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Map and table of mineral deposits on Annette Island, Alaska

By

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Map and table of mineral deposits on Annette Island, Alaska

Introduction

This map and table is a summary compilation of previous published (Berg, 1972, 1980, Berg and others, 1978) and unpublished (C. C. Hawley and Associates, 1975, 1978, 1980; McCrillis, 1976; Berg and Clautice, 1982) data, as well as new data from the current investigation (Horton and others, 1991), concerning mineral deposits on the Annette Islands Reserve. The map and table describe mineral occurrences and prospects. There are no historical or present mines on the reserve. There are no active claims on the reserve, which has been closed to public prospecting and private mining ventures. This report covers only metallic and nonmetallic mineral commodities, and does not include sand, gravel, or building stone.

The present investigation was undertaken to follow up geophysical anomalies interpreted from airborne electric and magnetic surveys conducted by Aerodat Ltd. in 1986. Time and budget constraints restricted studies to specific geophysically anomalous areas. Consequently the mineral occurrences and prospects enumerated in this report does not represent the results of a systematic, thorough, or complete study. This study has identified a few new areas of interest, and also provided a larger data base for existing areas of interest.

The map is numbered from north to south, with numbers representing mineral occurrences or prospects, and letters representing specific data points related to that occurrence or prospect. The table contains descriptions of the mineral deposits, and includes relevant data for the data points shown on the map. There is no evaluation of economic significance of the mineral deposits. A companion report by Horton and others (in press) will provide an updated mineral resource assessment for the Annette Islands Reserve.

Explanation for table

Map number refers to the locality number on the mineral deposit map. Letters refer to individual sample localities for which descriptive or chemical data are provided.

Location is given in latitude and longitude, for the data point with the highest geochemical values for the designated mineral commodity.

Classification refers to the development status of the mineral deposit according to conventional terminology, as follows:

Mine: A mineral deposit with recorded production. Claims on the property may or may not be active.

Prospect: A mineral deposit that has been explored by trenching, drilling, or underground exploration. Claims may or may not be currently active.

Claim: A mineral deposit for which a claim notice has been recorded with the Alaska Division of Geological and Geophysical surveys. Previous claims on the Annette Islands Reserve have all been voided as of 1960. Prospecting may be conducted by permit and mining rights may be acquired from the Metlakatla Indian Community under the Indian Mineral Leasing Act of 1938.

Occurrence: A mineral deposit that is unexplored and undeveloped. Occurrences in this report were described in previous reports or discovered during the present investigation.

Principal minerals indicates the mineral commodity or commodities of commercial interest at each locality.

Description provides a condensed description of the mineralogy and geology of the mineral deposit.

Data provides rock descriptions and chemical analyses for selected elements for samples collected from the data point shown on the map. Gold values were determined by atomic absorption; values for other elements were determined by emission spectroscopy. Comprehensive geochemical reports can be found in C. C. Hawley and Associates, (1975, 1978, and 1980), McCrillis, (1976), Berg and Clautice (1982), and a companion report for the present study by C. D. Taylor (U. S. Geological Survey, Denver).

References lists primary sources of data and information for mineral deposits on the Annette Islands Reserve.

Map Number 1

Location Latitude: 55°15'27" Longitude: 131°35'22"

Classification Occurrence

Principal minerals Au

Description Abundant quartz veins in pyritic argillite. Numerous quartz veins exceed 1 meter in thickness. Quartz veins contain quartz, calcite, pyrite, and argillite breccia. Some quartz veins have gold values. Pyrite in argillite occurs in disseminated cubes mostly smaller than 1 cm; sparse cubes to 1.5 cm.

Data Sample 88SK365A, quartz vein, contains 0.26 ppm Au, 10,000 ppm As, 2 ppm Sb.

References This report

Map Number 2

Location Latitude: 55°15'33" Longitude: 131°32'41"

Classification Occurrence

Principal minerals Cu

Description Sparsely disseminated chalcopyrite in chloritic metavolcanic schist, with malachite on foliation planes, near contact with diorite body

Data Sampling by Humble Oil in 1969-70, of 15 rock samples analyzed, 5 contained Cu values >200 ppm, highest value was 468 ppm Cu

References C. C. Hawley and Associates, 1975; Berg and Clautice, 1982

Map Number 3

Location Latitude: 55°14'32" Longitude: 131°36'04"

Classification Occurrence

Principal minerals Au

Description Abundant quartz-calcite-pyrite veins with angular greenstone and argillite inclusions. Country rocks are calcareous argillite and graywacke turbidites, and conglomerate with blocks of limestone and volcanic rock, with ubiquitous disseminated pyrite. Some quartz veins contain chalcopyrite or galena in addition to pyrite. Some quartz veins have gold values.

Data

a) Sample 88SK341B, quartz vein, contains 0.21 ppm Au
b) Sample 88SK309C, quartz vein, contains 7 ppm Ag, 500 ppm As, 16 ppm Sb

References This report

Map Number 4

Location Latitude: 55°14'58" Longitude: 131°34'05"

Classification Occurrence

Principal minerals Pb, Cu

Description Ubiquitous disseminated pyrite and pyrrhotite, commonly up to 10%, locally up to 40% sulfides with minor galena and/or chalcopyrite, in diorite, argillite, sandstone, tuff, and augite crystal tuff. Diorite in dikes and other intrusive masses. Argillite, sandstone, and tuff locally hornfelsed.

Data

a) Sample 88SK368A, augite crystal tuff, contains 1.5 ppm Ag
b) Sample 87SK154A, diorite, contains 200 ppm Cu, 70 ppm Pb
c) Sample 87SK153A, diorite, contains 500 ppm Cu
d) Sample 87SK155A, diorite, contains 700 ppm Cu, 100 ppm Pb
e) Sample 87SK139B, slate, contains 10 ppm Mo
f) Sample 87SK140B, gritstone, contains 200 ppm Pb; 87SK140C, sandstone, contains 100 ppm Pb

References This report

Map Number 5

Location Latitude: 55°14'46" Longitude 131°30'18"

Classification Occurrence

Principal minerals Au, Cu, Pb

Description Diorite body with 5% disseminated pyrite and pyrite seams in fractures. Diorite is pervasively propylitically altered and inhomogenous in texture (but generally medium-grained and hypidiomorphic).

