-	-	-	-	-	TP, qz vein in hornfels;cp, py

Table A-2.--Selected sample results, Dall Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
27	4129	C	3'	<5	0.5	98	40	94	-	4.7	27	10	2100	-	-	-	-	-	-	TP, qz vein in hornfels;trace sulf
27	4130	Rep	1.2'	<5	0.5	315	7	37	-	<2.0	39	13	<20	-	-	-	-	-	-	OC, qz vein, 20% py/po, trace cp
28	4132	S	0.33' x 1'	46	<0.2	1253	4	41	21	16	460	208	<5	<20	57	44	16	<5	15	OC, msv sulf pod, py, cp, magnetite
28	4133	Rep	3' x 3'	8	0.8	1837	4	17	5	<2.0	1340	247	-	24	-	-	-	-	-	Msv sulf float boulders
29	4089	C	3'	<5	1.1	343	5	26	1	23	16	14	196	<20	66	9	120	9	<5	OC, garnet epidote skarn, py, cp
29	4131	C	2.5'	8	1.1	2012	18	314	2	29	46	99	18	<20	71	<5	94	6	9	UW, altered gd, py/po to 8%
29	4140	C	2.5'	<5	0.2	475	9	140	6	12	32	28	40	<20	39	11	91	14	<5	UW, silicified gd
29	4141	C	1.5'	11	0.4	1008	5	19	6	15.0	24	38	-	12	-	-	-	-	-	UW, silicified gd, cp/py to 25%
Hetta Mountain (fig. 11, No. 42)																				
31	4347	C	3.1'	17	0.5	818	8	21	9	<2.0	27	37	-	<5	-	-	-	-	-	OC, skarn gossan near marble;cp, py
32	4342	SC	4' @ 0.5'	<5	0.2	338	9	29	8	2.9	19	3	-	<5	-	-	-	-	-	UW, minor skarn in marble;py
32	4354	C	1.4'	572	43.8	4.17*	10	1838	821	<2.0	19	103	-	<5	-	-	-	-	-	OC, marble skarn w/cp to 25%, mb
32	4355	SC	10' @ 1'	<5	0.3	192	10	30	4	<2.0	6	8	-	<5	-	-	-	-	-	OC, gd, potassic alteration
32	4356	C	4'	14	0.9	844	8	45	12	8.3	112	19	-	5	-	-	-	-	-	UW, banded hornfels w/minor py
33	4341	Rep	5'	<5	0.4	390	5	25	4	<2.0	89	25	-	9	-	-	-	-	-	UW, gray-green hornfels, dissem py
33	4349	C	2.6'	42	2.0	6356	8	180	29	5.8	23	28	-	<5	-	-	-	-	-	TP, skarn in marble, cp, py, mal
33	4350	C	2.9'	799	9.6	6036	6	273	357	4.1	12	17	-	<5	-	-	-	-	-	OC, exoskarn, cp, mal/azur, mb clot
34	4340	SC	10' @ 0.9'	12	0.7	1405	8	53	84	3.0	73	19	-	<5	-	-	-	-	-	OC, hornfels/skarn zone w/cp, py
34	4357	C	4'	<5	0.3	273	6	29	6	<2.0	63	43	-	<5	-	-	-	-	-	TP, hornfels, cp/py to 3%
36	4353	Rep	6'	168	3.4	6019	7	107	46	<2.0	22	14	-	6	-	-	-	-	-	TP, calc-silicate skarn/hornfels
37	4348	SC	10' @ 0.5'	100	6.8	4819	8	93	10	24.0	7	16	-	<5	-	-	-	-	-	TP, altered gd/gossan, copper stain
37	4351	SC	10'	50	3.1	5893	9	152	47	<2.0	12	43	-	6	-	-	-	-	-	TP, skarn capping over marble, cp
37	4352	C	1.4'	869	26.6	4.10*	8	570	907	3.8	17	53	-	<5	-	-	-	-	-	TP, gossanous skarn w/cp, mb, py
Het (Hetta Lake) (fig. 11, No. 43)																				
39	4127	Rep	0.33' x 2'	<5	0.3	1098	6	26	51	<2.0	20	22	-	10	-	-	-	-	-	OC, cp, py in hornfels
40	4126	Rep		<5	0.4	55	6	36	1	<10	2	5	100	<20	82	<5	41	<5	<5	OC, altered di
41	4125	S	1.5'	<5	0.9	614	3	29	4	<10	6	16	33	<20	166	<5	48	<5	<5	Qz vein float w/cp to 5%
42	4124	Rep	6'	<5	1.6	1035	9	112	4	31	8	67	22	<20	79	9	184	11	<5	OC, garnet ep hornfels w/3% py
44	4123	S		<5	0.5	1251	6	93	8	<2.0	22	39	-	13	-	-	-	-	-	Silicified hornfels float @ creek
56	4122	Rep	25' x 20'	16	0.9	229	19	495	2	22	3	6	255	<20	85	8	64	<5	<5	OC, bi-hb gd w/magnetite
60	4088	C	5'	85	0.2	68	<2	56	<1	<10	2	5	385	<20	86	8	46	<5	<5	OC, garnet-bearing hb hornfels
61	4087	C	5'	<5	0.5	67	6	52	<1	<10	2	5	373	<20	85	7	45	10	5	OC, qz vein in bi sc
62	4086	C	3'	<5	1.0	71	9	94	<1	20	13	11	478	<20	29	12	77	<5	<5	OC, marble/bi sc w/trace py/po
Copper City (fig. 11, No. 45)																				
65	4085	C	3'	5658	1.92*	3.30*	560	2.81*	-	-	-	<1	6700	-	-	-	-	-	-	UW, chl/sericite pl w/cp, gl, sp

Table A-2.--Selected sample results, Dall Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
65	4119	C	3.5'	819	4.92*	4622	189	832	2	-	-	16	120	-	-	-	-	-	-	OC, sheared gs w/sulf stringers
65	4120	S	0.5' x 2'	360	5.7	2509	200	2.47*	8	-	-	4	1300	-	-	-	-	-	-	OC, msv sulf pod in metaspilite
65	4121	S		6511	2.96*	4.96*	2113	9.44*	30	>2000	5	9	48	<20	69	133	16	<5	25	MD, cp, py, mal, magnetite
Lime Point (fig. 11, No. 46)																				
128	4081	C	4'	<5	<0.1	5	5	8	-	-	-	-	14.15*	-	-	-	-	-	-	UW, intercalated barite/limestone
128	4082	C	5'	<5	<0.1	4	<2	4	-	-	-	-	48.26*	-	-	-	-	-	-	UW, hi-grade barite
128	4083	SC	40' @ 1'	<5	<0.1	4	<2	3	-	-	-	-	55.12*	-	-	-	-	-	-	OC, msv barite
128	4111	SC	18' @ 0.5'	<5	<0.1	11	4	6	-	-	-	-	56.78*	-	-	-	-	-	-	OC, msv barite
128	4113	C	3.5'	<5	<0.1	5	3	9	-	-	-	-	12.88*	-	-	-	-	-	-	UW, interbedded barite/ls
Keete Inlet (fig. 11, No. 47)																				
98	4069	S	2'	291	7.1	17492	41	12462	-	-	-	15	760	-	-	-	-	-	-	MD, msv sulf w/py, cp to 60%
98	4075	C	2'	59	0.4	200	6	95	-	-	-	3	850	-	-	-	-	-	-	OC, qz sericite sc w/py to 45%
98	4076	C	4'	14	<0.1	183	8	210	-	-	-	6	580	-	-	-	-	-	-	OC, qz sericite sc w/py to 30%
98	4100	C	1.1'	1230	10.7	2891	69	766	-	-	-	15	<20	-	-	-	-	-	-	OC, msv sulf;py to 80%, cp
98	4101	C	3'	614	5.0	1522	54	924	-	-	-	9	140	-	-	-	-	-	-	OC, msv sulf ore zone, qz rich
Keete Inlet/Nutkwa Inlet (fig. 11, No. 48)																				
96	4110	C	1.7'	204	1.4	137	16	176	9	-	-	<1	370	-	-	-	-	-	-	Qz chl sc float w/2% py
100	4107	C	3'	31	1.1	1022	5	218	-	-	-	21	30	-	-	-	-	-	-	OC, metagraywacke w/mal staining
101	4108	S	1'	45	<0.1	117	16	86	3	23	44	29	262	<20	100	19	974	<5	15	Chl sc w/magnetite, py
103	4109	C	3.1'	163	0.6	187	16	295	-	-	-	4	330	-	-	-	-	-	-	Qz chl sc float w/5% py
105	4079	C	0.9'	<5	<0.1	33	4	22	-	-	-	14	<20	-	-	-	-	-	-	OC, qz vein in chl sc, trace py
105	4080	C	1.5'	<5	<0.1	6	6	14	-	-	-	2	<20	-	-	-	-	-	-	OC, qz vein w/1-3% py
115	4074	C	0.33'	<5	<0.1	34	4	23	-	-	-	4	40	-	-	-	-	-	-	OC, qz vein in shear, trace py
115	4104	S	0.33' x 3'	<5	0.2	9	<2	13	<1	<10	5	2	33	<20	263	<5	7	<5	<5	OC, qz vein in chl sc
117	4067	SC	30' @ 0.5'	<5	<0.1	27	5	30	-	-	-	18	310	-	-	-	-	-	-	OC, felsic metavolcanic, py to 8%
117	4068	S	0.5'	<5	<0.1	38	4	25	-	-	-	18	300	-	-	-	-	-	-	OC, felsic metavolcanic, py to 5%
118	4103	C	4'	<5	<0.1	24	6	106	-	-	-	5	120	-	-	-	-	-	-	OC, altered tuff/ar, py to 3%
120	4102	S	3'	6	0.3	79	6	108	-	-	-	23	190	-	-	-	-	-	-	Lithic tuff float
Nozer (fig. 11, No. 49)																				
129	4066	S	2.6'	44	0.3	222	7	190	-	-	-	13	21	-	-	-	-	-	-	OC, tan sericite sc, py to 4%
130	4065	C	2'	23	0.3	256	7	355	-	-	-	4	220	-	-	-	-	-	-	OC, qz chl sc w/py to 3%
133	4062	S	2'	302	1.6	987	14	7662	-	-	-	6	250	-	-	-	-	-	-	OC, gs br w/sulfide stringers
134	4063	SC	30' @ 1'	116	0.6	428	6	418	-	-	-	8	90	-	-	-	-	-	-	OC, gs br, tuffs, py to 3%
135	4064	C	4'	115	1.9	1546	19	5453	-	-	-	4	230	-	-	-	-	-	-	OC, chl sc, metatuffs, py to 3%
141	4105	S	1'	<5	2.6	23	52	1293	2	27	15	14	9	<20	71	22	20	<5	11	Qz rich felsic volcanic w/50% py
145	4077	C	3'	9	<0.1	18	6	29	-	-	-	13	140	-	-	-	-	-	-	OC, chl sc, tan sericite sc, 3% py
147	4106	Rep	4' x 3'	12	0.2	4	4	9	-	-	-	6	130	-	-	-	-	-	-	Qz mica schist float, py to 4%

