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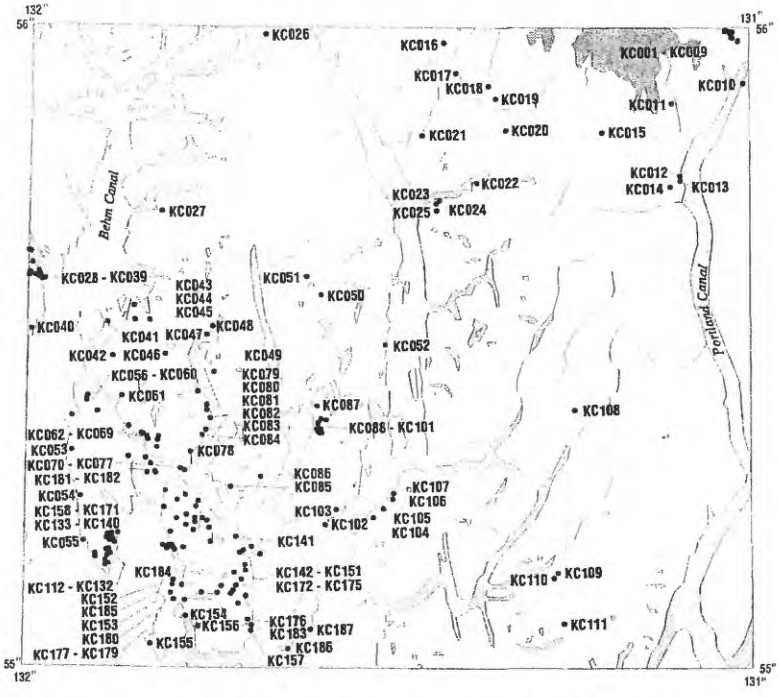
Alaska Resource Data File

Ketchikan quadrangle

Descriptions of the mineral occurrences shown on the accompanying figure follow. See U.S. Geological Survey (1996) for a description of the information content of each field in the records. The data presented here are maintained as part of a statewide database on mines, prospects and mineral occurrences throughout Alaska.



Distribution of mineral occurrences in the Ketchikan 1:250,000-scale quadrangle, southeastern Alaska

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OPEN-FILE REPORT 99-525

Site name(s): Howard; Helen

Site type: Prospect

ARDF no.: KC001

Latitude: 55.997 **Quadrangle:** KC D-1

Longitude: 130.064

Location description and accuracy:

This prospect is at about 600 feet elevation, about 0.55 mile west of Skookum Creek, and about 5.5 miles north-northwest of Hyder. It is in the southwest corner of section 2, T. 68 S., R. 99 E., of the Copper River Meridian. The site corresponds to loc. 11 on plate 2 in Buddington (1929 [B 807]), and to loc. 1 in Elliott and others (1978). The location is accurate within about 0.1 mile.

Also see Additional comments.

Commodities:

Main: Pb, Zn

Other: Barite

Ore minerals: Barite, galena, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of this site include: pelitic metasedimentary and subordinate andesitic metavolcanic strata of the Jurassic or Triassic Hazelton Group; recrystallized granodiorite of the Triassic Texas Creek Granodiorite, which intrudes the Hazelton rocks; quartz monzonite and granodiorite of the Hyder Quartz Monzonite batholith, which intrudes the Hazelton and Texas Creek rocks; and Tertiary lamprophyre dikes, which intrude all of the foregoing rock units (Smith, 1973, 1977; Berg and others, 1988).

The Howard prospect is in (Texas Creek) granodiorite and consists of a shear zone that contains numerous quartz stringers, some of which contain barite, galena, pyrite, and sphalerite (Buddington, 1929, p. 76; Elliott and others, 1978, loc. 1; Cobb and Elliott, 1980, p. 58). One body of sulfide-bearing quartz is 10 feet long and 12-15 inches wide. Maas and others (1995, p. 254) suggest that sulfide-bearing quartz fissure veins in Texas Creek granodiorite in the Hyder district are Eocene in age.

The prospect was explored in the early 1900s by opencuts and stripping.

Alteration:

Age of mineralization:
Maas and others (1995, p. 254) suggest that sulfide-bearing quartz fissure veins in Texas Creek granodiorite in the Hyder District are Eocene.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: No

Site Status: Inactive

Workings/exploration:
Prospect was explored in the early 1900s by opencuts and stripping.

Production notes:

Reserves:

Additional comments:
Early reports also refer to prospect as Helen (Cobb and Elliott, 1980, p. 145).

References:
Buddington, 1929 (B 807); Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995

Primary reference: Buddington, 1929 (B807)

Reporter(s): H.C. Berg, USGS

Last report date: 06/28/99

Site name(s): Last Shot

Site type: Prospect

ARDF no.: KC002

Latitude: 55.995 **Quadrangle:** KC D-1

Longitude: 130.057

Location description and accuracy:

This prospect is at about 1400 feet elevation, about 0.2 mile west of Skookum Creek, and about 5.5 miles north-northwest of Hyder. It is in the north-central part of section 11, T. 68 S., R. 99 E., of the Copper River Meridian. The site corresponds to loc. 10 on plate 2 in Buddington (1929 [B 807]), and to loc. 2 in Elliott and others (1978). The location is accurate within about 0.1 mile.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other: W

Ore minerals: Chalcopyrite, freibergite, galena, pyrite, pyrrhotite, scheelite, sphalerite, tetrahedrite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of this site include: pelitic metasedimentary and subordinate andesitic metavolcanic strata of the Jurassic or Triassic Hazelton Group; recrystallized granodiorite of the Triassic Texas Creek Granodiorite, which intrudes the Hazelton rocks; quartz monzonite and granodiorite of the Hyder Quartz Monzonite batholith, which intrudes the Hazelton and Texas Creek rocks; and Tertiary lamprophyre dikes, which intrude all of the foregoing rock units (Smith, 1973, 1977; Berg and others, 1988).

The deposit is in (Texas Creek) granodiorite and consists of sulfide-bearing quartz veins and stringer lodes, and of pyritized country rock adjacent to the veins (Buddington, 1929, p. 75-76; Elliott and others, 1978, loc. 2; Cobb and Elliott, 1980, p. 65). The principal vein is as much as 12 feet thick and contains an ore shoot of almost solid sulfides 8 to 18 inches thick, exposed for a length of at least 30 feet. The sulfide minerals are galena, pyrite, sphalerite, pyrrhotite, chalcopyrite, tetrahedrite, and freibergite.

The principal vein was explored in the early 1900s by surface pits and opencuts, and by a 25-foot adit. A 26-inch-long channel sample of the vein taken in 1951 contained 0.08 oz. Au/ton, 6.2% Pb, and 4.85% Cu (Byers and Sainsbury, 1956, p. 56). Altered (talcose) country rock adjacent to the vein contains sparsely disseminated grains of scheelite.

Maas and others (1995, p. 254) suggest that the age of the sulfide-bearing quartz fissure vein at the Last Shot prospect (p. 261 and fig. 66) is Eocene, based on similarities in mineralogy, structural setting, and hostrock, to lead-isotope-dated Eocene deposits nearby in the Hyder district. If so, the age of the deposit is roughly contemporaneous with emplacement of the Hyder Quartz Monzonite batholith.

Alteration:

Age of mineralization:

Maas ands others (1995, p. 254) suggest that the age of the sulfide-bearing quartz fissure vein at the Last Shot prospect (p. 261 and fig. 66) is Eocene, based on similarities in mineralogy, structural setting, and hostrock, to lead-isotope-dated Eocene deposits nearby in the Hyder district. If so, the age of the deposit is contemporaneous with emplacement of the Hyder Quartz Monzonite batholith.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: No

Site Status: Inactive

Workings/exploration:

The principal vein was explored in the early 1900s by surface pits and opencuts, and by a 25-foot adit. A 26-inch-long channel sample of the vein taken in 1951 contained 0.08 oz. Au/ton, 6.2% Pb, and 4.85% Cu (Byers and Sainsbury, 1956, p. 56). Altered (talcose) country rock adjacent to the vein contains sparsely disseminated grains of scheelite.

Production notes:

Reserves:

Additional comments:

References:

Buddington, 1929 (B 807); Byers and Sainsbury, 1956; Smith, 1973; Smith, 1977; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995

Primary reference: Buddington, 1929 (B807); Byers and Sainsbury, 1956

Reporter(s): H.C. Berg, USGS

Last report date: 06/28/99

Site name(s): Fish Creek; Olympia; Starboard; Nevada

Site type: Mine

ARDF no.: KC003

Latitude: 55.993 **Quadrangle:** KC D-1

Longitude: 130.046

Location description and accuracy:

This site, called 'Fish Creek, lower workings' by Buddington (1929, pl. 2, loc. 5 [B 807]) and by Byers and Sainsbury (1956, pl. 7, loc. 5), represents a group of claims that lie mainly on the ridge between Fish and Skookum creeks, but extend to both sides of the creeks, particularly west of Skookum Creek. The main workings are on the Olympia and Starboard claims, which are at elevations of about 1400-1900 feet. The map coordinates are for the approximate center of the area of these workings. The site is in section 11, T. 68 S., R. 99 E., of the Copper River Meridian. It corresponds to loc. 3 in Elliott and others (1978). The location is accurate within about 0.1 mile.

To the north, the claims extend into the Bradfield Canal quadrangle (Berg, 1998, loc. BC078). On the south, they are adjoined by the Mountain View group of claims (KC006), some of which are named 'Fish Creek.'