Data

a) Sample 88SK231A, diorite, contains 1500 ppm Zn, 10 ppm Mo
b) Sample 88SK232A, diorite, contains 0.06 ppm Au, 300 ppm Cu
c) Sample 88SK233A, pyrite vein, contains 2 ppm Ag, 200 ppm Cu, 150 ppm Co, 100 ppm Pb
d) Sample 88SK235A, diorite dike, contains 0.26 ppm Au, 300 ppm Cu
e) Sample 88SK236A, near diorite contact, greenstone with chalcopyrite, contains 300 ppm Cu
f) Sample 88SK234A, diorite, contains 200 ppm Cu
g) Sample 88SK238A, diorite with chalcopyrite, contains 0.15 ppm Au, 300 ppm Cu

note: a,b,d,f were collected as average background samples.

References This report

Map Number 6

Location Latitude 55°13'20" Longitude 131°34'10"

Classification Occurrence

Principal minerals Ag

Description Quartz-calcite-pyrite veins in argillite with thin lenses of graywacke

Data Sample 88SK270B, quartz-calcite-pyrite vein, contains 2 ppm Ag, 150 ppm Cr

References This report

Map Number 7

Location Latitude 55°13'30" Longitude 131°32'28"

Classification Occurrence

Principal minerals Au, Cu

Description Quartz-calcite-pyrite veins in green tuffaceous phyllite and gray argillaceous phyllite. Phyllites contain disseminated mm-scale cubes of pyrite

Data

a) Sample 87SK142A, green phyllite, contains 300 ppm Cr
b) Sample 88SK219C, green phyllite, contains 0.5 ppm Ag, 300 ppm Cu
c) Sample 88SK256A, quartz-calcite-pyrite vein, contains 0.21 ppm Au

References This report

Map Number 8

Location Latitude 55°13'20" Longitude 131°31'08"

Classification Occurrence

Principal minerals Au, Ag, Cu

Description Green tuffaceous phyllite and gray argillaceous phyllite with disseminated pyrite and quartz-pyrite veins. Pyrite fracture coatings.

Data Sample 87SK161A, green tuffaceous phyllite with 2% disseminated pyrrhotite, contains 2 ppm Ag
Sample 87SK161C, green phyllite with massive sulfide vein, contains 0.1 ppm Au, 3 ppm Ag, 1000 ppm Cu

References This report

Map Number 9

Location Latitude 55°13'17" Longitude 131°29'50"

Classification Occurrence

Principal minerals Au

Description Gray phyllite and vuggy quartz veins with phyllite breccia. Abundant quartz breccia float on beach of lake. Some ribbon quartz veins resulting from multiple injections. Iron staining and quartz veins intermittent along beach for several hundred meters.

Data

a) Berg, 1972, # 13: quartz veins to 3 meters thick in gray phyllite
b) Sample 88SK216A, ribbon quartz with pyrite cubes, contains 4 ppm Au

References Berg, 1972; this report

Map Number 10

Location Latitude 55°13'10" Longitude 131°29'01"

Classification Prospect

Principal minerals Au

Description Lone Wolf prospect, several trenches along zone of abundant quartz veins marking a fault zone. Country rock is mm-laminated gray quartz phyllite. Phyllite and quartz veins are folded and faulted. Quartz vein to 2 meters thick marks contact between more graphitic phyllite to west and more sericitic (tuffaceous?) phyllite to east. This 2 meter quartz vein extends more than 100 m through the topographic saddle in a fault zone, and can be found intermittently along strike to the southeast of the prospect. It was not identified on the northwest side of Todd Lake. Quartz vein contains greenstone and gray phyllite breccia, muscovite, calcite, and pyrite. The quartz vein is locally brecciated, locally in multiple strands with or without micaceous partings. To the southeast at map locality 10c strands of one quartz vein have a cumulative width of about 20 m, and there are other meter-scale quartz veins nearby.

Data

a) Berg, 1972, # 12: Samples 34AK142 and 34AK416A, quartz with pyrite and galena, contain 34.35 ppm (0.71 oz/ton) Au and 30.21 ppm (0.91 oz/ton) Ag; Hawley and Associates collected 7 chip samples from quartz veins and all contained detectable gold, one contained 0.23 oz./ton Au, and one contained 0.14 oz./ton Au
b) Sample 88SK205D, quartz with pyrite, contains 0.88 ppm Au
c) Sample 88SK335A, green phyllite, contains 0.56 ppm Au

References Berg, 1972; C. C. Hawley and Associates, 1975; this report

Map Number 11

Location Latitude: 55°12'58" Longitude: 131°32'13"

Classification Occurrence

Principal minerals Pb, Cu

Description Malachite staining in bleached, pyritic rhyolitic tuff-breccia, pyritic black siliceous shale, and black limestone. Pyrite disseminated as mm-scale cubes. Mineralization associated especially with shear zones and quartz-calcite-pyrite veins.

Data

a) Sample 87SK130A, felsic tuff-breccia, contains 150 ppm Pb
b) Sample 88SK250B, quartz-calcite-pyrite vein, contains 300 ppm Cu
c) Berg, 1972, # 21: Sample 68Bg196, conglomerate, contains malachite
d) Sample 87SK152B, sheared rhyolite breccia, contains 700 ppm Pb

References Berg, 1972; this report

Map Number 12

Location Latitude: 55°13'01" Longitude: 131°31'25"

Classification Occurrence

Principal minerals Au, Ag, Cu, Pb, Mo, Cr, Ni

Description Sheared, pyritic greenstone and microgabbro with quartz and calcite veins. Some quartz veins contain pyrite, chalcopyrite, and bornite. Quartz-albite-calcite veins are locally cataclastic. Microgabbro is altered to epidote, chlorite, quartz, calcite, and sericite.