Table A-2.--Selected sample results, Dall Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
148	4078	S	1' x 1'	336	1.3	104	9	65	-	-	-	79	410	-	-	-	-	-	-	Qz chl sc float w/ msv py
Friendship (fig. 11, No. 50)																				
23	4258	C	3.2'	0.180*	1.5	2.00*	<2	<1	2	<10	7	4	<20	-	123	9	-	<5	<5	TP, qz ca vein w/cp, py;in fault
23	4259	S	1'	0.153*	2.5	3.91*	<2	4	4	<10	5	4	<20	-	184	29	-	<5	<5	TP, qz ca vein w/cp, py;in fault
24	4276	C	3.6'	0.456*	1.7	13301	<2	1	6	<10	27	2	<20	-	199	15	-	<5	<5	OC, felsic sc w/qz veins, cp, mal
24	4277	C	2.1'	6654	0.7	4882	4	4	6	<10	5	2	<20	-	240	6	-	<5	<5	OC, qz vein, minor felsic sc, cp
25	4278	C	2.2'	505	0.5	1808	<2	6	5	<10	20	6	<20	-	329	<5	-	6	<5	OC, qz vein w/sulf clots in sc
25	4279	C	1'	142	0.8	11010	3	8	3	<10	12	7	<20	-	143	12	-	8	<5	OC, qz fissure vein w/in marble
25	4280	C	2.5'	2574	2.0	7704	4	15	4	<10	6	4	<20	-	147	8	-	7	<5	OC, qz ca vein in shear w/mal to 8%
Moonshine (fig. 11, No. 51)																				
53	4360	G		184	18.24*	46	74.66*	5317	-	<2.0	-	-	-	60	-	-	-	-	586.0	MD, qz ca vein w/galena to 50%
53	4362	S		143	16.35*	1463	74.74*	3.51*	-	<2.0	-	-	-	60	-	-	-	-	568.0	TP, galena ore w/cp, sl in pit
53	4363	C	4'	<5	1.8	61	1796	230	-	<2.0	-	-	-	7	-	-	-	-	4.8	TP, fault brec marble w/qz, ca
53	4364	C	4'	373	1.72*	943	6.76*	13.60*	-	<2.0	-	-	-	28	-	-	-	-	74.5	TP, gl, sl ore in pit
53	4371	C	4'	300	18.0	813	3.58*	3.32*	-	<2.0	-	-	-	16	-	-	-	-	27.6	TP, qz ca vein in marble, gl, py
53	4372	S		471	9.63*	2212	30.25*	19.92*	-	<2.0	-	-	-	40	-	-	-	-	419.0	TP, gossanous ca qz vein w/gl
53	4373	S		68	136.16*	2.29*	54.95*	6645	-	<180.0	-	-	-	30	-	-	-	-	>5000.0	TP, hi-grade galena float
54	4343	C	4'	<5	<0.1	19	90	82	-	<2.0	-	-	-	<5	-	-	-	-	0.4	UW, qz ca vein w/host partings
54	4344	C	7'	<5	<0.1	34	25	43	-	<2.0	-	-	-	<5	-	-	-	-	0.5	UW, qz ca shear vein w/partings
54	4345	C	3'	<5	0.2	19	165	56	-	<2.0	-	-	-	<5	-	-	-	-	<0.2	UW, qz chl sc w/concordant qz veins
54	4358	C	3'	<5	0.3	37	194	91	-	<2.0	-	-	-	<5	-	-	-	-	<0.2	UW, retrograde chl sc w/garnet
54	4359	C	3.2'	<5	<0.1	18	46	58	-	<2.0	-	-	-	<5	-	-	-	-	<0.2	UW, talcose chl sc w/qz boudins
54	4361	Rep	5'	<5	1.4	10	1580	76	-	<2.0	-	-	-	<5	-	-	-	-	1.0	UW, sheared chl sc w/qz veinlets
Hope-Cholmondeley (fig. 11, No. 52)																				
57	4374	C	4'	6	10.9	1592	2733	18952	-	<2.0	-	-	-	<5	-	-	-	-	47.6	TP, ca ankerite vein w/gl, cp, sl
57	4375	C	3.6'	6	5.8	245	5160	11600	-	<2.0	-	-	-	<5	-	-	-	-	10.0	OC, qz ca vein w/cp, gl, sl, py
58	4365	S		185	28.8	675	10.84*	14.38*	-	<2.0	-	-	-	36	-	-	-	-	16.0	MD, fest qz/ca vein w/gl clots
58	4366	Rep	0.9' x 0.9'	261	4.21*	120	24.49*	28.23*	-	<2.0	-	-	-	<5	-	-	-	-	137.0	TP, gl, sl in carbonate vein
59	4367	Rep	2' x 3'	63	31.7	533	4.75*	10.41*	-	<2.0	-	-	-	26	-	-	-	-	28.0	TP, qz w/gl, sl along trench wall
59	4376	C	3'	141	4.16*	1089	8.71*	17.53*	-	10.0	-	-	-	36	-	-	-	-	335.0	UW, gl in marble
Mud Bay																				
81	4112	Rep	1.4'	<5	0.5	11	18	43	8	12	4	3	2400	-	75	<5	-	8	<5	OC, qz vein w/py, gl

Table A-2.--Selected sample results, Dall Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Sn	Cr	Bi	V	As	Sb	Sample description
											Simmons Point									
35	4090	C	5'	<5	<0.1	21	<2	25	3	-	-	5	270	-	-	-	-	-	-	OC, qz sericite sc w/5-25% py