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other: W

Ore minerals: Arsenopyrite, chalcopyrite, galena, pyrite, pyrrhotite, scheelite, sphalerite, tetrahedrite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of this site include: pelitic metasedimentary and subordinate andesitic metavolcanic strata of the Jurassic or Triassic Hazelton Group; recrystallized granodiorite of the Triassic Texas Creek Granodiorite, which intrudes the Hazelton rocks; quartz monzonite and granodiorite of the Hyder Quartz Monzonite batholith, which intrudes the Hazelton and Texas Creek rocks; and Tertiary lamprophyre dikes, which intrude all of the foregoing rock units (Buddington, 1929; Smith, 1973, 1977; Berg and others, 1988).

The deposit consists of sulfide-bearing quartz fissure veins up to 3 feet thick in (Texas Creek) granodiorite near its contact with Hazelton greenstone, graywacke, and slate (Buddington, 1929, p. 68-71; Byers and Sainsbury, 1956, p. 138; Elliott and others, 1978,

loc. 3). The sulfide minerals in the veins are chiefly galena, sphalerite, pyrite, tetrahedrite, and chalcopyrite. Locally, the veins contain lenticular masses of pyrrhotite accompanied by minor chalcopyrite, pyrite, and arsenopyrite; some of the veins contain small amounts of scheelite. Samples of ore from the Olympia and Starboard claims assayed 103-706 oz. Ag/ton, 17-39% Pb, trace to 7% Cu, and less than 1.0 oz. Au/ton. Development work in the early 1900s included numerous surface pits, trenches, and opencuts, and several hundred feet of underground workings (Buddington, 1929). Several, probably small, lots of sorted ore were shipped from the Olympia and Starboard claims in 1916 and 1917.

Maas and others (1995, p. 254) suggest that the age of the sulfide-bearing quartz fissure vein deposits on the Olympia 4-6 and Starboard claims (p. 261 and fig. 66) is Eocene, based on similarities in mineralogy, structural setting, and hostrock, to lead-isotope-dated Eocene deposits nearby in the Hyder district. If so, the age of the deposit is roughly contemporaneous with emplacement of the Hyder Quartz Monzonite batholith.

Alteration:

Age of mineralization:

Maas and others (1995, p. 254) suggest that the age of the sulfide-bearing quartz fissure vein deposits on the Olympia 4-6 and Starboard claims (p. 261 and fig. 66) is Eocene, based on similarities in mineralogy, structural setting, and hostrock, to lead-isotope-dated Eocene deposits nearby in the Hyder district. If so, the age of the deposit is roughly contemporaneous with emplacement of the Hyder Quartz Monzonite batholith.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

Samples of ore from the Olympia and Starboard claims assayed 103-706 oz. Ag/ton, 17-39% Pb, trace to 7% Cu, and less than 1.0 oz. Au/ton. In addition to numerous surface pits, trenches, and opencuts, underground workings in the early 1900s included several adits up to 70 feet long on the Starboard claim; adits, raises, and drifts as long as 360 feet on the Olympia claim; and a 25-foot drift on the Nevada claim (Buddington, 1929; Maas and others, 1995).

Production notes:

Several, probably small, lots of sorted ore were shipped from the Olympia and Starboard claims in 1916 and 1917.

Reserves:

Additional comments:

References:

Buddington, 1929 (B 807); Byers and Sainsbury, 1956; Smith, 1973; Smith, 1977; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995; Berg, 1998

Primary reference: Buddington, 1929 (B807)

Reporter(s): H.C. Berg, USGS

Last report date: 06/28/99

Site name(s): Sixmile

Site type: Prospect

ARDF no.: KC004

Latitude: 55.995 **Quadrangle:** KC D-1

Longitude: 130.066

Location description and accuracy:

This prospect is at about 200 feet elevation, adjacent to the east side of the Salmon River road about 6 miles north-northwest of the town of Hyder. The site is at the northwest corner of section 11, T. 68 S., R. 99 E., of the Copper River Meridian. It corresponds to loc. 12 on plate 2 in Buddington (1929 [B 807]), and to loc. 4 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

Ore minerals: Chalcopyrite, galena, gold, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of this site include: pelitic metasedimentary and subordinate andesitic metavolcanic strata of the Jurassic or Triassic Hazelton Group; recrystallized granodiorite of the Triassic Texas Creek Granodiorite, which intrudes the Hazelton rocks; quartz monzonite and granodiorite of the Hyder Quartz Monzonite batholith, which intrudes the Hazelton and Texas Creek rocks; and Tertiary lamprophyre dikes, which intrude all of the foregoing rock units (Buddington, 1929; Smith, 1973, 1977; Berg and others, 1988).

The deposit consists of sulfide-bearing quartz fissure veinlets in a shear zone 5 inches to 5 feet wide in (Texas Creek) granodiorite (Buddington, 1929, p. 76-77; Elliott and others, 1978, loc. 4; Cobb and Elliott, 1980, p. 97; Maas and others, 1995, p. 261). Some of the stringers are rich in free gold, which occurs in the borders of the stringers and in the adjacent granodiorite. Some of the stringers also carry galena, sphalerite, chalcopyrite, and pyrite; and some of these sulfides also are disseminated, or face fractures, in the granodiorite adjacent to the veins.

Maas and others (1995, p. 254) suggest that sulfide-bearing quartz fissure veins hosted by Texas Creek Granodiorite at the Six Mile prospect are Eocene in age. If so, the age of the deposit is roughly contemporaneous with emplacement of the Hyder Quartz Monzo-

nite batholith.

The prospect was explored in the early 1900s by two adits, 25 and 35 feet long. Picked samples of the richest veins assayed as much as 1080 oz. Au/ton and 200 oz. Ag/ton; samples of the wallrock granodiorite contained an average of 0.05 oz. Au/ton and 2.5 oz. Ag/ton. Samples of a 35-foot-long vein sampled by the U.S. Bureau of Mines in the early 1990s contained up to 3.77 ppm Au, 195.8 ppm Ag, and 2.89% Pb (Maas and others, 1995, p. 261).

Alteration:

Age of mineralization:

Maas and others (1995, p. 254) suggest that sulfide-bearing quartz fissure veins hosted by Texas Creek Granodiorite at the Six Mile prospect are Eocene in age. If so, the age of the deposit is roughly contemporaneous with emplacement of the Hyder Quartz Monzonite batholith.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

The prospect was explored in the early 1900s by two adits, 25 and 35 feet long. Picked samples of the richest veins assayed as much as 1080 oz. Au/ton and 200 oz. Ag/ton; samples of the wallrock granodiorite contained an average of 0.05 oz. Au/ton and 2.5 oz. Ag/ton. Samples of a 35-foot-long vein sampled by the U.S. Bureau of Mines in the early 1990s contained up to 3.77 ppm Au, 195.8 ppm Ag, and 2.89% Pb (Maas and others, 1995, p. 261).

Production notes:

Reserves:

Additional comments:

References:

Buddington, 1929 (B 807); Smith, 1973; Smith, 1977; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995

Primary reference: Buddington, 1929 (B807)

Reporter(s): H.C. Berg, USGS

Last report date: 06/28/99

Site name(s): Bishop

Site type: Prospect

ARDF no.: KC005

Latitude: 55.992 **Quadrangle:** KC D-1

Longitude: 130.052

Location description and accuracy:

The Bishop prospect is on the west shoulder of Skookum Creek at about 1300 feet elevation. The site is in section 11, T. 68 S., R. 99 E., of the Copper River Meridian. It corresponds to loc. 3 on plate 2 in Buddington (1929 [B 807]), and to loc. 5 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Ag, Au

Other: Cu, Pb

Ore minerals: Chalcopyrite, galena, pyrite, pyrrhotite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of this site include: pelitic metasedimentary and subordinate andesitic metavolcanic strata of the Jurassic or Triassic Hazelton Group; recrystallized granodiorite of the Triassic Texas Creek Granodiorite, which intrudes the Hazelton rocks; quartz monzonite and granodiorite of the Hyder Quartz Monzonite batholith, which intrudes the Hazelton and Texas Creek rocks; and Tertiary lamprophyre dikes, which intrude all of the foregoing rock units (Buddington, 1929; Smith, 1973, 1977; Berg and others, 1988).

The deposit consists of a sulfide-bearing quartz fissure vein in (Texas Creek) granodiorite (Buddington, 1929, p. 67). The vein ranges in thickness from about 15 inches to 7 feet and was traced on the surface for 600 feet. It contains pyrrhotite and pyrite, a little chalcopyrite and galena, and traces of gold and silver. The vein was explored in the early 1900s by a 10-foot adit. Maas and others (1995, p. 254) suggest that sulfide-bearing quartz fissure veins in the Texas Creek Granodiorite in the Hyder district are Eocene in age.

Alteration:

Age of mineralization:

Maas and others (1995, p. 254) suggest that sulfide-bearing quartz fissure veins in Texas Creek granodiorite in the Hyder district are Eocene in age.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: No

Site Status: Undetermined

Workings/exploration:
The deposit was explored in the early 1900s by a 10-foot adit.