Data

a) Sample 87SK160A, greenstone with calcite-pyrrhotite veins, contains 500 ppm Cr, 1000 ppm Ni
b) Sample 87SK166A, greenstone, contains 2 ppm Ag; 87SK166B, quartz-sulfide vein, contains 3.25 ppm Au, 70 ppm Ag, 15000 ppm Cu; 87SK166C, Quartz-albite-ppyrite breccia, contains 0.7 ppm Ag, 500 ppm Pb, 10 ppm Mo
c) Sample 87SK167A, microgabbro, contains 500 ppm Cr, 200 ppm Ni
d) Sample 87SK168A, greenstone, contains 3 ppm Ag, 700 ppm Cu; 87SK168B, quartz breccia, contains 1.5 ppm Ag, 500 ppm Cu

References This report

Map Number 13

Location Latitude:55°12'30" Longitude 131°28'39"

Classification Occurrence

Principal minerals Ag, Cu

Description Augite porphyritic greenstone with 5% disseminated sulfides, mainly pyrite and chalcopyrite. Quartz veins less than 50 cm wide are common.

Data Sample 88SK279A, greenstone, contains 3 ppm Ag, 200 ppm Cu, 100ppm Co, 150 ppm Cr, 150 ppm Ni

References This report

Map Number 14

Location Latitude 55°12'05" Longitude 131°35'10"

Classification Occurrence

Principal minerals Au, Ag

Description Galena in quartz-calcite fissure veins in shear zone 6 m thick and 30 m long. Country rocks are trondjhemite.

Data Berg, 1972, # 14: Sample collected by Berg of quartz-calcite vein contains 47.3 ppm (1.38 oz/ton) Au, 14.4 ppm (0.42 oz/ton) Ag

References Berg, 1972

Map Number 15

Location Latitude: 55°12'05" Longitude: 131°24'50"

Classification Occurrence

Principal minerals Pb

Description Galena in calcite veinlets in trondjhemite. Trondjhemite along this ridge is pervasively altered with ubiquitous disseminated sulfides.

Data

a) Berg, 1972, # 29: pyrite, magnetite, and galena in calcite veins
b) Berg, 1972, # 28: pyrite, magnetite, and galena in calcite veins

References Berg, 1972

Map Number 16

Location Latitude: 55°12'12" Longitude: 131°24'50"

Classification Occurrence

Principal minerals Cu

Description Sparsely disseminated chalcopyrite in sheared leucotrondjhemite

Data Berg, 1972, # 11: sparsely disseminated chalcopyrite in foliated trondjhemite

References Berg, 1972

Map Number 17

Location Latitude: 55°11'08" Longitude: 131°27'55"

Classification Occurrence

Principal minerals Cu, Pb

Description Base-metal sulfide mineralization found in trondjhemite during logging road construction.

Data Sample with Cu-Pb-Zn sulfides collected by road construction crew in 1990

References This report

Map Number 18

Location Latitude: 55°10'39" Longitude: 131°32'53"

Classification Occurrence

Principal minerals Cu

Description Chalcopyrite in quartz-carbonate veins in altered trondjhemite, and sheared, brecciated and sericitized trondjhemite. Sheared zones up to several meters wide. Veins also contain pyrite, hematite, magnetite, azurite, and malachite. Mineralization extends beyond vein margins into trondjhemite.

Data

a) Berg, 1972, # 19: quartz veins with pyrite, hematite, and chalcopyrite. Area mapped and sampled by Humble Oil in 1969-70; of 63 rock samples, 8 had Cu values >200 ppm, Pb values were all low, 8 had Zn values >200 ppm. Rock and soil survey conducted by Hawley and Associates in 1975, sample of quartz vein with chalcopyrite contained 6900 ppm Cu
b) Berg, 1972, # 20: quartz veins with Fe and Cu sulfides, also disseminated Cu sulfides in trondjhemite; Hawley and Associates, 1975, collected 10 foot chip sample in leuco-trondjhemite that contained 450 ppm Cu, grab sample of leuco-trondjhemite contained 5500 ppm Cu
c) Sample 88SK294B, quartz-calcite-Cu sulfide vein contains 0.08 ppm Au, 15,000 ppm Cu

References Berg, 1972; this report

Map Number 19

Location Latitude: 55°10'42" Longitude: 131°34'30"

Classification Prospect

Principal minerals barite, Ag, Pb, Zn

Description Japan Bay prospect: Barite veins in 3 meter shear zone in brecciated rhyolite. Veins contain minor quartz and calcite, and clots, laminations, and stringers of hematite, galena, and sphalerite. Barite in irregular veins and masses up to 1 meter wide. Sheared rhyolite contains disseminated sulfides. Five diamond core drill holes at this locality indicated barite occurs in lenses in rhyolite, limestone, shale and argillite. Hawley and Berg interpret barite as stratiform in origin; apparently remobilized by subsequent tectonic activity. Soil surveys indicate barite zone is 30 m wide, and extends 300 m to south. Drill holes indicate barite zone dips 25° west, and barite was intercepted as deep as 50 m. Barite lenses and veins are sparse and irregular, and barite grade is low and difficult to estimate, but deposit size is estimated to exceed 1,000,000 tons by Hawley and Associates.

Data

Drill Hole 1: 1% barite in chlorite schist from 150' to 160'

Drill Hole 2: 38% barite with galena and sphalerite in limestone from 22' to 73'

Drill Hole 3: 26% barite in interbedded limestone and rhyolite from 21' to 69'; 14% Zn from 51' to 61'

Drill Hole 4: 45% barite with 1 oz/ton Ag and 3.4% Pb in faulted and folded mixed rocks from 63' to 82'

Drill Hole 5: 15% barite in faulted mixed rocks from 7' to 57'

a) Sample 88SK257A, dolostone, contains 0.11 ppm Au, 5 ppm Ag, 300 ppm, Pb, 300 ppm Zn; 88SK257B, limestone, contains 10 ppm Mo.; Sample 88SK298A, barite with limonite, contains 700 ppm Pb

b) Sample 88SK299A, barite with finely disseminated galena, contains 50 ppm (1.46 oz/ton) Ag, 10,000 ppm Pb, 300 ppm Zn

References Berg, 1972; C. C. Hawley and Associates, 1975; 1978; 1980; McCrillis, 1976; Berg and Clautice, 1982; this report

Map Number 20

Location Latitude: 55°10'26" Longitude: 131°34'30"

Classification Occurrence

Principal minerals Ag, Pb, Zn, barite

Description Sheared siliceous phyllite, greenstone, rhyolite, and limestone with quartz-barite veins. Rhyolite occurs flow-banded and as massive tuff-breccia. Phyllite is chloritic and grades to quartzite. Limestone is massive.