Table A-3.--Selected sample results, Southern Prince of Wales Island subarea

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
Equator (fig. 14, No. 1)																				
2	5203	C	3'	19	<0.1	1742	3	11	-	-	-	-	-	-	-	-	-	-	-	marble breccia w/some qz
2	5204	CC	.6'	122	1.6	18779	4	11	-	<2.0	-	-	-	-	-	-	-	-	-	brecciated qz-calcite vein
2	5205	C	1.8'	51	0.4	4324	3	11	-	-	-	-	-	-	-	-	-	-	-	brecciated marble vein
2	5206	C	3.4'	57	0.9	7283	4	9	-	<2.0	-	-	-	-	-	-	-	-	-	qz marble breccia
2	5207	C	4'	59	0.9	6833	3	9	-	<2.0	-	-	-	-	-	-	-	-	-	banded and brecciated qz/marble
2	5680	C	4.5'	26	1.1	13888	5	35	-	-	-	-	-	-	-	-	-	-	-	marble with qz stringers
2	5681	C	5'	79	1.4	16128	3	14	-	-	-	-	-	-	-	-	-	-	-	marble with qz vein and stringers
2	5682	C	1.5'	190	1.3	2.05*	4	9	-	-	-	-	-	-	-	-	-	-	-	qz vein in marble
2	5683	C	4.7'	20	0.6	10641	4	43	-	-	-	-	-	-	-	-	-	-	-	breccia, silicified w/qz clasts
Dolomi area (fig. 14, No. 2)																				
1	5011	S		8	<0.1	30	6	17	-	-	-	-	-	-	-	2.9	40	22.0	2.1	syenite, red-pink
1	5202	S		<5	<0.1	23	4	11	-	-	-	-	-	-	-	-	-	-	-	syenite
3	5010	Rep	.2'	11	<0.1	39	7	37	-	-	-	-	-	-	-	2.1	11	3.8	1.2	fairly coarse-grained diorite
3	5506	S		10	<0.1	-	-	-	-	-	-	-	-	-	-	4.1	30	16.0	1.8	veins of felsic intrusive
4	5049	Rep	1'	<5	<0.1	7	5	8	-	-	-	-	-	-	-	-	-	-	-	marble w/ limonite stain
5	5050	Rep	.3'	<5	<0.1	7	5	7	-	-	-	-	-	-	-	-	-	-	-	qz stringers in marble
6	5051	Rep		75	0.5	37	13	18	-	-	-	-	-	-	-	-	-	-	-	silicate gossan
6	5052	C	3'	<5	<0.1	91	6	41	-	-	-	-	-	-	-	-	-	-	-	Fe-stained band in limestone
7	5055	G		7	<0.1	19	3	14	-	-	-	-	-	-	-	-	-	-	-	qz calc vein w/ marble qz breccia
8	5053	Rep	2'	<5	<0.1	3	5	10	-	-	-	-	-	-	-	-	-	-	-	Fe-stained marble w/ qz
10	5054	CC	.7'	28	0.7	98	221	3150	-	-	-	-	-	-	-	-	-	-	-	qz vein
15	5546	C		63	<0.1	147	3	82	-	-	-	-	-	-	-	-	-	-	-	qz, marble, schist
18	5547	S		40	<0.1	56	5	61	-	-	-	-	-	-	-	-	-	-	-	qz veins + limonite
23	5037	Rep	.5'	257	0.5	75	6	18	-	-	-	7	-	-	-	-	-	-	-	qz vein w/ py
23	5038	S		6243	2.9	102	38	22	-	-	-	-	-	-	-	-	-	-	-	greenstone w/ bands of py(some cp)
24	5039	G		23	0.4	264	12	43	-	-	-	-	-	-	-	-	-	-	-	silicified greenstone
24	5040	G		1686	1.4	171	23	61	-	-	-	37	-	-	-	-	-	-	-	gossan
24	5041	G		15	0.3	351	14	71	-	2.1	-	-	-	-	-	-	-	-	-	banded grnstone marble
24	5536	S		18	0.6	285	14	49	-	-	-	-	-	-	-	-	-	-	-	massive sulfides, marble
25	5056	CC	2.7'	6	<0.1	7	6	88	-	-	-	-	-	-	-	-	-	-	-	qz vein w/ chl schist along shears
25	5550	C	2.1'	14	<0.1	18	4	40	-	-	-	-	-	-	-	-	-	-	-	qz vein & greenstone
25	5551	Rep		31	<0.1	22	9	38	-	-	-	-	-	-	-	-	-	-	-	qz vein
26	5057	C	1.2'	<5	<0.1	66	6	28	-	-	-	-	-	-	-	-	-	-	-	calc schist, chl schist, marble
26	5552	S		7	<0.1	133	25	81	-	-	-	-	-	-	-	-	-	-	-	chl schist, greenstone
47	5181	S	.5'	72	<0.1	50	11	116	-	<2.0	-	-	-	-	-	-	-	-	-	calcareous grn bands,sericite,qz,mg
54	5046	C	2.5'	7	<0.1	82	7	77	-	-	-	-	-	-	-	-	-	-	-	qz vein w/ bands containing py bleb
55	5541	S		<5	<0.1	22	4	59	-	5.6	-	-	-	-	-	-	-	-	-	greenstone/chl schist
Roy Creek (fig. 14, No. 3)																				
13	5542	C	.6'	4.506*	11.5	2.24*	10	10	-	-	-	-	-	-	-	-	-	-	-	qz-chl schist
13	5543	Rep	0.17'	1.379*	17.6	4.86*	12	7	-	-	-	-	-	-	-	-	-	-	-	mineralized qz vein
14	5544	C	3.7'	694	0.2	242	3	44	-	-	-	-	-	-	-	-	-	-	-	qz + schist
14	5545	S		148	<0.1	255	6	51	-	-	-	-	-	-	-	-	-	-	-	qz/calc vein in schist
7-Mile Gold (fig. 14, No. 4)																				
16	5001	S		0.784*	14.5	10048	10	20	4	-	-	139	-	7	<1	2.1	<5	1.1	<0.5	py- & cp-rich qz-calc breccia

Table A-3.--Selected sample results, Southern Prince of Wales Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
16	5002	C	8'	141	<0.1	75	8	22	-	-	-	-	-	-	-	-	-	-	-	banded marble, calc along fractures
16	5003	C	6.5'	248	<0.1	170	6	24	-	-	-	-	-	-	-	-	-	-	-	banded gray marble w/calc in fractures
16	5004	C	6'	193	<0.1	15	6	34	-	-	-	-	-	-	-	-	-	-	-	marble+ qz/calc in fractures
16	5005	C		566	0.5	182	6	27	-	-	-	-	-	-	-	-	-	-	-	marble
16	5006	C	7'	105	<0.1	76	6	29	-	-	-	-	-	-	-	-	-	-	-	marble
16	5007	Rep	2'	480	0.3	47	5	100	-	-	-	-	-	-	-	-	-	-	-	greenstone schist w/py
16	5008	C	5'	336	<0.1	11	7	28	-	-	-	-	-	-	-	-	-	-	-	marble w/ qz & ca along fractures
16	5009	S	.3'	260	0.3	6291	4	23	-	-	-	-	-	-	-	-	-	-	-	qz lens in tan marble
16	5501	S		0.388*	5.5	2.18*	8	21	-	-	-	-	-	-	-	-	-	-	-	py- & cp-rich qz & ca br
16	5502	C	6'	44	<0.1	134	6	26	-	-	-	-	-	-	-	-	-	-	-	limestone/dolomite
16	5503	C	7'	165	<0.1	154	7	25	-	-	-	-	-	-	-	-	-	-	-	limestone/dolomite
16	5504	SC	9' @ 1'	18	<0.1	20	8	61	-	-	-	-	-	-	-	-	-	-	-	chlorite schist
16	5505	SC	10' @ .33'	113	<0.1	17	5	27	-	-	-	-	-	-	-	-	-	-	-	marble (limestone/dolomite)
17	5047	Rep	2'	<5	<0.1	12	7	26	-	-	-	-	-	-	-	-	-	-	-	mrbl and brn dol w/sml lenses of qz
17	5048	CC	.05'	<5	<0.1	12	3	68	-	-	-	-	-	-	-	-	-	-	-	qz-greenstone vein
Kael Pit (fig. 14, No. 5)																				
19	5192	C	8'	334	0.2	92	4	43	-	<2.0	-	-	-	-	-	-	-	-	-	qz marble br w/ sulf
19	5193	C	9.5'	163	<0.1	63	5	41	-	<2.0	-	-	-	-	-	-	-	-	-	qz marble br w/ sparse py
19	5194	C	8.3'	1550	0.7	2018	4	73	-	<2.0	-	-	-	-	-	-	-	-	-	qz marble br w/ clots of py&cp
19	5195	C	5.1'	188	<0.1	155	4	66	-	-	-	-	-	-	-	-	-	-	-	qz marble br w/ clots of py
19	5196	S		0.360*	3.3	4809	7	43	-	-	-	-	-	-	-	-	-	-	-	select of massive py
19	5201	C	7'	13	<0.1	23	4	78	-	-	-	-	-	-	-	-	-	-	-	qtz marble breccia
19	5658	C	5.2'	1938	0.4	864	7	61	-	<2.0	-	-	-	-	-	-	-	-	-	br qz marble w/ sulfides
19	5659	C	6' @ .3'	60	<0.1	82	4	45	-	<2.0	-	-	-	-	-	-	-	-	-	interlayered marble and gs sc
19	5660	C	1.2'	110	0.3	2860	5	58	-	<2.0	-	-	-	-	-	-	-	-	-	br qz marble w/ sulfides
19	5661	C	7.4'	1468	0.2	111	4	43	-	-	-	-	-	-	-	-	-	-	-	brecciated qz-marble w/ sulfides
Croesus (fig. 14, No. 6)																				
30	5170	CC	1.5'	4510	2.1	23	16	44	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein w/ sericite
30	5171	CC	.65'	1211	0.7	22	16	66	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein
30	5172	CC	1'	6500	1.7	12	18	14	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein
30	5173	C	3'	121	0.2	52	9	53	-	<2.0	-	-	-	-	-	-	-	-	-	qz-calc vein w/ limonite along shr
30	5174	CC	.8'	6038	2.1	31	30	33	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein w/ limonite
30	5636	C	1.4'	34	0.9	373	22	167	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein + schist
30	5637	S		9	0.2	188	<2	10	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein
30	5638	S		0.624*	12.9	104	33	65	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein,
32	5175	C	2.5'	7992	5.0	41	37	75	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein w/vugs&xtls,marble on fw
32	5176	C	1.3'	0.548*	7.3	40	42	128	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein
32	5177	Rep	1.2'	7793	7.7	55	52	77	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein
32	5178	CH	.2'	6596	8.3	32	20	51	-	3.3	-	-	-	-	-	-	-	-	-	brecciated qz vein w/ fault gouge
32	5179	CC	.2'	1021	1.5	22	8	16	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein
32	5180	CC	.3'	4040	3.0	9	13	18	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein
32	5639	C	2.7'	4350	3.9	39	26	54	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein + marble, schist
32	5640	C	5.2'	0.636*	9.6	187	35	70	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein + impurities
32	5641	C	1.4'	0.430*	7.8	43	61	185	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein + schist
33	5642	C	.9'	0.302*	8.4	45	54	105	-	3.1	-	-	-	-	-	-	-	-	-	qz vein + sulfides, argillite
33	5643	Rep		1970	6.4	73	54	181	-	<2.0	-	-	-	-	-	-	-	-	-	calcareous-schist-qz breccia
33	5644	G		1210	5.2	35	18	82	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein breccia