Production notes:

Reserves:

Additional comments:

References:
Buddington, 1929 (B 807); Smith, 1973; Smith, 1977; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995

Primary reference: Buddington, 1929 (B807)

Reporter(s): H.C. Berg, USGS

Last report date: 06/28/99

Site name(s): Mountain View: Fish Creek nos. 1, 2, and 3; Skookum; Gray Copper; Ruby Silver

Site type: Mine

ARDF no.: KC006

Latitude: 55.985 **Quadrangle:** KC D-1

Longitude: 130.049

Location description and accuracy:

The Mountain View group of claims lies mainly at an elevation of 500-600 feet between Skookum and Fish creeks just above their junction, but in part below it. The site is in section 11, T. 68 S., R. 99 E., of the Copper River Meridian. It mainly represents the Fish Creek nos. 1, 2, and 3 claims, which cover the main workings, called the 'Skookum tunnel' (Byers and Sainsbury, 1956, pl. 8). These claims also cover the 'Gray Copper' and 'Ruby Silver' veins, located at about 900-1000 feet elevation near the north end of the claim group (Maas and others, 1995, p. 262). The site corresponds to loc. 1 on plate 2 in Buddington (1929 [B 807]); to plate 11 in Byers and Sainsbury (1956); and to loc. 6 in Elliott and others (1978). The location is accurate within 0.2 mile.

Commodities:

Main: Ag, Au, Cu, Mo, Pb, W, Zn

Other: Barite, U

Ore minerals: Anglesite, azurite, barite, chalcopyrite, chalmersite, covellite, freibergite, galena, gold, hematite, magnetite, malachite, marcasite, molybdenite, pyrite, pyrrhotite, scheelite, silver, sphalerite, unidentified radioactive mineral

Gangue minerals: Ankerite, calcite, chlorite, quartz, sericite

Geologic description:

The country rocks in the area of this site include: pelitic metasedimentary and subordinate andesitic metavolcanic strata of the Jurassic or Triassic Hazelton Group; recrystallized granodiorite of the Triassic Texas Creek Granodiorite, which intrudes the Hazelton rocks; quartz monzonite and granodiorite of the Hyder Quartz Monzonite batholith, which intrudes the Hazelton and Texas Creek rocks; and Tertiary lamprophyre dikes, which intrude all of the foregoing rock units (Buddington, 1929; Smith, 1973, 1977; Berg and others, 1988).

The deposits consist of quartz fissure veins in (Texas Creek) granodiorite and Hazelton metasedimentary rocks (Buddington, 1929, p. 63-67; West and Benson, 1955, p. 31-45; Byers and Sainsbury, 1956, p. 137-138; Cobb and Elliott, 1980, p. 78). The Texas Creek-

Hazelton contact is a north-trending, high-angle fault that runs through the middle of the property; the Hazelton lays east of the fault. The veins locally are cut by dikes of aplite and granodiorite porphyry or pegmatite that probably are apophyses of the Hyder Quartz Monzonite batholith, and by lamprophyre dikes. The veins range in thickness from an inch or so to as much as 8 feet, and have been traced in surface or underground exposures for as much as 475 feet. The veins contain sulfide minerals, occasionally in massive shoots up to several inches thick, that mainly include pyrite, pyrrhotite, chalcopyrite, galena, sphalerite, and minor tetrahedrite and freibergite. Free gold and native silver have been reported, as have secondary oxides of the copper, lead, silver, and iron sulfides. A secondary, radioactive mineral, tentatively identified as uranium sulfate, occurs as a thin, yellowish coating on some of the sulfide and oxide minerals and on fracture surfaces; the primary radioactive mineral, which appears to be associated with rutile, has not been identified (West and Benson, 1955, p. 41). The Fish Creek no. 2, or Gray Copper, vein contains scheelite and barite in addition to the sulfides. Molybdenite flakes occur in some of the aplite and pegmatite dikes.

On the basis of lead-isotope studies, Maas and others (1995, p. 254) established that the age of the Gray Copper vein is Eocene, and suggest that the Ruby Silver vein also is Eocene. The veins thus are roughly contemporaneous with the emplacement of the Hyder Quartz Monzonite batholith.

More than 3600 feet of underground workings were driven at the Mountain View mine between 1925 and 1944, but the only ore shipments were for mill tests.

Alteration:

Oxidation and supergene enrichment of some copper, silver, lead, and uranium minerals.

Age of mineralization:

On the basis of lead-isotope studies, Maas and others (1995, p. 254) established that the age of the Gray Copper vein is Eocene, and suggest that the Ruby Silver vein also is Eocene. The veins thus are roughly contemporaneous with the emplacement of the Hyder Quartz Monzonite batholith.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: No

Site Status: Undetermined

Workings/exploration:

From 1925 to 1929, a total of 3600 feet of tunnels were driven at the Mountain View mine. Of these workings, 3500 feet are in the Skookum tunnel at an altitude of 540 feet. In 1944, the northwest drift of the Skookum tunnel, on the Gray Copper vein, was ex-

tended for 180 feet. The weighted average tungstic oxide (WO3) content of 43 channel samples in these workings was 1.23% across an average vein width of 1.4 feet for a strike length of 130 feet (Byers and Sainsbury, 1956, p. 137). This ore also averaged 0.1 oz. Au/ton and 6.4 oz. Ag/ton. Weighted averages of channel samples of other parts of this vein varied from 0.15-3.93% WO3. Samples of molybdenite-bearing granodiorite contained 28-1446 ppm Mo (Maas and others, 1995, p. 262, no. 426). The most highly radioactive unconcentrated vein sample contained 0.049 percent equivalent uranium, and the most intensely radioactive concentrate of vein material contained 0.398 percent equivalent uranium (West and Benson, 1955, p. 25).

Production notes:

More than 3600 feet of underground workings were driven at the Mountain View mine between 1925 and 1944, but the only ore shipments were for mill tests.

Reserves:

Additional comments:

References:

Buddington, 1929 (B 807); West and Benson, 1955; Byers and Sainsbury, 1956; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995

Primary reference: Buddington, 1929 (B807); Byers and Sainsbury, 1956

Reporter(s): H.C. Berg, USGS

Last report date: 06/28/99

Site name(s): Ambrose

Site type: Prospect

ARDF no.: KC007

Latitude: 55.98 **Quadrangle:** KC D-1

Longitude: 130.03

Location description and accuracy:
This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 2000 feet, about 0.1 mile north of Adanac Creek. The site is in section 12, T. 68 S., R. 99 E., of the Copper River Meridian. It corresponds to loc. 7 in Elliott and others (1978). The location is accurate within 0.5 mile.

Commodities:

Main: Au?, Cu?, Pb?, Zn?

Other:

Ore minerals:

Gangue minerals:

Geologic description:
The country rocks in the area of this site are Jurassic or Triassic Hazelton Group metagraywacke, slate, and greenstone that are intruded by apophyses of the Eocene Hyder Quartz Monzonite batholith (Buddington, 1929 [B 807]; Smith, 1977). U.S. Bureau of Mines claim records (1977) do not specify the commody(ies) for which this prospect was staked. Its geologic setting, and proximity to other mineral deposits in the Hyder district, however, suggest that they probably include some combination of Cu, Pb, Zn, or Au. No other information about this prospect has been made public.

Alteration:

Age of mineralization:

Deposit model:
Vein?

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Buddington, 1929 (B 807); Smith, 1973; U.S. Bureau of Mines, 1977; Elliott and others, 1978

Primary reference: U.S. Bureau of Mines, 1977; Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 06/28/99

Site name(s): Lucky Boy Extension; Bear; Adenac

Site type: Prospect

ARDF no.: KC008

Latitude: 55.984 **Quadrangle:** KC D-1

Longitude: 130.046

Location description and accuracy:

The Lucky Boy Extension prospect is at an elevation of about 650-750 feet on the north bank of Adenac Creek. The site also includes the Bear claim and Adenac prospect. The site is in section 11, T. 68 S., R. 99 E., of the Copper River Meridian. It corresponds to loc. 2 on plate 2 in Buddington (1929 [B 807]); to loc. 2 on plate 7 and to plate 13 in Byers and Sainsbury (1956); to loc. 8 in Elliott and others (1978); and to loc. 427 on fig. 66 in Maas and others (1995). The location is accurate within about 0.2 mile.

Commodities:

Main: Cu, Pb, Zn

Other: W

Ore minerals: Chalcopyrite, galena, pyrite, pyrrhotite, scheelite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of this site include: pelitic metasedimentary and subordinate andesitic metavolcanic strata of the Jurassic or Triassic Hazelton Group; recrystallized granodiorite of the Triassic Texas Creek Granodiorite, which intrudes the Hazelton rocks; quartz monzonite and granodiorite of the Hyder Quartz Monzonite batholith, which intrudes the Hazelton and Texas Creek rocks; and Tertiary lamprophyre dikes, which intrude all of the foregoing rock units (Buddington, 1929; Smith, 1973, 1977; Berg and others, 1988).

The deposit is a quartz fissure vein and stringer lode, 6-16 inches thick, in a 2-3 foot shear zone in silicified(?) Hazelton slate (Buddington, 1929, p. 67; Cobb and Elliott, 1980, p. 69). The quartz contains pyrite, galena, and sphalerite, and traces of pyrrhotite and chalcopyrite. Byers and Sainsbury (1956, p. 140) report rare grains of scheelite, presumably in the quartz veins, at the Bear (Lucky Boy Extension) prospect. Buddington (1929, p. 67) describes about 100 feet of underground workings on the Lucky Boy Extension. Maas and others (1995, p. 262) report about 300 feet of underground workings on the Adanac vein, which they traced on the surface for about 150 feet.

Maas and others (1995, p. 254) suggest that the sulfide-bearing quartz fissure veins at

the Adanac prospect are Eocene in age. If so, the age of the deposit is roughly contemporaneous with the emplacement of the Hyder Quartz Monzonite batholith.