Data

a) Sample 88SK239D, quartz vein with barite, contains 20 ppm Ag, 100 ppm Ni
b) Sample 88SK240D, calcite vein, contains 2% Pb, and >1% Zn
c) Sample 88SK300A, limestone, contains 1000 ppm Ba, 100 ppm Pb, 500 ppm Zn
d) Sample 88SK301B, greenstone, 200 ppm Zn, 100 ppm Co, 100 ppm Cr, 100 ppm Ni
e) Sample 88SK302A, barite, contains 150 ppm Pb; 302C, barite vein 1 meter thick, contains 2 ppm Ag, 1% Zn
f) Sample 88SK303A, massive rhyolite, contains 1 ppm Ag, 1% Ba; 88SK303B, rhyolite tuff breccia, contains 1% Ba, 200 ppm Cu

References This report

Map Number 21

Location Latitude: 55°10'43" Longitude: 131°34'45"

Classification Occurrence

Principal minerals Ag, Pb, Zn, barite

Description Meter-scale pods of barite in dolostone and barite-calcite veins in sheared and brecciated rhyolite. Dolostone and rhyolite contain Pb and Zn sulfides, barite contains Ag, Pb, Zn. Barite pods consist of radial blades, with rosettes to 20 cm diameter. Mapping and soil survey by Hawley and Associates indicates barite-rich zone extends for 70 meters along west shoreline of small peninsula, and for 130 meters inland from there.

Data

a) Sample 88SK260A, brecciated dolostone, contains 70 ppm Pb, 300 ppm Zn, 150 ppm Cr
b) Sample 88SK259A, brecciated dolostone, contains 500 ppm Ba; 88SK259B, sheared metabasite with calcite veins, contains 100 ppm Pb, 300 ppm Zn
c) Sample 88SK261A, dolostone, contains 300 ppm Pb, 300 ppm Zn; 88SK261B, barite, contains 7 ppm Ag, 7000 ppm Zn;
d) Sample 88SK258A, silicified tuff, contains 1.5 ppm Ag, 1000 ppm Pb, 1500 ppm Zn, 150 ppm Cr
e) Sample 87SK180A, volcanic agglomerate with calcite veins, contains 200 ppm Pb, 700 ppm Zn; 88SK262A, mylonitic calcareous conglomerate, contains 100 ppm Pb, 700 ppm Zn
f) Sample 88SK263A, pyritic rhyolite tuff breccia, contains 10 ppm Mo, 150 ppm Pb, 200 ppm Zn; 88SK263B, pyritic gray limestone, contains 150 ppm Pb, 300 ppm Zn

References Berg, 1972; C. C. Hawley and Associates, 1975; this report

Map Number 22

Location Latitude: 55°10'39" Longitude: 131°36'15"

Classification Occurrence

Principal minerals Ag, Pb, Zn, barite

Description Quartz-calcite-barite-sulfide veins up to 2 meters thick in sheared rhyolite conglomerate. Quartz-calcite veins also cut pyritic diorite dikes that intrude limestone and rhyolite.

Data

a) Berg, 1972, # 15: quartz-clacite-barite veins with galena in brecciated rhyolite; Sample 88SK274A , siliceous conglomerate, contains 1.5 ppm Ag; Sample 88SK274B, calcareous conglomerate, contains 0.7 ppm Ag, 150 ppm Pb, 200 ppm Zn; Sample 88SK274C, pyritic flow-banded rhyolite, contains 5000 ppm Ba
b) Sample 88SK273A, diorite, contains 100 ppm Co, 700 ppm Cr, 150 pm Ni
c) Sample 88SK283A, rhyolite, contains 0.5 ppm Ag; Sample 88SK283B, rhyolite, contains 0.7 ppm Ag

References Berg, 1972; C. C. Hawley and Associates, 1975; this report

Map Number 23

Location Latitude: 55°10'16" Longitude: 131°35'39"

Classification Occurrence

Principal minerals Ag, Pb, Zn, barite

Description Quartz-calcite-barite veins up to 2 meters thick contain galena and sphalerite and extend at least 20 meters in from shoreline; intrude dolomitic conglomerate and brecciated rhyolite. Rhyolite dikes up to 20 meters thick-intrude dolomitic conglomerate and also intrude quartz-calcite-barite veins.

Data

a) Sample 88SK284A, pyritic, dolomitic limestone, contains 0.5 ppm Ag, 100 ppm Pb, 700 ppm Zn; 284B, limestone conglomerate, contains 150 ppm Pb, 1000 ppm Zn
b) Sample 88SK285A, quartz-barite vein, contains 20 ppm (0.58 oz/ton) Ag, >2% Pb, 700 ppm Zn; 88SK285B, dolomitic conglomerate, contains 100 ppm Pb, 200 ppm Zn; 88SK285C, dolostone, contains 2 ppm Ag, >5000 ppm Ba, 1000 ppm Pb, 1500 ppm Zn
c) Sample 88SK286B, pyritic limestone, contains 5 ppm Ag, 150 ppm Pb, 1000 ppm Zn
d) Sample 88SK305A, calcareous wacke, contains 300 ppm Pb, 1500 ppm Zn
e) Sample 88SK287A, rhyolite dike in shear zone, contains >5000 ppm Ba; 88SK287B, pyritic calcareous conglomerate, contains 1.5 ppm Ag, 500 ppm Zn

References Berg, 1972; C. C. Hawley and Associates, 1975; this report

Map Number 24

Location Latitude: 55°10'05" Longitude: 131°33'50"

Classification Occurrence

Principal minerals Ag, Cu, Pb, Zn, barite

Description Quartz-barite-sulfide veins in cataclastic to mylonitic Paleozoic greenstone, carbonate rock, and trondjhemite, and locally in limestone and rhyolite of Triassic sequence, which is in fault contact with Paleozoic rocks at (d) and (e).