Table A-3.--Selected sample results, Southern Prince of Wales Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
Croesus trench (fig. 14, No. 6)																				
37	5645	G		6190	2.2	59	9	15	-	<2.0	-	-	-	-	-	-	-	-	-	
37	5646	Rep	.8'	0.503*	7.6	76	30	40	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein + limonite + sulf
San Juan (fig. 14, No. 7)																				
39	5187	Rep	1.5'	<5	0.2	6	6	4	-	<2.0	-	-	-	-	-	-	-	-	-	MD, qz vein
39	5653	G		6680	7.8	10	29	32	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein, limonite, marble
39	5654	C	2.1'	31	0.7	8	13	14	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein + sulfides
42	5182	C	3.2'	397	3.6	8	11	24	-	3.6	-	-	-	-	-	-	-	-	-	qz,schist,carbonate,shear zone brec
43	5183	CC	2.2'	467	2.3	8	12	18	-	<2.0	-	-	-	-	-	-	-	-	-	qz
43	5184	CC	3.3'	16	0.3	15	3	34	-	<2.0	-	-	-	-	-	-	-	-	-	brown calcareous schist w/mrbl bands
43	5185	CC	1.2'	17	0.8	5	8	12	-	<2.0	-	-	-	-	-	-	-	-	-	brecciated qz calcite vein
43	5186	CC	.7'	92	1.4	9	11	13	-	<2.0	-	-	-	-	-	-	-	-	-	qz-calc vein w/ fault gouge
43	5647	CH	.7' x .3'	146	2.1	115	8	93	-	5.5	-	-	-	-	-	-	-	-	-	fault gouge
43	5648	C	2.2'	860	15.7	15	33	12	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein + sulfides
43	5649	C	2.2'	228	2.9	7	13	46	-	<2.0	-	-	-	-	-	-	-	-	-	marble w/ sulfides
43	5650	C	.8'	246	4.6	9	13	15	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein + sulfides,marble
43	5651	C	2.3'	57	0.7	4	5	18	-	<2.0	-	-	-	-	-	-	-	-	-	marble w/ minor sulfides and schist
43	5652	G		17	0.8	11	6	44	-	<2.0	-	-	-	-	-	-	-	-	-	fault gouge, limonite, schist,marble
Golden Fleece (fig. 14, No. 8)																				
35	5012	SC	4'	250	1.1	14	7	13	3	-	-	-	-	6	<1	<1.0	8	4.4	0.5	marble in hanging wall
35	5013	C	.5'	0.732*	1.84*	489	74	63	-	-	-	-	-	-	-	-	-	-	-	qz(.04ft)+blu mrble above & below
35	5014	C	3'	1.585*	2.39*	189	71	120	-	-	-	-	-	-	-	-	-	-	-	qz/calc vein w/ py & ml stain
35	5015	C	1.8'	0.550*	3.82*	359	148	128	-	-	-	-	-	-	-	-	-	-	-	marble qz breccia w/ ml stain
35	5016	C	3.25'	954	5.2	19	6	16	-	-	-	-	-	-	-	-	-	-	-	marble-qz breccia
35	5017	CH	.3'	460	5.7	40	48	11	-	-	-	-	-	-	-	-	-	-	-	qz vein
35	5018	Rep	3'	1253	2.9	38	10	21	-	-	-	-	-	-	-	-	-	-	-	wht marble + qz-cemented mrbl brec.
35	5019	Rep	.8'	2493	2.89*	507	34	118	-	-	-	-	-	-	-	-	-	-	-	qz w/ ml stain & qz-marble breccia
35	5508	C	1.3'	312	37.3	262	50	26	-	-	-	-	-	-	-	-	-	-	-	qz marble breccia
35	5509	C	2.5'	499	30.9	159	20	44	-	-	-	-	-	-	-	-	-	-	-	marble w/ qz, Fe-stained veins
35	5510	C	1.7'	269	26.7	181	7	47	-	-	-	-	-	-	-	-	-	-	-	marble, qz
35	5511	C	2.6'	3509	17.0	58	17	99	-	-	-	-	-	-	-	-	-	-	-	qz-marble breccia
35	5512			19	0.5	244	4	78	-	-	-	-	-	-	-	-	-	-	-	chlorite schist
35	5513	C	2.5'	228	24.3	116	7	43	-	-	-	-	-	-	-	-	-	-	-	qz-marble breccia
35	5514	C	2'	231	15.3	66	62	13	-	-	-	-	-	-	-	-	-	-	-	qz vein + marble
35	5515	C	3.2'	328	1.92*	377	159	86	-	-	-	-	-	-	-	-	-	-	-	qz-marble breccia
Alpha (fig. 14, No. 9)																				
40	5042	C	4'	<5	<0.1	28	8	33	-	<2.0	-	-	-	-	-	-	-	-	-	qz, marble
40	5043	CC	.7'	6	0.6	365	6	36	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein w/ ml blebs
40	5044	C	1.2'	<5	<0.1	18	5	38	-	<2.0	-	-	-	-	-	-	-	-	-	qz, marble
40	5045	S	.6'	24	5.2	18000	8	43	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein w/ cp&py blebs&ml stain
41	5537	Rep	.8'	<5	2.1	5100	3	39	-	-	-	-	-	-	-	-	-	-	-	qz vein
41	5538			62	0.2	531	<2	3	-	-	-	-	-	-	-	-	-	-	-	qz +- marble
41	5539	S		<5	0.8	2585	3	2	-	-	-	-	-	-	-	-	-	-	-	qz +- marble

Table A-3.--Selected sample results, Southern Prince of Wales Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
									Valparaiso (fig. 14, No. 10)											
46	5023	CC	4'	1730	3.3	46	2581	604	-	-	-	-	-	-	-	-	-	-	-	qz marble breccia
46	5024	CC	4.5'	3516	5.9	38	82	80	-	-	-	-	-	-	-	-	-	-	-	qz marble breccia
46	5025	CC	4.5'	268	1.3	15	80	48	-	-	-	-	-	-	-	-	-	-	-	qz-marble breccia
46	5026	CC	1.2'	2.115*	1.44*	129	192	85	<1	-	-	-	-	5	<1	<1.0	<5	<0.5	<0.5	qz vein + minor breccia
46	5208	C	7'	1089	2.6	51	77	214	-	-	-	-	-	-	-	-	-	-	-	qz - calcite vein
46	5209	CC	7'	2198	0.9	37	10	53	-	-	-	-	-	-	-	-	-	-	-	qz calcite stringers and marble
46	5210	C	4'	166	1.9	18	91	238	-	-	-	-	-	-	-	-	-	-	-	Qz and black marble
46	5211	C	3.3'	133	<0.1	15	18	130	-	-	-	-	-	-	-	-	-	-	-	
46	5212	C	5.5'	1952	0.4	10	21	489	-	-	-	-	-	-	-	-	-	-	-	Carbonate w/tan qz carbonate clast
46	5213	C	2.6'	538	0.5	15	50	1041	-	-	-	-	-	-	-	-	-	-	-	grey marble w/qz calcite stringers
46	5214	C	3.5'	1361	1.8	13	70	110	-	-	-	-	-	-	-	-	-	-	-	qz-marble vein
46	5215	CC	3'	0.847*	7.7	50	25	375	-	-	-	-	-	-	-	-	-	-	-	qz-carbonate vein
46	5216	C	3'	469	5.0	32	11	88	-	-	-	-	-	-	-	-	-	-	-	qz marble w/graphitic schist zone
46	5217	C	3.5'	819	13.7	60	40	117	-	-	-	-	-	-	-	-	-	-	-	Qz vein w/local marble breccia
46	5218	C	5'	462	1.0	12	12	47	-	-	-	-	-	-	-	-	-	-	-	qz-marble breccia
46	5219	C	3.5'	669	0.2	10	6	34	-	-	-	-	-	-	-	-	-	-	-	Qz-carbonate vein
46	5220	C	4'	1914	0.7	17	18	52	-	-	-	-	-	-	-	-	-	-	-	qz-marble vein w/local brecciation
46	5221	C	3.5'	656	1.0	22	32	123	-	<2.0	-	-	-	-	-	-	-	-	-	Carbonate and grey marble
46	5222	CC	3'	3.550*	1.90*	221	322	162	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein
46	5518	C	2'	552	1.6	11	94	151	-	-	-	-	-	-	-	-	-	-	-	qz vein w/ marble breccia
46	5519	C	2.6'	6231	2.1	10	297	73	-	-	-	-	-	-	-	-	-	-	-	qz, marble
46	5520	C	2.3'	224	2.1	4	252	46	-	-	-	-	-	-	-	-	-	-	-	qz, marble breccia
46	5521	C	2.3'	1.579*	22.8	<0.01*	138	99	-	-	-	-	-	-	-	-	-	-	-	qz vein + marble breccia
46	5684	CC	5 '	4968	1.2	62	34	44	-	-	-	-	-	-	-	-	-	-	-	qz vein w/increasing CaCo3 in fw
46	5685	CC	4.5'	2150	1.2	59	24	105	-	-	-	-	-	-	-	-	-	-	-	qz vein and quartzite
46	5686	CC	4'	0.744*	4.7	23	99	97	-	-	-	-	-	-	-	-	-	-	-	brecciated qz vein w/marble clasts
46	5687	C	6.5'	8895	29.7	96	450	408	-	-	-	-	-	-	-	-	-	-	-	qz vein and qz breccia
46	5688	C	5'	9600	13.1	70	186	58	-	-	-	-	-	-	-	-	-	-	-	brecciated qz vein
46	5689	CH	3.5'	2129	1.7	16	8	37	-	-	-	-	-	-	-	-	-	-	-	qz vein, slightly brecciated
46	5690	C	3.5'	794	12.9	105	123	182	-	-	-	-	-	-	-	-	-	-	-	qz vein
46	5691	C	6'	680	<0.1	7	7	30	-	-	-	-	-	-	-	-	-	-	-	marble w/local graphitic zones
46	5692	C	4'	324	<0.1	10	12	34	-	-	-	-	-	-	-	-	-	-	-	marble w/1.0' carbonate vein, hw
46	5693	C	1.2' x .5'	4.660*	6.18*	1139	702	376	-	-	-	-	-	-	-	-	-	-	-	qz-carbonate, slightly br
46	5694	C	2.2'	1914	1.2	17	14	45	-	-	-	-	-	-	-	-	-	-	-	carbonate vein
									Paul Lake (fig. 14, No. 11)											
49	5021	C	3'	0.373*	3.8	16	147	61	-	-	-	-	-	-	-	-	-	-	-	banded br qz-marble vein
49	5022	C	3'	4410	4.7	54	96	133	-	-	-	-	-	-	-	-	-	-	-	banded, br qz-marble vein
49	5027	CC	1.8'	1.105*	1.84*	297	342	181	-	-	-	-	-	-	-	-	-	-	-	qz-marble breccia w/ ml
49	5028	CC	1.75'	1305	1.1	15	20	69	<1	-	-	-	-	<5	<1	<1.0	<5	1.3	<0.5	qz-marble breccia
49	5516	C	2.7'	0.598*	0.84*	83	66	49	-	-	-	-	-	-	-	-	-	-	-	qz vein + schist
49	5517	C	1.8'	5283	14.0	35	168	311	-	-	-	-	-	-	-	-	-	-	-	marble & qz vein
49	5522	C	1.6'	5689	18.1	310	87	290	-	-	-	-	-	-	-	-	-	-	-	qz vein + marble
49	5523	C	4'	1207	1.0	157	274	935	-	-	-	-	-	-	-	-	-	-	-	qz-marble breccia + marble
49	5524	C	3'	9852	8.9	130	81	136	-	-	-	-	-	-	-	-	-	-	-	qz vein + marble breccia
49	5525	C	.6'	3470	1.1	56	145	136	-	-	-	-	-	-	-	-	-	-	-	qz vein
									Moonshine (fig. 14, No. 12)											
48	5034	C	4.3'	60	2.4	13	41	24	-	-	-	-	-	-	-	-	-	-	-	qz vein and stringer zone