Alteration:

Age of mineralization:
Maas and others (1995, p. 254) suggest that the sulfide-bearing quartz fissure veins at the Adanac prospect are Eocene in age. If so, the age of the deposit is roughly contemporaneous with the emplacement of the Hyder Quartz Monzonite batholith.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: No

Site Status: Undetermined

Workings/exploration:
The Adenac prospect was explored in the early 1900s by about 300 feet of underground workings (Maas and others, 1995, p. 262). Samples collected by the U.S. Bureau of Mines in the early 1990s contained as much as 5.9 ppm Au, 605.1 ppm Ag, 1.61% Pb, and 1.75% Zn.

Production notes:

Reserves:

Additional comments:
Includes references to Lucky Bay (Cobb and Elliott, 1980, p. 69).

References:
Buddington, 1929 (B 807); Byers and Sainsbury, 1956; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995

Primary reference: Buddington, 1929 (B807); Cobb and Elliott, 1980

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Victoria

Site type: Prospect

ARDF no.: KC009

Latitude: 55.979 **Quadrangle:** KC D-1

Longitude: 130.031

Location description and accuracy:

According to Buddington (1929, p. 67-68 [B 807]), the Victoria group of 25 claims, staked in the early 1900s, are four deep along the international boundary west of Mt. Dolly. The map site is at the presumed center of the group of claims, in section 13, T. 68 S., R. 99 E., of the Copper River Meridian. It is at about 2100 feet elevation, and 1.0 mile northwest of Mt. Dolly. The coordinates are for this site. The site corresponds to loc. 4 on pl. 2 in Buddington (1929) and to loc. 9 in Elliott and others (1978). The location is probably accurate within 0.3 mile.

Commodities:

Main: Ag, Zn

Other:

Ore minerals: Galena?, sphalerite?

Gangue minerals: Quartz?

Geologic description:

The country rocks in the area of this site are metamorphosed sedimentary strata of the Jurassic or Triassic Hazelton Group that are intruded by dikelike apophyses of the Eocene Hyder Quartz Monzonite batholith (Buddington, 1929; Smith, 1977; Berg and others, 1988). The deposit apparently consists of quartz fissure vein(s) in Hazelton metasedimentary rocks (Buddington, 1929, p. 67-68; Maas and others, 1995, p. 262, 592). The quartz contains sparse sulfide minerals that are not identified in descriptions of the deposit, but probably include at least sphalerite and galena. Float in the vicinity contained 141.9 ppm Ag and 16.64% Zn. The deposit was explored in the early 1900s by several short adits.

Alteration:

Age of mineralization:

Deposit model:

Polymetallic veins? (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c?

Production Status: None

Site Status: Undetermined

Workings/exploration:
The deposit was explored in the early 1900s by several short adits.

Production notes:

Reserves:

Additional comments:

References:
Buddington, 1929 (B 807); Smith, 1977; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995

Primary reference: Buddington, 1929 (B807); Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Boundary Line

Site type: Prospect

ARDF no.: KC010

Latitude: 55.913 **Quadrangle:** KC D-1

Longitude: 130.016

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 100 feet, on the U.S.-Canada international boundary at or near Monument 1. The site is in section 1, T. 69 S., R. 100 E., of the Copper River Meridian. It corresponds to loc. 10 in Elliott and others (1978). The location probably is accurate within 0.1 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rock in the area of this site is quartz monzonite of the Eocene Hyder Quartz Monzonite batholith (Buddington, 1929 [B 807]; Smith, 1977). According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be (Hyder) quartz monzonite, was staked for Au. No other information about this prospect has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Buddington, 1929 (B 807); Smith, 1977; U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: U.S. Bureau of Mines, 1977; Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): J and L

Site type: Prospect

ARDF no.: KC011

Latitude: 55.882 **Quadrangle:** KC D-1

Longitude: 130.216

Location description and accuracy:

This prospect is known only from U.S. Bureau (1977) claim records. Its approximate location is at an elevation of about 2900 feet on a mountainside facing the southwest shore of an unnamed lake, about 8 miles west-southwest of Hyder. The site is in section 15, T. 69 S., R. 99 E., of the Copper River Meridian. It corresponds to loc. 11 in Elliott and others (1978). The location is probably accurate within about 0.2 mile.

Commodities:

Main: Cu, Mo?

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rock in the area of this site is quartz monzonite of the Eocene Hyder Quartz Monzonite batholith (Smith, 1977; Berg and others, 1988). According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in (Hyder) quartz monzonite, was staked for Cu, and possibly for Mo. No other information about this prospect has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Smith, 1977; U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: U.S. Bureau of Mines, 1977; Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Alpine

Site type: Prospect

ARDF no.: KC012

Latitude: 55.764 **Quadrangle:** KC D-1

Longitude: 130.172

Location description and accuracy:

The approximate location of this placer claim, known only from U. S. Bureau of Mines (1977) claim records, is at or near sea level on the west shore of Portland Canal, about 0.3 mile north of the mouth of Davis River. The site is at the boundary of sections 25 and 36, T. 70 S., R. 99 E., of the Copper River Meridian. It corresponds to loc. 12 in Elliott and others (1978). The location is probably accurate within 0.3 mile.

Commodities:

Main: Fe

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks in the area of this site are porphyritic quartz monzonite and granodiorite of the Eocene Davis River Pluton (Smith, 1977; Berg and others, 1988). According to U.S. Bureau of Mines claim records (1977), this placer claim, which appears to be in an area underlain by quartz monzonite or granodiorite, adjacent to a north-northeast-trending, high-angle fault, was staked for Fe. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:
Site is a placer claim. It is in Misty Fiords National Monument Wilderness.

References:
Smith, 1977; U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: U.S. Bureau of Mines, 1977; Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Ferro

Site type: Prospect

ARDF no.: KC013

Latitude: 55.759 **Quadrangle:** KC D-1

Longitude: 130.176

Location description and accuracy:

The approximate location of this placer claim, known only from U.S. Bureau of Mines (1977) claim records, is at or near sea level on the west shore of Portland Canal, at the north mouth of Davis River. The site is in section 36, T. 70 S., R. 99 E., of the Copper River Meridian. It corresponds to loc. 13 in Elliott and others (1978). The location probably is accurate within 0.2 mile.

Commodities:

Main: Fe

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks in the area of this site are porphyritic quartz monzonite and granodiorite of the Eocene Davis River Pluton (Smith, 1977; Berg and others, 1988). According to U.S. Bureau of Mines claim records (1977), this placer claim, which appears to be in an area underlain by quartz monzonite or granodiorite, adjacent to a north-northeast-trending, high-angle fault, was staked for Fe. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:
Site is a placer claim. It is in Misty Fiords National Monument Wilderness.

References:
Smith, 1977; U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: U.S. Bureau of Mines, 1977; Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Commonwealth

Site type: Prospect

ARDF no.: KC014

Latitude: 55.75 **Quadrangle:** KC D-1

Longitude: 130.22

Location description and accuracy:

The presumed location of this prospect is based on Buddington's (1929, p. 111-112 [B 807]) description of the Commonwealth group of claims, which in turn refers to somewhat ambiguous landmarks that cannot be accurately located on the Ketchikan D-1 topographic map. The map site therefore is probably accurate only within about a mile. The site is in section 34, T. 70 S., R. 99 E., of the Copper River Meridian. It corresponds to loc. 14 in Elliott and others (1978).

Commodities:

Main: Au?, Cu, Mo, Zn

Other:

Ore minerals: Chalcopyrite, gold?, molybdenite, pyrrhotite, sphalerite

Gangue minerals: Quartz, skarn minerals

Geologic description:

The country rocks in the area of the presumed site are porphyritic quartz monzonite and granodiorite of the Eocene Davis River Pluton (Smith, 1977; Berg and others, 1988). According to Buddington (1929, p. 111-112), the Commonwealth prospect(s) lie within a narrow belt of metamorphosed sedimentary rocks that form a roof pendant within the quartz monzonite. The metamorphosed strata are several hundred feet thick and include interbedded quartzite, schist, and marble. A lamprophyre dike cuts the quartz monzonite and metasedimentary rocks. The quartzite, schist, and marble have been contact metamorphosed by the intrusion of the quartz monzonite and locally contain disseminations, seams, and small masses of quartz, garnet, epidote, pyroxene, tremolite, and small amounts of sulfide minerals. The sulfide minerals include pyrrhotite, sphalerite, chalcopyrite, and molybdenite, and a quartz stringer was reported to yield gold. The age of this contact metamorphic (skarn) deposit probably is Eocene, roughly contemporaneous with the emplacement of the Davis River Pluton. The prospect was explored in the early 1900s by an 80-foot adit and an 11-foot adit.

Alteration:

Weathered pyrrhotite gives a rusty color to the surface outcrop.

Age of mineralization:
Eocene?

Deposit model:
Cu skarn (Cox and Singer, 1986; model 18b)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
18b

Production Status: None

Site Status: Undetermined

Workings/exploration:
The prospect was explored in the early 1900s by opencuts, an 80-foot adit, and an 11-foot adit.

Production notes:

Reserves:

Additional comments:
Site is in Misty Fiords National Monument Wilderness.

References:
Buddington, 1929 (B 807); Smith, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: Buddington, 1929 (B807)

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Unnamed (west of upper Davis River)

Site type: Occurrence

ARDF no.: KC015

Latitude: 55.836 **Quadrangle:** KC D-2

Longitude: 130.409

Location description and accuracy:

This occurrence is at an elevation of about 2700 feet in section 4, T70S, R98E. It is near the head of an east-flowing tributary to upper Davis River and about 1.2 miles north-northeast of an unnamed lake at 3038 feet elevation. The site is in section 4, T. 70 S., R. 98 E., of the Copper River Meridian. It corresponds to area M-7 in Berg and others (1977), and to loc. 15 in Elliott and others (1978). The location is accurate within about 0.1 mile.