Data

a) Sample 88SK289A, greenstone, contains 100 ppm Pb, 500 ppm Cr, 200 ppm Ni
b) Sample 88SK290B, quartz-calcite-barite-sulfide vein in diorite, contains >5000 ppm Ba; 88SK290C, quartz-barite-hematite vein contains 5000 ppm Ba
c) Sample 88SK291A, greenstone, contains 0.5 ppm Ag, 200 ppm Cu, 300 ppm Pb, 300 ppm Zn; 88SK291B, sheared quartz-sulfide vein, contains 100 ppm Pb
d) Sample 88SK295A, cataclastic rhyolite, contains 5000 ppm Ba; Hawley and Associates, 1975, collected soil samples and rock samples: 1 of 7 soil samples had 475 ppm Cu, 6 soil samples contained >200 ppm Zn; 5 of 7 chip samples (10') contained >200 ppm Cu, 3 contained >200 ppm Zn; 7' chip sample of manganiferous fault zone between rhyolite and greenstone contained 680 ppm Zn and a grab sample contained 1100 ppm Zn
e) Sample 88SK292B, quartz-barite-sulfide vein, contains 0.7 ppm Ag; 88SK292C, pyritic pebbly dolostone, contains 2 ppm Ag, 200 ppm Zn; 88SK292D, rhyolite, contains 2 ppm Ag, 500 ppm Zn; 88SK292E, rhyolite breccia, contains >5000 ppm Ba, 500 ppm Cu; 88SK292F, pyritic rhyolite breccia, contains 1.5 ppm Ag, 3000 ppm Ba, 200 ppm Cu, 700 ppm Zn; 88SK292G, Cu-stained rhyolite breccia, contains 1.5 ppm Ag, >5000 ppm Ba, 700 ppm Cu, 200 ppm Zn
f) Sample 88SK334A, barite vein in diorite, contains >5000 ppm Ba

References C. C. Hawley and Associates, 1975; Berg and Clautice,

1982; this report

Map Number 25

Location Latitude: 55°10'45" Longitude: 131°21'57"

Classification Occurrence

Principal minerals Au

Description Gold in quartz veins in argillite, tuff and graywacke; traces of gold in small beach placer.

Data

a) Sample 88SK275A, pan concentrate of beach gravel, contains 0.05 ppm Au, 500 ppm Cu, 200 ppm Pb
b) Berg, 1972, # 10: traces of gold in beach placer and quartz float near quartz-bearing slate and graywacke
c) Sample 88SK276B, pyritic tuff, contains 0.7 ppm Ag, 300 ppm Cu; 88SK276E, quartz-pyrite vein, contains 0.05 ppm Au

References Berg, 1972; this report

Map Number 26

Location Latitude: 55°10'28" Longitude: 131°22'21"

Classification Occurrence

Principal minerals Au, Ag, Cu, Pb

Description Quartz veins in sheared trondjhemite, up to 2 meters thick, contain gold and sulfides.

Data Sample 88SK344A, granitic rock, contains 500 ppm Cu; 88SK344D, quartz vein, contains 1.5 ppm Ag, 300 ppm Pb; 88SK344E, quartz vein with galena, contains 14 ppm (0.41 oz/ton) Au, 1.5 ppm Ag, 1500 ppm Cu, 200 ppm Pb; 88SK344G, quartz vein 100 meters to north, contains 5 ppm Ag, 1000 ppm Cu.

References This report

Map Number 27

Location Latitude: 55°09'13" Longitude: 131°21'42"

Classification Occurrence

Principal minerals Au

Description Quartz veins to 10 meters thick and 30 meters long with clots of sulfides in folded, flow-banded rhyolite and limestone. Sulfides include pyrite, galena, chalcopyrite.

Data

a) Berg, 1972, # 8: quartz veins to 10 meters with pyrite and galena
b) Sample 88SK345A, rhyolite, contains 0.34 ppm Au; 88SK345B, quartz vein, contains 2.5 ppm Au

References Berg, 1972; this report

Map Number 28

Location Latitude: 55°09'00" Longitude: 131°22'20"

Classification Occurrence

Principal minerals Au, Cu, Pb, Zn

Description Disseminated sulfides in sheared metarhyolite. Soil samples have elevated gold values.

Data

a) Disseminated chalcopyrite in sheared metarhyolite analyzed at 0.05% Cu
b) Soil samples have detectible Au (B-133p contains 0.27 ppm Au) and Ag
c) Berg, 1972, # 9: small amounts of sphalerite, chalcopyrite, pyrite and galena in rhyolite

References Berg, 1972; C. C. Hawley and Associates, 1975; Berg and Clautice, 1982

Map Number 29

Location Latitude: 55°08'43" Longitude: 131°21'55"

Classification Occurrence

Principal minerals Au, Ag, Cu, Pb, Zn

Description Quartz veins in rhyolite. Rhyolite is locally spherulitic, flow-banded, or autobrecciated, and is locally sheared. Rhyolite is commonly altered with disseminated limonite specks. Quartz veins up to 1 meter in thickness contain gold and sulfide minerals in clots.

Data

a) Sample 34AK412a, quartz vein, contains 0.36 oz/ton Au, 0.91 oz/ton Ag, 2% Pb, 0.63% Cu, 0.23% Zn; 34AK412b, quartz vein in shear zone, contains 0.43 oz/ton Au, 0.34 oz/ton Ag, 0.64% Pb, 0.85% Cu, 16.75% Zn; 87SK178A, rhyolite, contains 1.5 ppm Ag
b) "Vein A", (Berg and Clautice, 1982) quartz vein, contains 1.4% Pb, 1.25% Cu, 7% Zn
c) Sample 88SK346B, quartz vein with pyrite, contains 500 ppm (0.005%) Zn

References Berg, 1972; Berg and Clautice, 1982; this report

Map Number 30

Location Latitude: 55°07'55" Longitude: 131°22'32"

Classification Prospect

Principal minerals Au, Ag, Cu, Pb, Zn

Description Prospect pits and trenches along several quartz veins in rhyolite. Quartz veins in shear zones are vuggy. Quartz veins to 1 meter in thickness. Rhyolite is pervasively altered and contains sericite, chlorite, and disseminated pyrite. Rhyolite within 30 cm of vein margins is more strongly altered to green color.