Table A-3.--Selected sample results, Southern Prince of Wales Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
48	5036	CC	.7'	63.195*	12.61*	74	8	34	-	-	-	-	-	-	-	-	-	-	-	qz vein
48	5188	CH	.7'	6504	8.1	68	10	38	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein w/ py cubes along fracture
48	5189	C	1'	4.048*	36.7	35	7	15	-	2.1	-	-	-	-	-	-	-	-	-	qz vein w/ py cubes along fractures
48	5190	CC	3.2'	68	4.0	11	<2	<1	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein,vuggy in places w/ crystals
48	5191	CC	4'	199	3.6	26	10	23	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein w/ crystals, vugs,sc fragments
48	5531	C	1.5'	637	6.4	70	40	211	-	-	-	-	-	-	-	-	-	-	-	fault gouge
48	5532	C	.5'	4400	1.1	10	17	11	-	-	-	-	-	-	-	-	-	-	-	qz vein, schist
48	5533	C	.9'	307	1.7	11	16	22	-	-	-	-	-	-	-	-	-	-	-	schist w/ qz lenses
48	5534	C	1.7'	166	22.1	195	21	410	-	-	-	-	-	-	-	-	-	-	-	qz, schist
48	5535	C	1'	170	5.2	33	9	13	-	-	-	-	-	-	-	-	-	-	-	qz
48	5655	C	.8'	0.723*	41.3	148	9	54	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein + schist
48	5656	C	3.8'	396	2.3	19	<2	9	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein + schist
48	5657	C	3.3'	108	3.7	20	<2	7	-	<2.0	-	-	-	-	-	-	-	-	-	qz vein + graphitic schist
								Amazon (fig. 14, No. 13)												
52	5031	G		0.272*	3.2	49	18	44	-	-	-	-	-	-	-	-	-	-	-	qz vein
52	5032	C	2.5'	4455	1.3	21	3	13	-	-	-	-	-	-	-	-	-	-	-	qz vein, massive
52	5530	C	2'	4902	2.9	36	10	43	-	-	-	-	-	-	-	-	-	-	-	qz vein
								Boston (fig. 14, No. 14)												
50	5540	C	2.2'	4789	1.7	14	196	41	-	-	-	-	-	-	-	-	-	-	-	qz, marble
53	5033	O	3'	420	3.94*	636	61	179	-	-	-	-	-	-	-	-	-	-	-	qz vein
								Jumbo (fig. 14, No. 15)												
51	5029	CC	3.5'	2673	2.3	44	112	41	-	-	-	-	-	-	-	-	-	-	-	br qz vein w/some marble br
51	5030	SC	51'	1515	5.1	83	19	28	-	-	-	-	-	-	-	-	-	-	-	qz & grey marble br
51	5526	C	1'	301	3.4	108	6	20	-	-	-	-	-	-	-	-	-	-	-	qz + schist clasts
51	5527	C	.3'	352	10.7	201	9	63	-	-	-	-	-	-	-	-	-	-	-	qz, schist
51	5528	C	.7'	80	0.4	8	4	17	-	-	-	-	-	-	-	-	-	-	-	qz, marble, schist
51	5529	C	4.3'	907	2.0	42	29	57	-	-	-	-	-	-	-	-	-	-	-	qz, marble
								Stockton Quartz (fig. 14, No. 16)												
57	5548	Rep		26	0.2	72	6	22	-	-	-	-	-	-	-	-	-	-	-	qz and some greenstone
57	5549	S		9	<0.1	84	6	145	-	-	-	-	-	-	-	-	-	-	-	greenstone & qz
								Moss Point (fig. 14, No. 17)												
61	5076	SC	8' @ .5'	<5	<0.1	19	3	23	-	-	-	-	210	-	-	-	-	-	-	qz-sericite schist w/fest
61	5077	SC	8' @ .5'	<5	<0.1	20	5	9	-	-	-	-	200	-	-	-	-	-	-	Fest qz sericite sc w/sulf
61	5078	C	.3'	44	<0.1	38	4	5	-	-	-	-	110	-	-	-	-	-	-	py lens
61	5563	SC	19.7' @ 1'	<5	<0.1	33	5	30	-	-	-	-	280	-	-	-	-	-	-	chl-sericite schist
61	5564	S		71	0.3	88	6	10	-	-	-	-	160	-	-	-	-	-	-	massive py lens in gs sc
61	5565	O		165	0.5	529	8	98	-	-	-	-	150	-	-	-	-	-	-	stream sediment
62	5080	O		50	<0.1	94	8	75	-	-	-	-	150	-	-	-	-	-	-	stream sediment
63	5079	SC	19'	6	<0.1	78	<2	33	-	-	-	-	150	-	-	-	-	-	-	qz-sericite schist w/ Fest
63	5566	CC	7.1' x .5'	144	<0.1	110	5	24	-	-	-	-	240	-	-	-	-	-	-	altered felsic volcanics
								South Arm and Dora Bay (fig. 14, No. 18)												
9	5074	Rep	4'	<5	<0.1	8	<2	12	6	-	-	-	-	-	-	-	-	-	-	milky white qz vein
11	5073	S	.5'	<5	<0.1	56	7	20	8	-	-	-	-	-	-	-	-	-	-	qz-calc stringers in meta-volc,-sed
12	5072	S	.2'	<5	<0.1	67	4	62	8	-	-	-	-	-	-	-	-	-	-	Fest qz-calc veins in gs
22	5071	G		<5	1.0	36	36	66	7	-	-	-	-	-	-	-	-	-	-	graphitic schist w/ pyrite band