Commodities:

Main: Cu

Other: Ag, Zn

Ore minerals: Chalcopyrite, pyrite, pyrrhotite

Gangue minerals:

Geologic description:

The country rocks in the area of this occurrence are Tertiary or Cretaceous foliated granodiorite of the Coast Range batholith, and pelitic paragneiss that forms metamorphic roof pendants and screens in the batholith (Berg and others, 1977, p. 10; Berg and others, 1988). The paragneiss consists chiefly of quartz, biotite, feldspar, garnet, and sillimanite. It probably represents marine argillaceous and clastic sedimentary rocks that underwent high-grade regional metamorphism in Cretaceous or Tertiary time. The premetamorphic age of the strata is uncertain, but they probably are mainly Paleozoic and may be as old as Precambrian (Berg and others, 1988, p. 26; Gehrels and others, 1990; Crawford and others, in press).

The occurrence is a conspicuous zone of iron-stained paragneiss 120 feet wide and about 2 miles long (Berg and others, 1977, area M-7, p. 132 and pl. 2). The paragneiss contains small amounts of pyrite, pyrrhotite, and chalcopyrite that form small small pods parallel to the gneissic foliation. Two random chip samples across about half the width of the zone assayed up to 2 ppm Ag and 260 ppm Zn (Berg and others, 1977, p. 132).

Alteration:

Conspicuous iron-staining.

Age of mineralization:

Deposit model:
Sparsely disseminated base-metal sulfides

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
Two random chip samples across about 60 feet of the iron-stained zone assayed up to 2 ppm Ag and 260 ppm Zn (Berg and others, 1977, p. 132).

Production notes:

Reserves:

Additional comments:
Site is in Misty Fiords National Monument Wilderness.

References:
Berg and others, 1977; Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Berg and others, 1977

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Unnamed (north of Leduc Lake)

Site type: Occurrence

ARDF no.: KC016

Latitude: 55.977 **Quadrangle:** KC D-3

Longitude: 130.849

Location description and accuracy:

This occurrence is at an elevation of about 3900 feet in the saddle between hills 4430 and 4375, about 2.8 miles north of the outlet of Leduc Lake. The site is in section 15, T. 68 S., R. 94 E., of the Copper River Meridian. It corresponds to area M-1 in Berg and others (1977), and to loc. 16 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Cu, Mo

Other: Ag, Pb, Zn, W

Ore minerals: Chalcopyrite, molybdenite, pyrrhotite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of this occurrence are pelitic paragneiss, subordinate quartzofeldspathic paragneiss, and minor amphibolite and tactite (Berg and others, 1977, p. 123-124; Berg and others, 1988). These rocks, accompanied by small intrusions of pegmatite and diorite, form a large roof pendant in Tertiary or Cretaceous foliated granodiorite and quartz diorite of the Coast Range batholith. The metamorphic rocks probably represent marine argillaceous, clastic, and minor mafic volcanic strata that underwent high-grade regional metamorphism in Cretaceous or Tertiary time. The premetamorphic age of the strata is uncertain, but they probably are mainly Paleozoic and may be as old as Precambrian (Berg and others, 1988, p. 26; Gehrels and others, 1990; Crawford and others, in press).

The occurrence is a band of iron-stained paragneiss 450-900 feet wide and about 3 miles long (Berg and others, 1977, p. 123-125). It consists of small quartz veins and stringers that both parallel and crosscut the schistosity of the enclosing metamorphic rocks, which locally are intruded by small pegmatite dikes and sills. Berg and others (1977) reported anomalous amounts of molybdenum in rock (table 3, no. 16) and stream-sediment (figs. 9, 12) geochemical samples collected in this area. Eleven follow-up chip samples collected by the U.S. Bureau of Mines contained up to 110 ppm Cu, 15 ppm Pb,

60 ppm Zn, 1.5 ppm Ag, 100 ppm Mo, and, in one sample, a trace of W (Berg and others, 1977, area M-1, p. 123-125). In addition, several concordant lenses of chocolate-brown-weathering amphibolite up to about 2 feet wide and 15 feet long contain a small amount of pyrrhotite and a trace of chalcopyrite.

Alteration:
Conspicuous iron-staining.

Age of mineralization:

Deposit model:
Disseminated base-metal sulfides in metamorphic roof pendant

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
Eleven chip samples of quartz veins and metamorphic hostrocks contained up to 110 ppm Cu, 15 ppm Pb, 60 ppm Zn, 1.5 ppm Ag, 100 ppm Mo, and, in one sample, a trace of W (Berg and others, 1977, p. 125).

Production notes:

Reserves:

Additional comments:
Occurrence is in Misty Fiords National Monument Wilderness.

References:
Berg and others, 1977; Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Berg and others, 1977

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Unnamed (near mouth of creek draining Leduc Lake)

Site type: Occurrence

ARDF no.: KC017

Latitude: 55.929 **Quadrangle:** KC D-3

Longitude: 130.815

Location description and accuracy:

This occurrence is at an elevation of about 100 feet in the canyon walls of the stream draining Leduc Lake, just before the stream enters Leduc River, 2 miles above its confluence with Chickamin River. The site is in section 36, T. 68 S., R. 94 E., of the Copper River Meridian. It corresponds to loc. 17 in Elliott and others (1978). The location is accurate within about 0.1 mile.

Commodities:

Main: Cu

Other: Ag, Mo, Pb, Zn

Ore minerals: Chalcopyrite, pyrrhotite

Gangue minerals:

Geologic description:

The country rocks in the area of this occurrence are pelitic paragneiss, subordinate quartzofeldspathic paragneiss, and minor marble. These metamorphic rocks form roof pendants, screens, and inclusions in Tertiary or Cretaceous foliated granodiorite and quartz diorite of the Coast Range batholith (Berg and others, 1977, p. 124-126; Berg and others, 1988). The metamorphic rocks probably represent marine argillaceous, clastic, and minor carbonate strata that underwent high-grade regional metamorphism in Cretaceous or Tertiary time. The premetamorphic age of the strata is uncertain, but they probably are mainly Paleozoic and may be as old as Precambrian (Berg and others, 1988, p. 26; Gehrels and others, 1990; Crawford and others, in press).

The occurrence is a poorly-exposed, rusty-weathering zone in paragneiss about 900-1800 feet wide and 2.5 miles long (Berg and others, 1977, area M-2, p. 124-126). Some of the rocks contain a little pyrrhotite and traces of chalcopyrite. Four chip samples of the accessible part of the zone, representing two separate horizons totalling about 200 feet thick, contained 30-160 ppm Cu, 10-90 ppm Pb, 80-400 ppm Zn, 5-50 ppm Mo, and 0.5-2.0 ppm Ag. A six-foot-thick layer of graphitic marble contained negligible amounts of these metals.

Alteration:
Locally conspicuous iron-staining.

Age of mineralization:

Deposit model:
Disseminated base-metal sulfides in metamorphic roof pendant

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
Four chip samples of the accessible part of the iron-stained zone, representing two separate horizons totalling about 200 feet thick, yielded values of 30-160 ppm Cu, 10-90 ppm Pb, 80-400 ppm Zn, 5-50 ppm Mo, and 0.5-2.0 ppm Ag (Berg and others, 1977, p. 124-126). A six-foot-thick layer of graphitic marble contained negligible amounts of these metals.

Production notes:

Reserves:

Additional comments:
Site is in Misty Fiords National Monument Wilderness.

References:
Berg and others, 1977; Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Berg and others, 1977

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Unnamed (north of confluence of Chickamin River and South Fork)

Site type: Occurrence

ARDF no.: KC018

Latitude: 55.909 **Quadrangle:** KC D-3

Longitude: 130.724

Location description and accuracy:

This occurrence is at an elevation of about 1300 feet in the walls of a steep avalanche gully west of the Chickamin River, approximately 2.5 miles north of its confluence with the South Fork. The site is in section 5, T. 69 S., R. 96 E., of the Copper River Meridian. It corresponds to area M-3 in Berg and others (1977), and to loc. 18 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Cu

Other: Ag

Ore minerals: Chalcopyrite

Gangue minerals:

Geologic description:

The country rocks in the area of this occurrence consist chiefly of rusty-weathering pelitic paragneiss that forms roof pendants, screens, and inclusions in Tertiary or Cretaceous foliated granodiorite and quartz diorite of the Coast Range batholith (Berg and others, 1977, p. 126; Berg and others, 1988). The paragneiss probably represents marine argillaceous and clastic strata that underwent high-grade regional metamorphism in Cretaceous or Tertiary time. The premetamorphic age of the strata is uncertain, but they probably are mainly Paleozoic and may be as old as Precambrian (Berg and others, 1988, p. 26; Gehrels and others, 1990; Crawford and others, in press).

The occurrence consists of a 150-foot-thick zone of rusty-weathering paragneiss that strikes about N10W and can be traced in outcrop for about a mile northwest of Chickamin River (Berg, 1977, p. 126 and pl. 2). The zone probably is the northwest extension of a similar rusty zone on the other side of the river (KC019). The paragneiss locally contains a little pyrrhotite and a trace of chalcopyrite. Eight chip samples across about 125 feet of section perpendicular to the foliation assayed as much as 340 ppm Cu and 2 ppm Ag (Berg and others, 1977, p. 126 and fig. 35).

Alteration:
Conspicuous iron-staining.