Data

a) Sample 87SK177A, altered rhyolite, contains >5000 ppm Ba; 87SK177C, quartz vein with hematite, contains >5000 ppm Ba; 87SK177D, rhyolite breccia with goethite, contains >5000 ppm Ba, 200 ppm Cu; 87SK177E, quartz vein, contains 5 ppm Ag, 2000 ppm Ba, 700 ppm Pb; 87SK177F, quartz vein with pyrite, contains 92 ppm (2.68 oz/ton) Au, 300 ppm (8.75 oz/ton) Ag, 5000 ppm Ba, 200 ppm Cu, 1000 ppm Pb, 200 ppm Zn

b) Berg, 1972, # 2: 3-meter shear zones filled with vuggy quartz-pyrite veins

c) Sample B-136, (Hawley and Associates, 1975), limonitic quartz vein, contains 0.93 oz/ton Au; Koschmann (in Berg, 1972), reports 20 oz/ton Ag from this vicinity

d) Soil samples Hx-127a and Hx-127e (Hawley and Associates, 1975) contain 0.9 ppm Au and 0.7 ppm Au, respectively

References Berg, 1972; C. C. Hawley and Associates, 1975, 1980; this report

Map Number 31

Location Latitude: 55°07'48" Longitude: 131°22'30"

Classification Prospect

Principal minerals Au, Ag, Cu, Pb, Zn

Description Adit trending northeast for 110 feet in brecciated rhyolite. Mineralization in quartz veins and shear zones. Quartz veins up to 1 meter in thickness.

Data Berg, 1972. # 1: Samples 34AK409a, quartz vein with sulfides, contains 0.04 oz./ton Au, 20.60 oz./ton Ag, 9.75% Pb, 4.63% Cu, 13.14% Zn; 34AK409b, quartz vein with sulfides, contains 0.05 oz./ton Au, 13.20 oz./ton Ag, 4% Pb, 1.86% Cu, 5% Zn; 34AK411, quartz vein, contains 0.04 oz./ton Au, 0.92 oz./ton Ag, 0.05% Cu, 0.21% Zn; 87SK176A, hematitic quartz-rhyolite breccia, contains 5000 ppm Ba

References Berg, 1972; C. C. Hawley and Associates, 1975; this report

Map Number 32

Location Latitude: 55°07'18" Longitude: 131°23'35"

Classification Occurrence

Principal minerals Ag, Pb, Zn, barite

Description Quartz veins in dolostone and at dolostone-rhyolite contact. Quartz veins contain barite, galena and sphalerite. Quartz veins have the character of ladder veins and are most abundant at the dolostone-rhyolite contact.

Data

a) Sample 88SK350B, quartz vein, contains 5000 ppm Ba
b) Cave Creek locality (Hawley and Associates, 1975), galena and sphalerite in quartz veins up to 1 meter in thickness, and disseminated in dolostone, in a zone 25 meters wide
c) and d) quartz veins and sulfides noted at dolostone/limestone-rhyolite contact (Hawley and Associates, 1975.)

References C. C. Hawley and Associates, 1975, 1980; this report

Map Number 33

Location Latitude: 55°06'27" Longitude: 131°23'48"

Classification Prospect

Principal minerals Ag, Pb, Zn, barite

Description Prospect pit in 2 meter thick lens of dolostone and limestone in rhyolitic volcaniclastic breccia. Quartz pods and veins up to 30 cm thick in carbonate rock and in volcanic rock. Quartz-calcite-barite veins in locally silicified carbonate rock contain white mica, pyrite, sphalerite, and galena.

Data

a) Hawley and Associates, 1980, report a zone 50 meters wide by 150 meters long at rhyolite-dolostone contact that has quartz veins with galena, sphalerite, tetrahedrite(?), and malachite.

b) Hawley and Associates, 1980, report a zone 50 meters wide by 150 meters long in dolostone that locally includes up to 8% disseminated Pb and Zn sulfides, and quartz veins with sphalerite and galena. Soil samples from the rhyolite to the west of the dolostone were collected by Hawley and Associates, 1975; 2 samples contained detectable Au; Sample 88SK230A, limestone with disseminated pyrite, contains 150 ppm Pb

c) Berg, 1972, # 5: stringers and disseminated grains of pyrite, galena, and chalcopyrite in brecciated dolomitic limestone; Hawley and Associates, 1980, note scattered sulfides; Sample 88SK226B, dolostone with pyrite and galena from prospect pit, contains 2 ppm Ag, 5000 ppm Ba, 700 ppm Pb, 20 ppm Mo; 88SK226C, quartz vein with sulfides, contains 0.05 ppm Au, 70 ppm Ag, 1000 ppm Ba, 1000 ppm Pb, 7000 ppm Zn; 88SK226D, sheared pyritic rhyolite at contact, contains >5000 ppm Ba and >10,000 ppm (>1%) Zn

References Berg, 1972; C. C. Hawley and Associates, 1975, 1980; this report

Map Number 34

Location Latitude: 55°06'13" Longitude: 131°21'42"

Classification Occurrence

Principal minerals Ag, Pb

Description Abundant quartz veins in thrust fault at contact of graywacke and greenstone over limestone. Fault gouge up to 50 cm thick in fault zone. Quartz veins contain pyrite and galena.

Data Sample 88SK347A, quartz vein, contains 0.05 ppm Au, 15 ppm Ag, 700 ppm Pb

References This report

Map Number 35

Location Latitude: 55°06'19" Longitude: 131°24'18"

Classification Occurrence

Principal minerals Au, Ag, Cu, Pb, Zn

Description Sink Lake site: zone 100 meters wide by 150 meters long contains ladder and stringer quartz veins with sulfides in limestone and dolostone adjacent to (faulted) rhyolite contact. Quartz veins contain galena, sphalerite, hematite, tetrahedrite, stibnite, malachite, and barite. Quartz veins aggregate to 10% of total rock volume over the 100 meter zone. Shear zone 3 meters thick at limestone-rhyolite contact contains quartz veins that predate shearing. Quartz veins are mostly in the limestone and dolostone.