Table A-3.--Selected sample results, Southern Prince of Wales Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
Borrow pits (fig. 14, No. 19)																				
20	5561	C	2.2'	20	0.5	25	93	227	-	-	-	-	-	-	-	27.0	1000	494.0	62.0	pegmatite dike/vein
21	5075	Rep	.2'	<5	<0.1	8	16	338	5	-	-	-	-	-	-	24.9	549	318.0	31.2	qz-albite-riebeckite (vein-dike)
21	5562	Rep		<5	0.2	11	153	645	-	-	-	-	-	-	-	34.0	284	193.0	38.8	pegmatite vein-dike
Dora Lake Narrows (fig. 14, No. 20)																				
27	5068	C	3'	13	<0.1	8	242	1041	-	-	-	-	-	-	-	55.0	1200	640.0	100.0	Pegmatite dike w/ REE
28	5069	C	.6'	13	<0.1	7	274	1041	-	-	-	-	-	-	-	19.0	2500	1200.0	250.0	REE pegmatite dike w/ qz,& long crystal
28	5558	C	.5'	47	<0.1	8	102	144	-	-	-	-	-	-	-	23.0	2100	940.0	260.0	REE dike, greenstone
29	5070	C	1.4'	<5	<0.1	5	77	484	-	-	-	-	-	-	-	22.0	540	300.0	110.0	REE dike w/ qz,. felds, bladed minerals
29	5559	CC	.4'	34	<0.1	5	71	162	-	-	-	-	-	-	-	14.0	320	150.0	140.0	REE dike
29	5560	C	.9'	9	<0.1	5	46	143	-	-	-	-	-	-	-	13.0	140	62.0	150.0	REE dike
Borrow pit (fig. 14, No. 21)																				
31	5145	S	.1'	6797	23.5	185	3210	8.87*	-	-	-	-	-	-	-	-	-	-	-	qz,calc,sl,py,gn zone
31	5146	Rep		1065	4.0	127	268	4311	-	-	-	-	-	-	-	-	-	-	-	br qz-calc w/ metased frags
31	5607	C	7.2'	1500	3.3	143	1508	5777	-	-	-	-	-	-	-	-	-	-	-	qz-calc segregation in gs sc
31	5608	C	3.3'	2928	5.2	114	515	12000	-	-	-	-	-	-	-	-	-	-	-	qz-calc "vein" in gs
North Lucky Boy (fig. 14, No. 22)																				
34	5557	Rep		0.331*	7.4	134	9690	942	-	-	-	-	-	-	-	-	-	-	-	qz vein, sulfides
36	5065	S		551	12.8	434	9060	2.44*	-	-	-	-	-	-	-	-	-	-	-	qz carbonate vein w/ sl,gn,py
38	5066	Rep	15'	2065	3.7	190	4316	13510	-	-	-	-	-	-	-	-	-	-	-	qz-calc lens w/ sulfides
38	5067	S	.3'	5484	27.6	1190	4.89*	21.74*	-	-	-	-	-	-	-	-	-	-	-	qz calc vein material w/ sulfides
Lucky Boy (fig. 14, No. 23)																				
44	5058	S		5147	1.37*	5304	10957	27.65*	-	<2.0	-	-	-	-	-	<1.0	5	1.2	2.2	qz carbonate vein w/ sl, gn, cp
44	5059	C	2.2'	2012	40.8	5516	7742	10.28*	-	<2.0	-	-	-	-	-	<1.0	12	4.5	1.3	qz-calc gs br w/sl,gn,cp
44	5060	C	2.6'	6017	23.7	3141	5194	14.19*	-	-	-	-	-	-	-	-	-	-	-	qz-calc gs br w/sl,gn,cp
44	5061	C	2.5'	125	2.7	553	755	5087	-	-	-	-	-	-	-	-	-	-	-	qz-calc gs br w/ sl,gn,cp
44	5062	C	1.5'	283	4.6	470	3347	8550	-	-	-	-	-	-	-	-	-	-	-	qz-calc gs br w/ sl,gn,cp
44	5063	C	3.5'	102	0.6	112	87	2218	-	-	-	-	-	-	-	-	-	-	-	mostly gs w/ qz & br
44	5064	C	2.3'	84	0.9	125	406	1840	-	-	-	-	-	-	-	-	-	-	-	qz, sulfides,qz-gs schist
44	5553	C	.8'	5963	22.5	3715	4694	20.35*	-	-	-	-	-	-	-	-	-	-	-	qz vein, sulfides
44	5554	C	1'	1588	23.1	3157	7015	13.96*	-	-	-	-	-	-	-	-	-	-	-	qz & marble vein w/ sulf
44	5555	Rep		56	0.7	175	515	2720	-	-	-	-	-	-	-	-	-	-	-	qz veins
44	5556	C	3.1'	2798	38.8	11762	7482	8.92*	-	-	-	-	-	-	-	-	-	-	-	qz-marble vein w/ sulfides
Borrow pit (fig. 14, No. 24)																				
45	5142	S		32	0.3	304	17	59	-	-	-	-	-	-	-	-	-	-	-	qz-sericite schist w/ py
45	5143	S	.1'	11	0.2	77	14	75	-	-	-	-	-	-	-	-	-	-	-	qz vein in qz-sericite sc
45	5144	S	.1'	498	4.0	422	23	21	-	-	-	-	-	-	-	-	-	-	-	py,limonite,sericite-chl schist
45	5606	S		6	<0.1	39	13	98	-	-	-	-	-	-	-	-	-	-	-	gs schist, qz, calc
Cymru (fig. 14, No. 25)																				
56	5152	C	1.9'	54	45.9	3.00*	15	84	-	-	-	-	-	-	-	-	-	-	-	hw marble breccia w/ qz
56	5153	CH	.5'	144	9.06*	20.78*	16	425	-	-	-	-	-	-	-	-	-	-	-	vein of massive cp
56	5154	CC	1.2'	<5	4.6	3397	13	25	-	<2.0	-	-	-	-	-	2.3	18	9.5	0.6	qz vein
56	5155	CC	.7'	55	3.58*	8.22*	15	150	6	4.3	-	-	-	-	-	1.5	<5	3.0	<0.5	cp lens

Table A-3.--Selected sample results, Southern Prince of Wales Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
56	5156	CC	.9'	210	7.55*	19.08*	17	436	3	<2.0	-	-	-	-	-	3.4	<5	2.9	<0.5	massive cp
56	5157	C	4.5'	<5	2.5	2114	14	19	-	-	-	-	-	-	-	-	-	-	-	brecciated marble & grnstn in shear
56	5158	S	.7'	12	25.1	13933	45	18	-	-	-	-	-	-	-	-	-	-	-	qz-calc vein w/ blebs of cp
56	5159	C	1.8'	99	10.5	12105	25	20	-	-	-	-	-	-	-	-	-	-	-	qz marble band w/ blebs of cp
56	5160	Rep	2.9'	15	32.2	2.76*	15	66	-	-	-	-	-	-	-	-	-	-	-	grey marble w/ qz & brec
56	5161	Rep	4'	12	41.1	2.77*	17	98	-	-	-	-	-	-	-	-	-	-	-	grey marble w/ qz and cp
56	5162	Rep		84	2.7	1584	16	29	-	-	-	-	-	-	-	-	-	-	-	qz-calc vein w/ blebs of cp
56	5615	C	3.4'	11	5.0	3870	15	23	-	-	-	-	-	-	-	-	-	-	-	banded marble + sulfides
56	5616	C	1.1'	40	16.6	9826	31	20	-	-	-	-	-	-	-	-	-	-	-	qz + sulfides + calc
56	5617	SC	14' @ 1'	17	2.7	1700	13	13	-	-	-	-	-	-	-	-	-	-	-	marble w/ sparse stratiform sulfide
56	5618	C	3.8'	7	2.7	1256	24	68	-	-	-	-	-	-	-	-	-	-	-	marble+calc-rich green sc
56	5619	C		<5	0.8	59	16	23	-	-	-	-	-	-	-	-	-	-	-	marble
56	5620	Rep	4'	6	0.3	209	10	11	-	-	-	-	-	-	-	-	-	-	-	qz w/ minor sulfides
56	5621	Rep	3.6'	10	8.0	8332	11	19	-	-	-	-	-	-	-	-	-	-	-	qz w/ sulfides, marble
56	5622	Rep		18	23.8	1.95*	12	39	-	-	-	-	-	-	-	-	-	-	-	qz + sulfides
56	5623	S		138	7.56*	18.23*	16	339	-	-	-	-	-	-	-	-	-	-	-	massive sulfides + limonite
58	5163	S	.1'	95	1.95*	7.06*	31	37	4	5.1	-	-	-	-	-	-	-	-	-	massive cp w/ sl
58	5164	C	1.7'	14	16.8	18866	11	19	-	-	-	-	-	-	-	-	-	-	-	qz marble band w/ sulfides
58	5613	C	3.3'	109	24.7	18755	7	17	-	-	-	-	-	-	-	-	-	-	-	qz + sulfides
58	5614	S		191	3.72*	7.45*	19	69	-	-	-	-	-	-	-	-	-	-	-	massive sulfides + qz
60	5165	Rep		43	21.8	2.31*	23	43	-	-	-	-	-	-	-	-	-	-	-	qz marble w/ blebs of cp
60	5624	Rep		35	19.0	2.09*	11	36	-	-	-	-	-	-	-	-	-	-	-	qz & marble w/ sulfides

North Arm Marble (fig. 14, No. 26)

Map No.	Sample No.	Sample type	Sample size	LB	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Total S as SO_3	LOI	Na_2O	K_2O	Total Na_2O	Total	Titrated $CaCO_3$
59	M1	Rep	135'	15.9	3.39	1.52	0.60	52.00	1.00	0.47	41.00	0.05	0.29	0.24	100.32	92.2

Blue Bird (fig. 14, No. 27)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
64	5147	G		1.901*	8.5	16	71	500	-	-	-	-	-	-	-	-	-	-	-	smokey qz w/ sparse py-hem
64	5148	CC	1.6'	288	1.0	12	198	301	-	-	-	-	-	-	-	-	-	-	-	smokey qz w/ sparse py-hem
64	5149	CC	.8'	240	<0.1	8	30	49	-	-	-	-	-	-	-	-	-	-	-	smokey qz w/ sparse py-hem
64	5150	S		465	0.4	18	110	86	-	-	-	-	-	-	-	-	-	-	-	smokey qz vein @ sc contact
64	5609	C	3'	49	<0.1	27	17	291	-	-	-	-	-	-	-	-	-	-	-	qz vein
64	5610	C	2.7'	6	<0.1	23	10	23	-	-	-	-	-	-	-	-	-	-	-	qz vein
64	5611	Rep		0.540*	3.2	15	13	7	-	-	-	-	-	-	-	-	-	-	-	smokey to white qz vein
64	5612	C	1.7'	69	<0.1	20	15	185	-	-	-	-	-	-	-	-	-	-	-	smokey to white qz

Blue Bird, east of (fig. 14, No. 27)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
65	5151	S	.4'	<5	0.2	210	10	14	-	-	-	-	-	-	-	-	-	-	-	qz, granite porphry wall rk w/ py

Moira Copper (fig. 14, No. 28)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
66	5199	C	4'	464	1.4	851	8	87	27	2.5	-	-	-	-	-	-	-	-	-	silicified gs w/ bands
66	5200	S		1732	47.2	6.57*	5	51	21	<2.0	-	-	-	-	-	-	-	-	-	massive py&cp in silicified rock
66	5669	C	1.3'	221	1.1	2909	5	129	-	-	-	-	-	-	-	-	-	-	-	fault gouge,lenses of qz w/limonite
66	5670	C	2.4'	270	2.4	7566	5	127	-	-	-	-	-	-	-	-	-	-	-	gs + sulfides, mainly py
66	5671	C	3.2'	656	6.8	5133	3	161	-	-	-	-	-	-	-	-	-	-	-	gs schist + sulfides