Age of mineralization:

Deposit model:
Disseminated base-metal sulfides in rusty-weathering paragneiss

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
Eight chip samples across about 125 feet of section perpendicular to the foliation assayed as much as 340 ppm Cu and 2 ppm Ag (Berg and others, 1977, p. 126 and fig. 35).

Production notes:

Reserves:

Additional comments:
Site is in Misty Fiords National Monument Wilderness.

References:
Berg and others, 1977; Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Berg and others, 1977

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Unnamed (north of confluence of Chickamin River and South Fork)

Site type: Occurrence

ARDF no.: KC019

Latitude: 55.889 **Quadrangle:** KC D-3

Longitude: 130.705

Location description and accuracy:

This occurrence is at an elevation of about 600 feet in cliffs east of the Chickamin River, about 2 miles north of the mouth of the South Fork. The site is in section 16, T. 69 S., R. 96 E., of the Copper River Meridian. It corresponds to area M-4 in Berg and others (1977), and to loc. 19 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Cu, Mo

Other: Ag?, Pb, Zn

Ore minerals: Chalcopyrite, pyrite

Gangue minerals:

Geologic description:

The country rocks in the area of this occurrence consist chiefly of rusty-weathering pelitic paragneiss that forms roof pendants, screens, and inclusions in Tertiary or Cretaceous foliated granodiorite and quartz diorite of the Coast Range batholith (Berg and others, 1977, p. 126; Berg and others, 1988). The paragneiss probably represents marine argillaceous and clastic strata that underwent high-grade regional metamorphism in Cretaceous or Tertiary time. The premetamorphic age of the strata is uncertain, but they probably are mainly Paleozoic and may be as old as Precambrian (Berg and others, 1988, p. 26; Gehrels and others, 1990; Crawford and others, in press).

The occurrence consists of a zone of rusty-weathering pyritic paragneiss and schist, whose foliation strikes N30W and dips 55NE. The zone is about 450 feet thick and its outcrop can be traced along strike to the southeast for about 3 miles (Berg and others, 1977, p. 126 and pl. 2). The zone probably is the southeast extension of a similar rusty zone on the other side of Chickamin River (KC018). In addition to locally abundant pyrite, the rocks contain sparse chalcopyrite. Chip samples taken perpendicular to the foliation across about 350 feet of the zone assayed up to 150 ppm Mo, 95 ppm Cu, 15 ppm Pb, 80 ppm Zn, and 1 ppm Ag. One sample contained a trace (less than 0.05 ppm) of gold

(Berg and others, 1977, p. 126 and fig. 36).

Alteration:
Conspicuous iron-staining.

Age of mineralization:

Deposit model:
Disseminated base-metal sulfides in rusty-weathering paragneiss

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
Thirteen chip samples taken perpendicular to the foliation across about 350 feet of a 600-foot-thick zone of iron-stained paragneiss assayed up to 150 ppm Mo, 95 ppm Cu, 15 ppm Pb, 80 ppm Zn, and 1 ppm Ag. One sample contained a trace (less than 0.05 ppm) of gold (Berg and others, 1977, p. 126 and fig. 36).

Production notes:

Reserves:

Additional comments:
Site is in Misty Fiords National Monument Wilderness.

References:
Berg and others, 1977; Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Berg and others, 1977

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Unnamed (southeast of confluence of Chickamin River and South Fork)

Site type: Occurrence

ARDF no.: KC020

Latitude: 55.839 **Quadrangle:** KC D-3

Longitude: 130.675

Location description and accuracy:

This occurrence is at an elevation of about 2900 feet, approximately 3.5 miles southeast of the confluence of the Chickamin River and the South Fork of the Chickamin. The site is in section 34, T. 69 S., R. 96 E., of the Copper River Meridian. It corresponds to area M-6 in Berg and others (1977), and to loc. 20 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, magnetite, pyrite

Gangue minerals:

Geologic description:

The country rocks in the area of this occurrence consist chiefly of Tertiary or Cretaceous foliated granodiorite of the Coast Range batholith, and of rusty-weathering pelitic paragneiss that forms roof pendants, screens, and inclusions in the batholith (Berg and others, 1977, p. 129-132; Berg and others, 1977). The paragneiss probably represents marine argillaceous and clastic strata that underwent high-grade regional metamorphism in Cretaceous or Tertiary time. The premetamorphic age of the strata is uncertain, but they probably are mainly Paleozoic and may be as old as Precambrian (Berg and others, 1988, p. 26; Gehrels and others, 1990; Crawford and others, in press).

The occurrence consists of a conspicuous band of rusty-weathering pyritic gneiss about 1000 feet wide that strikes northwest and dips northeast, and can be traced in outcrop for about 3 miles (Berg and others, p. 129-132 and pl. 2). The rocks include quartzofeldspathic gneiss, which is gradational with the foliated plutonic rocks of the Coast Range batholith, and subordinate pelitic schist and paragneiss. The rocks contain pyrite in amounts up to several volume percent, and sparse grains of chalcopyrite. Thirty-six chip samples collected at three locations along the outcrop of the band assayed up to 700 ppm Cu, 150 ppm Pb, 200 ppm Zn, 70 ppm Mo, and 5 ppm Ag (Berg and others, 1977, table

13). A rock grab sample from the band contained up to 450 ppm Pb and 0.05 ppm Ag, and a stream-sediment sample from a creek draining the band was anomalous in Cu, Pb, Zn, Mo, Au, and Ag (Berg and others, 1977, fig. 9 and table 13).

Alteration:
Conspicuous iron-staining.

Age of mineralization:

Deposit model:
Disseminated base-metal sulfides in rusty-weathering paragneiss

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
Thirty-six chip samples collected at three locations along the outcrop of this 3-mile-long, 1000-foot-wide band of rusty-weathering gneiss assayed up to 700 ppm Cu, 150 ppm Pb, 200 ppm Zn, 70 ppm Mo, and 5 ppm Ag (Berg and others, 1977, table 13). A rock grab sample from the band contained up to 450 ppm Pb and 0.05 ppm Ag, and a stream-sediment sample from a creek draining the band was anomalous in Cu, Pb, Zn, Mo, Au, and Ag (Berg and others, 1977, fig. 9 and table 13).

Production notes:

Reserves:

Additional comments:
Site is in Misty Fiords National Monument Wilderness.

References:
Berg and others, 1977; Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Berg and others, 1977

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Gnat

Site type: Prospect

ARDF no.: KC021

Latitude: 55.831 **Quadrangle:** KC D-3

Longitude: 130.909

Location description and accuracy:

The Gnat prospect is at an elevation of about 150 feet in a narrow gorge in the north wall of Chickamin River canyon, about 1250 feet N22W of Wolf cabin at the mouth of the Chickamin River. The site is in section 6, T. 70 S., R. 95 E., of the Copper River Meridian. It corresponds to loc. P-20 in Berg and others (1977, p. 121), and loc. 21 in Elliott and others (1978). The location is accurate within about 300 feet.

Commodities:

Main: Cu, Mo, Pb

Other: Au?

Ore minerals: Chalcopyrite, galena, molybdenite, pyrite

Gangue minerals: Albite, quartz

Geologic description:

The country rocks in the area of the Gnat prospect is Tertiary or Cretaceous gneissic quartz diorite of the Coast Range batholith that locally contains inclusions of metasedimentary rocks (Berg and others, 1988). The quartz diorite near the prospect is cut by at least one two-foot-thick dike of altered felsic rock (Berg and others, 1977, p. 121).

The Gnat prospect consists of a glassy quartz-albite fissure vein 5.5 feet to 9.5 feet thick that strikes N20W and dips 59-80NE (Berg and Cobb, 1967, p. 182-183; Berg and others, 1977, p. 121). The vein is in gneissic quartz diorite and contains chalcopyrite, molybdenite, galena, and pyrite. The sulfides are relatively abundant for about 1.5 feet below the hanging wall; the rest of the vein is low in visible sulfides. Several channel and composite samples of the vein and of float probably derived from the vein assayed up to 1400 ppm Cu, 1500 ppm Pb, and 4700 ppm Mo (Berg and others, 1977, table 12). The Gnat deposit was staked about 1900, when the vein probably was prospected chiefly for gold (Buddington, 1929, p. 120 [B 807]; Berg and Cobb, 1967, p. 182-183). There is no record of any workings, or of any recovery of gold from the vein, but there probably was some small early production.

Alteration:

Age of mineralization:

Deposit model:
Polymetallic vein (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:
The Gnat deposit was staked about 1900, when the vein probably was prospected chiefly for gold (Buddington, 1929, p. 120; Berg and Cobb, 1967, p. 182-183). Several channel and composite samples of the vein and of float probably derived from the vein assayed up to 1400 ppm Cu, 1500 ppm Pb, and 4700 ppm Mo (Berg and others, 1977, table 12).

Production notes:
There is no record of any workings, or of any recovery of gold from the vein, but there probably was some small early production.

Reserves:

Additional comments:
The site is in Misty Fiords National Monument Wilderness.

References:
Buddington, 1929 (B 807); Berg and Cobb, 1967; Berg and others, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: Berg and others, 1977

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Alamo; Glacier

Site type: Prospect

ARDF no.: KC022

Latitude: 55.756 **Quadrangle:** KC D-3

Longitude: 130.756

Location description and accuracy:

The Alamo (Glacier) prospect is at an elevation of about 200-1000 feet above the north shore of Walker Cove, about 6.3 miles northeast of Hut Point. The prospect is along the northeast wall of a steep, southeast-trending gorge, in section 31, T. 70 S., R. 96 E., of the Copper River Meridian. It corresponds to loc. P-18 in Berg and others (1977, p. 116-120), and to loc. 22 in Elliott and others (1978). The location is accurate within 0.2 mile.