Data

a) Berg, 1972, # 4: hematite and Cu sulfides in quartz-calcite veins in dolomitic limestone; Hawley and Associates, 1980, report a shear zone in rhyolite with massive chalcopyrite up to 5 cm thick, malachite staining on cliff face, and up to 50% magnetite grains in siliceous matrix.

b) Sheared contact of greenstone and rhyolite with sulfides and magnetite as disseminations and as fracture coatings in zone 5 meters wide. Zone also contains quartz-calcite-sulfide veins. Sample 88SK227A, pyritic greenstone, contains 300 ppm Zn; 88SK227C, pyritic rhyolite contains 20 ppm Mo

c) Berg, 1972, #4: quartz veins and lenses in limestone and rhyolite. Sample 34AK414a, quartz vein with sulfides, contains 0.03 oz./ton Au, 9.64 oz./ton Ag, 12.43% Pb, 1.28% Cu, 0.56% Zn; Hawley and Associates, 1975, analyzed Hx-96, quartz vein, which contains 0.41 oz./ton Ag, 1500 ppm Ba, 15,000 ppm Pb, 1100 ppm Zn; Hx-95, chip sample of 30' of vein material, which contains 210 ppm Pb, 2600 ppm Zn; Hx-97, chip sample over 15' of veins and dolostone, which contains 1 oz./ton Ag, 880 ppm Cu, 5200 ppm Pb, 6800 ppm Zn, 400 ppm Sb; Hx-98, chip sample over 5' of dolostone, which contains 2.6 ppm Ag, 1600 ppm Pb, 900 ppm Zn; 88SK221A, limestone with disseminated galena, contains 5 ppm Ag, 2000 ppm Pb; 88SK221B, quartz vein, contains 3.7 ppm Au, 500 ppm (14.6 oz./ton) Ag, 2000 ppm Ba, >20,000 ppm (>2%) Cu, 3000 ppm Pb, >10,000 ppm Zn, >10,000 ppm Sb; 88SK221C, quartz vein, contains 1.2 ppm Au, 700

ppm (20.4 oz./ton) Ag, 3000 ppm Ba, >2% Cu, 3000 ppm Pb, 1% Zn, >1% Sb; 88SK221D, limestone, contains 2 ppm Ag, 5000 ppm Zn; 88SK221E, quartz vein, contains 1.5 ppm Ag, 2000 ppm Ba, 500 ppm Cu, 15 ppm Mo.

References Berg, 1972; C. C. Hawley and Associates, 1975, 1980; this report

Map Number 36

Location Latitude: 55°05'14" Longitude: 131°22'58"

Classification Occurrence

Principal minerals Au, Ag, Pb, Zn

Description Sulfides in dolostone and limestone at rhyolite contact

Data

a) Hawley and Associates, 1980, locality 8, one sulfide occurrence reported
b) Hawley and Associates, 1980, locality 9, two sulfide occurrences reported
c) Hawley and Associates, 1975, soil survey line Hx-54, sample near rhyolite-limestone contact contained detectable Au

References C. C. Hawley and Associates, 1975, 1980

Map Number 37

Location Latitude: 55°04'20" Longitude: 131°21'00"

Classification Occurrence

Principal minerals Au, Cu

Description Quartz veins with pyrite and chalcopyrite in locally sheared felsic to mafic volcanic and volcaniclastic rocks. Pyrite and chalcopyrite also occur as disseminations and as seams in volcaniclastic rocks.

Data

a) Sample 88SK310A, pyrite, contains 100 ppm Pb, 300 ppm Zn, 300 ppm Cr, 200 ppm Ni, 1000 ppm As
b) Sample 88SK311D, felsic tuff, contains 10 ppm Mo
c) Sample 88SK312A, pyritic mafic volcanic breccia, contains 100 ppm Co, 300 ppm Cr, 300 ppm Ni
d) Sample 88SK313A, pyritic volcanic wacke, contains 0.7 ppm Ag
e) Sample 88SK313C, quartz vein with Fe and Cu sulfides, contains 0.1 ppm Au, 2 ppm Ag, 5000 ppm Cu; 88SK313D, quartz vein, contains 0.05 ppm Au, 2 ppm Ag, 5000 ppm Cu
f) Sample 88SK313F, mafic volcanic rock with disseminated sulfides, contains 0.08 ppm Au, 2 ppm Ag, 1500 ppm Cu
g) Soil survey line P-35, sample analyzed by Hawley and Associates, 1975, contained detectable Au

References C. C. Hawley and Associates, 1975; Berg and Clautice, 1982; this report

Map Number 38

Location Latitude: 55°04'02" Longitude: 131°21'00"

Classification Occurrence

Principal minerals Fe, Co, Mo

Description Mineralized shear zones in granitic rocks and schist

Data

a) Sample 88SK314E, altered granitic rock, contains 150 ppm Co, 20 ppm Mo
b) Berg, 1972, # 6: veinlets and disseminated magnetite in fault breccia in schist

References Berg, 1972; this report

Map Number 39

Location Latitude: 55°03'38" Longitude: 131°21'02"

Classification Occurrence

Principal minerals Au, Ag, Cu

Description Quartz-calcite veins with sulfides in cataclastic granitic rock predate and postdate shear foliation. Granitic rock contains inclusions of greenstone.

Data

a) Sample 88SK315B, sheared granitic rock with sulfide pods, contains 0.41 ppm Au, 20 ppm Ag, 20,000 ppm (2%) Cu; 88SK315C, pyritic quartz vein, contains 0.15 ppm Au, 0.5 ppm Ag, 1500 ppm Cu
b) Berg, 1972, # 7: traces of chalcopyrite, malachite, pyrite, and hematite in sheared aplite and leucocratic quartz monzonite
c) Sample 88SK316D, quartz-calcite vein with pyrite and bornite, contains 0.07 ppm Au, 7 ppm Ag, 10,000 ppm (1%) Cu, 100 ppm Pb

References Berg, 1972; this report

Map Number 40

Location Latitude: 55°08'21" Longitude: 131°23'35"

Classification Occurrence

Principal minerals Pb

Description Quartz veins with galena, pyrite, and hematite in foliated trondjhemite. Quartz veins up to 3 meters in thickness.