Niblack - Copper Cliff (fig. 14, No. 29)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
69	5136	C	6'	206	9.6	18403	38	2203	-	-	-	-	-	-	-	-	-	-	-	gs schist w/ sulfides
69	5137	C	10'	81	1.3	645	102	535	-	-	-	-	-	-	-	-	-	-	-	gs sc w/ bands of py & cp
69	5138	S		453	5.6	639	17	53	-	-	-	-	-	-	-	-	-	-	-	silicified rock w/ >70% sulfides
69	5600	C	6.5'	397	7.1	6948	53	341	-	-	-	-	-	-	-	-	-	-	-	mass. sulf in gs schist.
69	5601	C	10'	377	4.9	3697	26	538	-	-	-	-	-	-	-	-	-	-	-	gs + gs schist w/ sulfides
69	5602	C	9'	269	2.7	990	64	503	-	-	-	-	-	-	-	-	-	-	-	gs schist w/ bands of py
70	5139	C	8'	843	20.7	4645	211	1016	-	-	-	-	-	-	-	-	-	-	-	silicified gs sc w/ sulfide
70	5140	CC	.08'	17	<0.1	34	6	69	-	-	-	-	-	-	-	-	-	-	-	qz vein
70	5141	S		383	6.6	2372	18	106	-	-	-	-	-	-	-	-	-	-	-	massive py with cp
70	5603	S		292	13.9	3656	94	1838	-	-	-	-	-	-	-	-	-	-	-	massive py in silicic gs
70	5604	C	4.5'	128	<0.1	75	10	123	-	-	-	-	-	-	-	-	-	-	-	greenstone w/ sulfides
70	5605	C	4.8'	227	1.6	57	66	309	-	-	-	-	-	-	-	-	-	-	-	greenstone w/ lenses of py

Niblack (fig. 14, No. 29)

Map No.	Sample No.	Sample type	Sample size	Result	Sample description
68	5166	Rep		sample missing	py and cp in greenstone

Niblack - Snow Flake (fig. 14, No. 29)

Map No.	Sample No.	Sample type	Sample size	Result	Sample description
67	5625	Rep	2.4'	sample missing	gs w/ qz & calc lenses
67	5626	G		sample missing	qz lens + greenstone

Dickman Bay Marble (fig. 14, No. 30)

Map No.	Sample No.	Sample type	Sample size	LB	SiO_2	Al_2O_3	Fe_2O_3	CaO	MgO	Total S as SO_3	LOI	Na_2O	K_2O	Total Na_2O	Total	Titrated $CaCO_3$
71	M3	SC	200' X 2'	15.4	3.87	1.02	0.57	52.00	0.97	0.25	41.20	0.01	0.04	0.04	99.93	92.6

Moira Sound (fig. 14, No. 31)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
72	5081	Rep	100'	<5	0.3	28	3	139	-	-	-	-	-	-	-	-	-	-	-	bands of chert @ 0.1 ft thick

Geiger (fig. 14, No. 32)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
73	5082	C	4'	<5	1.4	11	628	2012	-	-	-	-	-	-	-	146.0	7730	4650.0	102.0	radioactive gs dike w/fine dissem py
73	5083	S	.1'	<5	0.2	24	15	32	-	-	-	-	-	-	-	1.9	49	27.6	2.9	py-calc fracture filling in chert

South Arm, Moira Sound (fig. 14, No. 33)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
74	5084	S		42	15.7	4.29*	12	30	-	-	-	-	140	-	-	-	-	-	-	silicified gs w/ cp
74	5085	C	.7'	34	9.5	2.48*	4	68	-	-	-	-	170	-	-	-	-	-	-	silicified gs w/ cp

Nelson and Tift (fig. 14, No. 34)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
76	5086	S	.3'	3.046*	1.84*	7.77*	23	608	-	-	-	-	<20	-	-	<1.0	<5	1.7	<0.5	qz w/ py and cp
76	5087	Rep	10'	288	0.2	361	3	9	-	-	-	-	<20	-	-	<1.0	2	1.3	<0.5	coarse- and fine-grained marble
76	5088		.8'	799	2.0	2276	4	18	-	-	-	-	<20	-	-	-	-	-	-	grey limestone w/ py
76	5567	S		1.291*	1.80*	10.48*	21	585	-	-	-	-	-	-	-	-	-	-	-	sulfides, marble

Apex Adit No. 1 (fig. 14, No. 35)

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
86	5121	C	10'	33	<0.1	428	5	8	<1	-	-	18	7800	-	-	-	-	-	-	monzonite w/ cp
86	5122	C	10'	130	<0.1	2018	5	7	<1	-	-	-	2800	-	-	-	-	-	-	monzonite w/ cp+ml

Table A-3.--Selected sample results, Southern Prince of Wales Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
86	5123	C	5'	210	<0.1	2445	4	5	<1	-	-	9	>20000	-	-	-	-	-	-	monzonite w/ cp+ml, qz stringers
86	5124	C	11'	41	<0.1	1773	5	7	<1	-	-	-	10100	-	-	-	-	-	-	Fest sheared monzonite w/ ml+cp
86	5125	C	8'	121	<0.1	1279	5	5	<1	-	-	-	10000	-	-	-	-	-	-	monzonite w/ some Fest
86	5126	C	3.5'	105	<0.1	810	5	7	2	-	-	17	1500	-	-	3.7	49	26.9	1.5	Fest sheared monzonite w/ cp+ml
86	5127	C	7'	87	<0.1	3618	<2	4	2	-	-	-	>20000	-	-	-	-	-	-	Fest monzonite w/ cp+ml
86	5128	C	4'	185	0.9	11691	3	5	2	-	-	-	19800	-	-	2.0	15	7.4	1.1	monzonite w/ qz-barite stringers
86	5129	C	6'	43	<0.1	1463	<2	6	<1	-	-	-	4800	-	-	-	-	-	-	sheared,argillitized monzonite
86	5130	CC	.3'	212	1.7	2.16*	4	7	<1	-	-	6	3400	-	-	<1.0	3	1.7	<0.5	qz-barite vein w/ cp+ml
86	5593	C	5.4'	52	<0.1	780	6	6	-	-	-	-	-	-	-	-	-	-	-	syenite-monzonite
86	5594	C	10'	497	0.4	6038	4	2	-	-	-	-	>20000	-	-	-	-	-	-	syenite-monzonite, qz-calc-barite
86	5595	C	6.6'	284	0.6	8409	5	2	-	-	-	-	>20000	-	-	-	-	-	-	syenite-monzonite,mineraliz ed veins
86	5596	C	6'	136	0.4	4981	4	3	-	-	-	-	9500	-	-	-	-	-	-	brecciated syn-monz,qz-calc-barite
86	5597	C	2.8'	82	0.5	5531	5	<1	-	-	-	-	>20000	-	-	-	-	-	-	shear gouge
86	5598	C	11.8'	56	0.2	4486	6	3	-	-	-	-	5900	-	-	-	-	-	-	mineralized syenite-monzonite
86	5599	C	6.5'	59	0.4	4524	4	6	-	-	-	-	1520	-	-	-	-	-	-	syenite-monzonite, fault gouge
Apex Adit No. 2 (fig. 14, No. 35)																				
87	5119	CC	3'	330	0.5	6268	6	12	5	-	-	4	>20000	-	-	2.1	21	13.0	1.7	3'wide shear zone w/qz stringers
87	5120	S		1.503*	5.3	7.68*	6	15	12	-	-	10	960	-	-	-	-	-	-	qz-barite-cp+py
87	5591	C	7'	2312	0.5	5964	12	14	-	-	-	-	6100	-	-	14.9	251	110.0	2.0	qz-calc vein in qz monzonite
Apex Adit No. 3 (fig. 14, No. 35)																				
88	5592	C	1.9'	17	0.2	2831	4	5	-	-	-	-	-	-	-	-	-	-	-	qz-monzonite + sulfides
Hillside and Wano (fig. 14, No. 36)																				
82	5666	C	3.3'	172	1.8	12580	<2	9	-	-	-	-	-	-	-	-	-	-	-	dissem sulfides in intrusive
83	5663	C	3.7'	293	2.8	5678	5	12	5	-	-	-	-	-	-	-	-	-	-	mineralized intrusive
83	5664	C	4.3'	82	1.1	666	14	8	-	-	-	-	-	-	-	-	-	-	-	igneous intrusive w/ dissem sulfide
83	5665	S		7150	11.2	2.79*	10	14	4	-	-	-	-	-	-	-	-	-	-	silica-rich intrusive w/ dissem sul
84	5667	Rep	1'	115	0.7	2777	12	85	-	-	-	-	-	-	-	-	-	-	-	fault gouge, igneous intrusive
84	5668	Rep	5.6'	435	0.7	9565	4	12	-	-	-	-	-	-	-	-	-	-	-	igneous intrusive w/ sulf
85	5662			161	0.8	1969	8	18	-	-	-	-	-	-	-	-	-	-	-	intrusive w/ dissem. sulfides
Veta (fig. 14, No. 37)																				
89	5089	S		3024	5.6	12816	5	30	-	-	-	-	-	-	-	<1.0	7	4.6	0.6	qz-carbonate,altered gs, sulfide
89	5568	S		3395	25.7	6.41*	9	27	-	-	-	-	-	-	-	-	-	-	-	br of gs in qz vein w/sulf
90	5090	Rep	.3'	94	0.5	1833	<2	5	-	-	-	-	-	-	-	-	-	-	-	qz-calc vein w/ cp
90	5569	S		7258	15.6	3.63*	7	10	-	-	-	-	-	-	-	-	-	-	-	qz, sulfides
Johnson and Gouley (fig. 14, No. 38)																				
91	5132	C	1'	14	0.3	635	44	72	9	-	-	-	-	-	-	-	-	-	-	altered (clay) silicified monzonite