Commodities:

Main: Ag, Cu, Zn

Other:

Ore minerals: Chalcopyrite, pyrite, pyrrhotite, sphalerite

Gangue minerals: Quartz

Geologic description:

The area of the Alamo prospect is underlain by a sequence of pelitic and quartzofeldspathic paragneiss, and minor dolomite marble that is part of a large metamorphic roof pendant in Tertiary or Cretaceous foliated granodiorite and quartz diorite of the Coast Range batholith (Berg and others, 1977, p. 117; Berg and others, 1988). The metamorphic sequence represents marine strata that underwent high-grade regional metamorphism in Cretaceous or Tertiary time. The premetamorphic age of the strata is uncertain, but they probably are mainly Paleozoic and may be as old as Precambrian (Berg and others, 1988, p. 26; Gehrels and others, 1990; Crawford and others, in press).

The deposit is a 75-foot-wide sulfide-bearing zone in paragneiss near the contact of foliated granodiorite (Berg and others, 1977, p. 117-120). The zone strikes northwest and dips northeast, parallel to the regional foliation of the country rocks. At an elevation of about 870 feet, the paragneiss contains a layer of dolomite marble about 18 feet thick. From 0-18 feet above the marble, the paragneiss contains small amounts of pyrite and subordinate chalcopyrite. The next nine feet contain sparse pyrite and a trace of chalcopyrite. The marble appears to be barren. Other parts of the deposit contain seams, patches, and disseminated grains of chalcopyrite and pyrrhotite. The richest material sampled by the U.S. Bureau of Mines in 1972 was a small lens of massive chalcopyrite

and other sulfides, accompanied by some quartz and breccia, about 15 inches thick and 30 inches long (Berg and others, 1977, p. 120 and table 11, no. 2P025). Atomic absorption assays of this material showed 10% Cu, 0.2% Zn, 50 ppm Ag, and 0.2 ppm Au. The zinc content in this sample, and the zinc content in several samples collected elsewhere in the deposit, indicate that sphalerite also is present. Twenty-six channel samples at several places along the deposit were collected by the Bureau in 1972 (Berg and others, 1977, p. 117-120). Assays of these samples showed up to 10% Cu and 2.1% Zn, along with as much as 75 ppm Pb, 50 ppm Ag, 15 ppm Mo, and, in one sample, 0.2 ppm Au. The results of this sampling indicate a large body of sulfide-bearing paragneiss containing 0.2%-0.7% Cu.

Alteration:
Locally conspicuous iron-staining.

Age of mineralization:

Deposit model:
Metamorphosed Besshi massive sulfide? (Cox and Singer, 1986; model 24b)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
24b?

Production Status: None

Site Status: Undetermined

Workings/exploration:
The deposit was located as the Glacier prospect in 1954 and explored by a small amount of trenching and some core drilling (Berg and others, 1977, p. 116-117). It was restaked in 1969 by another locator as the Alamo group of six claims. Exploration since the restaking included some stripping, several shallow trenches, and 5 diamond drill holes. Four of the holes reportedly were 180 feet long and one was 90 feet long. Two additional claims were located in 1973, but at that time no assay values or logs had yet been released for any of the drill holes. Although results of this private exploration have not been made public, sample values were unofficially reported to range from 0.25%-1.3% Cu in the limited areas sampled. Other unofficial reports described several drill-hole intersections of 18- to 27-foot-long zones containing more than 1% Cu (Berg and others, 1977, p. 120). Continuity of these intersections between holes is uncertain.

Twenty-six channel samples at several places along the deposit were collected by the U. S. Bureau of Mines in 1972 (Berg and others, 1977, p. 117-120). Assays of these samples showed up to 10% Cu and 2.1% Zn, along with as much as 75 ppm Pb, 50 ppm Ag, 15 ppm Mo, and, in one sample, 0.2 ppm Au. The results of this sampling indicate a large body of sulfide-bearing paragneiss containing 0.2%-0.7% Cu.

Production notes:

Reserves:

Additional comments:
Prospect is in Misty Fiords National Monument Wilderness.

References:
Berg and others, 1977; Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Berg and others, 1977

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Unnamed (north shore of Walker Cove)

Site type: Occurrence

ARDF no.: KC023

Latitude: 55.729 **Quadrangle:** KC C-3

Longitude: 130.859

Location description and accuracy:

This occurrence is on the north shore of Walker Cove 1.9 miles east-northeast of its mouth. The site is in section 9, T. 71 S., R. 95 E., of the Copper River Meridian. It corresponds to area G-7 in Berg and others (1977, p. 134), and to loc. 23 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Cu, Mo

Other: Ag

Ore minerals: Chalcopyrite, molybdenite, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of this site are Tertiary or Cretaceous foliated quartz diorite and granodiorite of the Coast Range batholith, and pelitic paragneiss that forms roof pendants, screens, and inclusions in the batholith (Berg and others, 1988). The metamorphic sequence represents marine strata that underwent high-grade regional metamorphism in Cretaceous or Tertiary time. The premetamorphic age of the strata is uncertain, but they probably are mainly Paleozoic and may be as old as Precambrian (Berg and others, 1988, p. 26; Gehrels and others, 1990; Crawford and others, in press).

The occurrence consists of quartz stringers and fissure(?) veins up to about 2 feet thick that cut paragneiss and gneissic quartz diorite. Most of the veins are apparently barren, but one two-foot-thick vein contains several volume percent of pyrite, and minor amounts of chalcopyrite and molybdenite (Berg and others, 1977, p. 134). Some of the paragneiss country rock near the veins contains small pods, stringers, and disseminations of pyrite. A grab sample of this paragneiss contained 3.0 ppm Ag. Chip samples of the richest section of the two-foot-thick quartz vein contained 900 ppm Cu, 70 ppm Mo, 0.1 ppm Au, 1.0 ppm Ag, and less than 5 ppm Pb (Berg and others, 1977, p. 135). Chip samples of the quartz diorite, paragneiss, and other quartz veins assayed up to 110 ppm Cu, 10 ppm Pb, 100 ppm Zn, 5 ppm Mo, and 1.0 ppm Ag.

Alteration:

Age of mineralization:
Fissure veins probably are Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
A grab sample of sulfide-bearing paragneiss contained 3.0 ppm Ag. Chip samples of the richest section of a two-foot-thick sulfide-bearing quartz vein contained 900 ppm Cu, 70 ppm Mo, 0.1 ppm Au, 1.0 ppm Ag, and less than 5 ppm Pb (Berg and others, 1977, p. 135). Chip samples of quartz diorite, paragneiss, and other quartz veins assayed up to 110 ppm Cu, 10 ppm Pb, 100 ppm Zn, 5 ppm Mo, and 1.0 ppm Ag.

Production notes:

Reserves:

Additional comments:
Site is in Misty Fiords National Monument Wilderness.

References:
Berg and others, 1977; Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Berg and others, 1977

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Marble Copper

Site type: Prospect

ARDF no.: KC024

Latitude: 55.724 **Quadrangle:** KC C-3

Longitude: 130.868

Location description and accuracy:

The Marble Copper prospect is on the north shore of Walker Cove about 1.4 miles from its mouth. The site is in section 9, T. 71 S., R. 95 E., of the Copper River Meridian. It corresponds to loc. P-19 in Berg and others (1977, p. 120-121), and to loc. 24 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Cu

Other: Ag, Au, Pb, Zn

Ore minerals: Chalcopyrite, malachite

Gangue minerals: Calcite, calc-silicate minerals

Geologic description:

The country rocks in the area of the Marble Copper prospect are Tertiary or Cretaceous foliated granodiorite and quartz diorite of the Coast Range batholith, and paragneiss and minor marble that form metamorphic roof pendants, screens, and inclusions in the batholith (Berg and others, 1977, p. 120-121; Berg and others, 1988). The metamorphic rocks represent marine strata that underwent high-grade regional metamorphism in Cretaceous or Tertiary time. The premetamorphic age of the strata is uncertain, but they probably are mainly Paleozoic and may be as old as Precambrian (Berg and others, 1988, p. 26; Gehrels and others, 1990; Crawford and others, in press).

The deposit consists of chalcopyrite and malachite in a marble-skarn zone in a paragneiss roof pendant in gneissic diorite and quartz diorite (Berg and others, 1977, p. 120-121 and fig. 33). The marble-skarn zone is about 20 feet wide, and it adjoins a zone of paragneiss and subordinate marble and skarn about 60 feet wide. The calc-silicate minerals in the skarn are not described, but their green color (fig. 33, spl. no. 2K008) suggests that they include diopside. A 22-inch-long channel sample of the most heavily copper-stained part of the marble-skarn zone assayed up to 0.7% Cu, 150 ppm Pb, 300 ppm Zn, 30 ppm Ag, and 3.5 ppm Au (Berg and others, 1977, fig. 33, spl. no. 2K009). Adjacent channel samples showed much lower assay values, and a chip sample of a second band of marble northeast of the marble-skarn zone showed only traces of copper. The prospect

was explored sometime before 1972 by a shallow opencut, but there was no evidence in 1973 that any claims had been staked.

Alteration:
Local oxidation of copper minerals.

Age of mineralization:
Probably Cretaceous or younger.