Data Berg, 1972, # 30: 3 meter quartz vein with galena, pyrite, and hematite in trondjhemite

References Berg, 1972

Map Number 41

Location Latitude: 55°07'01" Longitude: 131°25'39"

Classification Occurrence

Principal minerals Fe, Mo

Description Quartz veins and gossan zones in foliated trondjhemite. Gossan zones to 3 meters across. Quartz veins contain pyrite and hematite.

Data Berg, 1972, # 31: 3 meter gossan zone and quartz veins; Sample 88SK323B, aplite with sulfides, contains 0.5 ppm Ag, 15 ppm Mo

References Berg, 1972; this report

Map Number 42

Location Latitude: 55°06'30" Longitude: 131°26'25"

Classification Occurrence

Principal minerals Cu

Description Disseminated chalcopyrite in trondjhemite

Data Berg, 1972, # 23: Disseminated chalcopyrite in leucotrondjhemite

References Berg, 1972

Map Number 43

Location Latitude: 55°06'42" Longitude: 131°29'18"

Classification Occurrence

Principal minerals Au, Mo

Description Altered trondjhemite in shear zone 100 meters wide. Sheared granitic rock contains disseminated sulfides and pyrite-magnetite veins. Mafic minerals altered to chlorite. Specular hematite also present.

Data
a) Sample 88SK321B, rusty, altered granitic rock, contains 0.14 ppm Au
b) Sample 88SK318B, pyrite-magnetite vein, contains 15 ppm Mo

References This report

Map Number 44

Location Latitude: 55°07'04" Longitude: 131°32'35"

Classification Occurrence

Principal minerals Au, Ag, Mo

Description Cataclastic, pervasively altered, granitic rock in zone 300 meters wide. Sheared granitic rock includes zones of disseminated pyrite and hematite, seams of massive sulfides, and seams of breccia in a siliceous matrix.

Data Sample 88SK376A, hematitic granitic rock, contains 0.28 ppm Au, 5 ppm Ag; 88SK376B, massive pyrite from seam, contains 0.7 ppm Ag, 20 ppm Mo.

References This report

Map Number 45

Location Latitude: 55°05'42" Longitude: 131°32'05"

Classification Occurrence

Principal minerals Au, Ag, Cu, Mo

Description Trondjhemite altered to chlorite and sericite, with aplite dikes containing disseminated sulfides. Location is erroneously marked as a mine on the Ketchikan B-2 topographic map. The structures and workings at this site are part of the inactive Purple Lake water project.

Data Sample 88SK174A, aplite with disseminated sulfides, contains 0.25 ppm Au, 1.5 ppm Ag, 1000 ppm Cu, 50 ppm Mo.

References This report

Map Number 46

Location Latitude: 55°04'50" Longitude: 131°32'30"

Classification Occurrence

Principal minerals Cu

Description Sparsely disseminated pyrite and chalcopyrite in schist and hornfels

Data Berg, 1972, # 26: very sparsely disseminated pyrite and chalcopyrite in schist and hornfels.

References Berg, 1972.

Map Number 47

Location Latitude: 55°07'35" Longitude: 131°34'00"

Classification Occurrence

Principal minerals Cu

Description Sparsely disseminated pyrite and chalcopyrite in schist.

Data Berg, 1972, # 24: sparsely disseminated pyrite, chalcopyrite, and traces of malachite in schist.

References Berg, 1972.

Map Number 48

Location Latitude: 55°07'08" Longitude: 131°34'10"

Classification Occurrence

Principal minerals Cu

Description Sparse pyrite, chalcopyrite, and arsenopyrite in sheared fine-grained schist with abundant calcite veinlets.

Data Berg, 1972, # 27: Sparse pyrite, arsenopyrite, and chalcopyrite(?) in iron-stained, sheared, fine-grained schist with abundant calcite veinlets.

References Berg, 1972.

Map Number 49

Location Latitude: 55°06'20" Longitude: 131°34'10"

Classification Occurrence

Principal minerals Cr, Pt

Description Massive dunite with abundant thin seams of serpentine (chrysotile), sparsely disseminated grains of magnetite and chromite. In thin section, dunite is pervasively serpentinized. Airborne and ground-based magnetic surveys indicate a magnetic anomaly associated with this body of dunite.

Data

a) Berg, 1972, # 22: samples 66ABg182, 66ABg184 yielded one value of 0.029 ppm Pt; Sample 87SK175, dunite, contains 150 ppm Co, 2000 ppm Cr, 150 ppm Ni
b) Sample 88SK358A, gabbro, contains 0.015 ppm Pt
Note: 7 samples of dunite from the Yellow Hill area yielded no Pt above the limits of detection.

References Berg, 1972, 1980; Taylor, 1967; Clark and Greenwood, 1972; C. C. Hawley and Associates, 1975; this report

Map Number 50

Location Latitude: 55°05'17" Longitude: 131°33'45"

Classification Occurrence

Principal minerals Cr

Description Fine-grained, pervasively serpentinized dunite with disseminated magnetite and chromite and stringers of chromite. Disseminated opaque minerals constitute approximately 3% of the dunite.

Data

a) Sample 88SK173A, dunite, contains >5000 ppm Cr
b) Sample 88SK363A, dunite, contains 100 ppm Co, 2000 ppm Cr, 1000 ppm Ni
c) Sample 88SK359A, dunite, contains 100 ppm Co, 700 ppm Cr, 500 ppm Ni
d) Sample 88SK362A, dunite, contains 700 ppm Cr, 700 ppm Ni
e) Sample 88SK360A, dunite, contains 200 ppm Co, 100 ppm Cr, 700 ppm Ni
f) Sample 88SK361A, dunite, contains 700 ppm Cr, 700 ppm Ni

References Clark and Greenwood, 1972; Taylor, 1967; this report

Map Number 51

Location Latitude: 55°02'08" Longitude: 131°38'50"

Classification Occurrence

Principal minerals Cu

Description Thin stringers of pyrite and chalcopyrite in schist and gneiss

Data Berg, 1972, # 25: thin stringers of pyrite and chalcopyrite in schist and gneiss

References Berg, 1972

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