Table A-3.--Selected sample results, Southern Prince of Wales Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
91	5133	CH	.3'	52	46.4	7.54*	49	156	11	-	-	-	-	-	-	-	-	-	-	qz vein w/ 0.07 ft thick massive cp
91	5134	C	1'	8	0.5	931	87	122	14	-	-	-	-	-	-	-	-	-	-	clay altered silicified monzonite
91	5135	CC	.4'	49	17.5	12533	63	67	15	-	-	-	-	-	-	-	-	-	-	brec qz vein w/ ml and cp
92	5131	S		208	4.4	86	72	26	364	-	-	-	-	-	-	-	-	-	-	silicified monzonite w/qz,calc, py
								Stone Rock Bay (fig. 14, No. 39)												
93	5117	C	.4'	28	0.3	25	13	51	-	-	-	-	-	-	-	-	-	-	-	massive py lens w/ qz
93	5118	C	.5'	42	0.4	37	23	20	-	-	-	-	-	-	-	3.0	13	6.9	1.2	massive sulfide lens
94	5197	S		229	4.4	6206	8	62	8	3.3	-	-	-	-	-	-	-	-	-	silicified syenite w/ cp
94	5198	S		402	8.6	3162	4	30	2	<2.0	-	-	-	-	-	-	-	-	-	silicified band in syenite w/ cp & mo
96	5091	C	.3'	<5	<0.1	17	4	19	-	-	-	-	-	-	-	1.0	13	6.8	0.6	qz lens w/ sulfides
96	5092	Rep	20'	<5	<0.1	46	10	35	-	-	-	-	-	-	-	8.2	118	6.0	3.1	pink-green granite
								Stone Rock Bay Occurrence (fig. 14, No. 40)												
95	5589	S		132	1.4	2681	177	311	-	-	-	-	-	-	-	1080.0	14400	7230.0	54.0	REE dike
95	5590	C	3.8'	49	0.3	649	25	165	-	-	-	-	-	-	-	96.8	1830	858.0	4.7	REE dike
								Barrier Islands (fig. 14, No. 41)												
75	5108	S	.3'	<5	1.0	102	22	158	-	-	295	26	-	-	-	-	-	-	-	black slate w/ sulfides
75	5583	S		<5	0.8	72	29	139	-	-	-	-	-	-	-	-	-	-	-	massive sulfides + phyllite?
77	5104	SC	20' @ 1'	<5	0.2	58	10	186	-	-	-	-	6600	-	-	-	-	-	-	orange Fest qz sericite schist w/ py
77	5105	C	.1'	<5	0.2	33	16	111	-	-	216	110	-	-	-	-	-	-	-	silicified schist w/ py
77	5106	C	.2'	<5	0.6	108	30	67	-	-	109	23	-	-	-	-	-	-	-	qz-rich band w/ py
77	5107	C	.6'	<5	1.2	113	63	306	-	-	435	98	-	-	-	-	-	-	-	qz-sericite schist w/ massive py/po
77	5581	S		<5	0.6	138	42	201	-	-	-	-		-	-	-	-	-	-	massive sulfides in mudstone
77	5582	S		<5	0.3	63	16	85	-	-	-	-	-	-	-	-	-	-	-	massive sulf + mudstone?
80	5110	Rep	.6'	62	10.8	570	1475	13388	-	-	53	25	-	-	-	-	-	-	-	qz sericite schist w/ sulf
80	5111	Rep	.4'	<5	1.6	53	355	1945	-	-	-	-	-	-	-	-	-	-	-	silicified band in volcanic rocks
80	5584	S		144	10.6	116	1606	865	-	-	-	-	-	-	-	-	-	-	-	massive sulfides + qz
80	5585	C	4.5'	82	3.4	47	591	950	-	-	-	-	-	-	-	-	-	-	-	qz-rich zone w/ sulfides
78	5109	C	.2'	<5	0.3	62	20	45	-	-	-	-	-	-	-	-	-	-	-	qz-sericite sc w/dissem. py
79	5112	Rep	.5'	<5	0.2	122	11	115	-	-	-	-	-	-	-	-	-	-	-	py-rich band in volcanic
81	5586	S		17	0.3	83	27	92	-	-	-	-	-	-	-	-	-	-	-	sulfides + qz
								Lucile (fig. 14, No. 42)												
97	5578	C	9.8'	<5	0.8	415	631	2154	-	-	-	-	-	-	-	-	-	-	-	qz vein + greenstone schist
97	5579	C	2.3'	<5	1.7	272	3655	191	-	-	-	-	-	-	-	-	-	-	-	qz vein
98	5580	C	4.2'	9	1.4	209	1880	4865	-	-	-	-	-	-	-	-	-	-	-	qz vein + greenstone schist
99	5587	S		<5	0.4	316	246	1200	-	-	-	-	-	-	-	-	-	-	-	qz, chl schist
100	5588	S		<5	1.9	143	3870	645	-	-	-	-	-	-	-	-	-	-	-	qz clasts w/ sulfides
								Nichols Bay, east shore (fig. 14, No. 43)												
101	5576	S		13	0.5	30	43	44	-	-	-	-	-	-	-	-	-	-	-	sulfides & qz
102	5572	S		42	<0.1	53	24	25	-	-	-	-	-	-	-	-	-	-	-	qz vein,+-mudstone
103	5575	S		<5	0.2	57	10	148	-	-	-	-	-	-	-	-	-	-	-	mudstone
104	5573	S		<5	<0.1	81	6	39	-	-	-	-	-	-	-	-	-	-	-	mudstone w/ sulfides
105	5574	Rep	1.1'	22	<0.1	75	10	154	-	-	-	-	-	-	-	-	-	-	-	mudstone
106	5577	S		31	0.9	82	30	12	-	-	-	-	-	-	-	-	-	-	-	fine-grained silicic volcanics
108	5102	C	2.5'	<5	<0.1	18	4	145	-	-	-	-	-	-	-	-	-	-	-	qz-calc vein

Table A-3.--Selected sample results, Southern Prince of Wales Island subarea--Continued

Map No.	Sample No.	Sample type	Sample size	Au	Ag	Cu	Pb	Zn	Mo	W	Ni	Co	Ba	Pt	Pd	U	Ce	La	Y	Sample description
109	5113	SC	30' @ 1'	26	1.9	132	541	141	-	-	-	-	-	-	-	-	-	-	-	silicified intrusive w/ sulfides
109	5114	S	.5'	61	5.6	827	1473	270	-	-	-	-	-	-	-	-	-	-	-	qz w/ 15% sulfides
109	5115	Rep	.7'	122	6.6	913	530	550	-	-	-	-	-	-	-	-	-	-	-	qz vein w/ sulfides
109	5116	S		172	8.4	1400	9813	3213	-	-	-	-	-	-	-	-	-	-	-	qz vein w/ sulfides
110	5571	S		39	0.2	534	17	72	-	-	-	-	-	-	-	-	-	-	-	qz-carbonate vein
111	5003	S	.1'	<5	<0.1	1282	5	122	-	-	-	-	-	-	-	-	-	-	-	cp & ml along dike margin in shear
111	5570	Rep		17	0.3	649	13	28	-	-	-	-	-	-	-	-	-	-	-	qz-calc vein
Nichols Bay Shaft (fig. 14, No. 44)																				
107	5094	SC	15' @ 1'	<5	0.3	35	41	109	-	-	-	-	-	-	-	-	-	-	-	gray-green silicic volcanics w/ sulf
107	5095	SC	10' @ 1'	35	7.9	53	491	4907	-	-	-	-	1200	-	-	-	-	-	-	silicic volcanics,gw, sulf
107	5096	C	4'	<5	4.0	72	449	7688	-	-	50	11	1100	-	-	-	-	-	-	silicic volcanics w/ sulf
107	5097	C	3'	<5	6.7	42	513	12400	-	-	40	8	<20	-	-	-	-	-	-	silicic volcanics w/ 70% po+py
107	5098	SC	19' @ 1'	6	0.3	50	77	229	-	-	-	-	-	-	-	-	-	-	-	banded gw,volcanic layers
107	5099	SC	15' @ 1'	66	0.3	199	9	140	-	-	-	-	-	-	-	-	-	-	-	gray-green silicic volcanics w/ sulf
107	5100	S	.5'	<5	1.0	27	82	17158	-	-	24	2	-	-	-	-	-	-	-	massive py, po w/ sl
107	5101	S	.3'	<5	5.8	53	273	18018	-	-	27	4	-	-	-	-	-	-	-	massive py+po(yellow ore)

APPENDIX B --SAMPLING AND ANALYTICAL PROCEDURES

SAMPLING

Rock samples collected were of several types, including grab, select, random chip, representative chip, spaced-chip, continuous chip, and chip channel. **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, or as float, or from a dump; **other samples** refer to stream sediment, pan concentrates, or placer samples taken within drainages to determine anomalous mineral concentrations upstream of or at the sample location; **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.

Placer samples consist of 0.1 yd^3 of material processed through a 4-foot sluice box. The resultant concentrates are visually examined to ascertain free gold content and also submitted for analysis. Panned concentrates are taken to determine whether a placer sample is warranted at a specific location.

Stream sediment samples were taken on a limited basis to determine anomalies in an area.

No metallurgical sampling was performed.

ANALYTICAL RESULTS

Samples were prepared and 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 29 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.

Limestone samples were analyzed by a commercial laboratory in Seattle using standard wet analysis (oxides) and total carbonate acid/alkali procedures ($CaCO_3$ by titration). Each sample was rinsed, dried, and weighed prior to analysis.

Table B-1. - Detection limits by analytical technique

Element	Minimum, ppm	Maximum, ppm
Fire assay-atomic absorption spectrophotometry/gravimetric finish		
Au............	0.005	none
Pt, Pd........	0.005	none
Atomic absorption spectrophotometry		
Ag............	0.1	50
Cu............	1	20,000
Pb............	2	10,000
Zn............	1	20,000
Mo............	1	20,000
Co............	1	20,000
Ni............	2	10,000
X-Ray Fluorescence		
Ba............	20	2,000
Sn............	5	2,000
Colorimetrics		
W.............	2	200
Induced coupled argon plasma		
Cu............	1	20,000
Pb............	2	10,000
Zn............	1	20,000
Mo............	1	20,000
Ag............	0.2	50
Ni............	1	20,000
Co............	1	20,000
Cr............	1	20,000
Mn............	1	20,000
W.............	10	2,000
Fe............	5	5,000
Bi............	2	20,000
As............	5	2,000
Sb............	5	2,000
Hg............	0.05	100
Ba............	100	10,000