Deposit model:
Cu skarn (Cox and Singer, 1986; model 18b)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
18b

Production Status: None

Site Status: Undetermined

Workings/exploration:
The prospect was privately explored sometime before 1972 by a shallow opencut, but there was no evidence in 1973 that any claims had been staked. A 22-inch-long channel sample of the most heavily copper-stained part of the marble-skarn zone assayed up to 0.7% Cu, 150 ppm Pb, 300 ppm Zn, 30 ppm Ag, and 3.5 ppm Au (Berg and others, 1977, fig. 33, spl. no. 2K009). Adjacent channel samples showed much lower assay values, and a chip sample of a second band of marble northeast of the marble-skarn zone showed only traces of copper.

Production notes:

Reserves:

Additional comments:
Prospect is in Misty Fiords National Monument Wilderness.

References:
Berg and others, 1977; Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Berg and others, 1977

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Unnamed (south shore of Walker Cove)

Site type: Occurrence

ARDF no.: KC025

Latitude: 55.713 **Quadrangle:** KC C-3

Longitude: 130.867

Location description and accuracy:

This occurrence is on the south shore of Walker Cove about 1.2 miles east of Hut Point. The site is in section 16, T. 71 S., R. 95 E., of the Copper River Meridian. It corresponds to site G-9 in Berg and others (1977, p. 135), and to loc. 25 in Elliott and others (1978). The location is accurate within about 0.1 mile.

Commodities:

Main: Cu

Other: Ag

Ore minerals: Chalcopyrite, pyrite

Gangue minerals:

Geologic description:

The country rocks in the area of this occurrence consist of paragneiss metamorphic roof pendants, screens, and inclusions in Tertiary or Cretaceous foliated granodiorite and quartz diorite of the Coast Range batholith (Berg and others, 1988). The metamorphic rocks represent marine strata that underwent high-grade regional metamorphism in Cretaceous or Tertiary time. The premetamorphic age of the strata is uncertain, but they probably are mainly Paleozoic and may be as old as Precambrian (Berg and others, 1988, p. 26; Gehrels and others, 1990; Crawford and others, in press).

The occurrence consists of sulfide-bearing paragneiss (Berg and others, 1977, p. 135). The sulfides occur as thin, discontinuous layers of pyrite and sparse chalcopyrite that parallel the foliation of the paragneiss. Anomalous amounts of Cu (280 ppm) and Ag (1.5 ppm) were detected in a grab sample from this locality. A chip sample across a 38-foot section of dark gray paragneiss containing bands of light gray, slightly pyritic paragneiss assayed 1000 ppm Cu and nearly 1 ppm Ag.

Alteration:

Age of mineralization:

Deposit model:
Disseminated base-metal sulfides in paragneiss

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
Anomalous amounts of Cu (280 ppm) and Ag (1.5 ppm) were detected in a grab sample of pyritic paragneiss from this locality (Berg and others, 1977, p. 135). A chip sample across a 38-foot section of dark gray paragneiss containing bands of light gray, slightly pyritic paragneiss assayed 1000 ppm Cu and nearly 1 ppm Ag.

Production notes:

Reserves:

Additional comments:
This site is in Misty Fiords National Monument Wilderness.

References:
Berg and others, 1977; Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Berg and others, 1977

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Unnamed (Burroughs Bay)

Site type: Prospect

ARDF no.: KC026

Latitude: 55.994 **Quadrangle:** KC D-4

Longitude: 131.297

Location description and accuracy:
This prospect is at sea level on the north side of Burroughs Bay, about 4.2 miles northwest of Pt. Whaley. The site is in section 11, T. 68 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 26 in Elliott and others (1978). The location is accurate within a few hundred feet.

Commodities:

Main: Mo

Other: U

Ore minerals: Molybdenite, pyrite

Gangue minerals: Quartz

Geologic description:
The country rocks in the area of this prospect include a Cretaceous foliated quartz diorite batholith; metamorphic roof pendants in the batholith; and a Miocene granite and quartz porphyry stock and associated dikes that intrude the batholith and the metamorphic rocks (Berg and others, 1978, p. 12-13; Berg and others, 1988, p. 23). The outcrop area of the stock and associated dikes is about a square mile. The deposit is in the Miocene granite and quartz porphyry and consists of molybdenite-bearing quartz fissure veins and molybdenite coatings on fracture surfaces, and of veins and disseminations of pyrite (Berg and others, 1978, p. 12-13 and table 2). Analyses of several samples of molybdenite-bearing quartz porphyry dikes showed up to 100 ppm Mo and traces of U (Koch and Elliott, 1978 [OFR 78-156A]). The mineralogy, hostrock, age, and setting indicate that this is a porphyry molybdenum deposit similar in type and origin to the much larger one at Quartz Hill (KC105).

Alteration:
Pyritization and silicification.

Age of mineralization:
Miocene.

Deposit model:
Porphyry molybdenum, low-F (Cox and Singer, 1986; model 21b)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
21b

Production Status: None

Site Status: Undetermined

Workings/exploration:
The deposit has been examined by private interests, but none of their findings have been made public. A grade of 0.06% molybdenite has been reported (Eakins and others, 1983, p. 46).

Production notes:

Reserves:

Additional comments:
Also see Quartz Hill (KC105).

References:
Elliott and others, 1978; Berg and others, 1978; Koch and Elliott, 1978 (OFR 78-156A); Eakins and others, 1983; Berg and others, 1988

Primary reference: Berg and others, 1978 (OFR 78-73M); Koch and Elliott, 1978 (OFR 78-156A)

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Ekblad

Site type: Prospect

ARDF no.: KC027

Latitude: 55.71 **Quadrangle:** KC C-5

Longitude: 131.63

Location description and accuracy:

This prospect is known only from U.S. Bureau of MInes (1977) claim records. Its approximate location is at sea level at about the midpoint of the northeast shore of the southeast arm of Traitor's Cove. The site is in section 21, T. 71 S., R. 90 E., of the Copper River Meridian. It corresponds to loc. 27 in Elliott and others (1978). The location is probably accurate within 0.5 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks in the area of this prospect are flyschlike metasedimentary rocks, and stocks, dikes, and sills of Cretaceous feldspar-porphyritic granodiorite and quartz diorite (Berg and others, 1988, p. 16, 18). The strata were regionally metamorphosed to greenschist grade in Late Cretaceous time; their premetamorphic age may be Jurassic or Cretaceous. According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in metapelite, near the contact of a granodiorite or quartz diorite stock, was staked for Au. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: U.S. Bureau of Mines, 1977; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Lower Gold Standard; Lone Jack (Helm Bay); Alaska; Free Gold

Site type: Mine

ARDF no.: KC028

Latitude: 55.649 **Quadrangle:** KC C-6

Longitude: 131.997

Location description and accuracy:

The lower Gold Standard mine is at an elevation of less than 100 feet, about 0.15 mile inland from the southwest shore of Helm Bay, and about 5.3 miles from the mouth of the bay. The map site is in section 1, T. 72 S., R. 87 E., of the Copper River Meridian, and is accurate within 0.1 mile. It corresponds to loc. 28 in Elliott and others (1978), and to loc. 239 in Maas and others (1995, fig. 46 and p. 192). It also includes the Lone Jack prospect at Helm Bay (Maas and others, 1995, loc. 240). The upper Gold Standard mine (Maas and others, 1995) is in the Craig quadrangle about 0.4 mile west of this site, and is not described in this report.

Also see Additional comments.

Commodities:

Main: Au

Other: Bi, Pb

Ore minerals: Galena, gold, pyrite, tetradymite

Gangue minerals: Calcite, chlorite, quartz

Geologic description:

The country rocks near this site are marine, andesitic and basaltic metavolcanic rocks that are gradationally interbedded with flyschlike metasedimentary rocks (Berg and others, 1988, p. 18). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time (Brew, 1996, p. 27). The depositional age of the strata is uncertain. Berg and others (1998, p. 17) report that they closely resemble Upper Jurassic to mid-Cretaceous strata nearby on Gravina Island.

The deposit consists of auriferous, pyritic quartz fissure veins in schistose metavolcanic (greenstone) and subordinate metapelitic rocks (Brooks, 1902, p. 59-60; Wright and Wright, 1908, p. 153-155; Cobb and Elliott, 1980, p. 46). There are two sets of veins: both sets strike N25W, parallel to the foliation of the schistose hostrocks, but dip in opposite directions. The older set dips 60-85 NE, parallel to the foliation, and contains the best ore, especially at the intersection of the two vein systems (Brooks, 1902, p. 59). The

principal vein is 6 inches to 6 feet thick and has been traced along strike for more than 1000 feet. It consists of quartz, calcite, and chlorite, and, in addition to free gold, contains pyrite and minor tetrahedrite and galena. The walls of the vein are well defined by slickensides with gouge on the footwall side, and by a seam filled with calcite carrying free gold along the hanging wall. Locally, the wallrock next to the veins is bleached and impregnated with pyrite (Maas and others, 1995, p. 183).

Maas and others (1995, table 25) report the following average metal contents in their samples from the lower Gold Standard mine: 10.4 ppm Au, 99 ppm Cu, 7.4 ppm Pb, 48 ppm Zn, 2.3 ppm Te, and 9.6 ppm Sn. They also report (table 24) that the average gold content in quartz at two places on this property is 8.12 and 8.71 ppm, and that the average gold content in pyritic schist is 17.0 and 35.9 ppm. The sampling by Maas and others (1995, p. 184) shows a distinct northward plunge to the ore zone, which is cut off by a fault that strikes NE and dips 45SE. The continuation of the ore zone past this fault has not yet been determined.

Fluid inclusion studies of quartz vein material from several of the Helm Bay lodes suggest that the veins formed at temperatures and pressures consistent with conditions during the Late Cretaceous greenschist-grade regional metamorphism (Maas and others, 1995, p. 184).

Alteration:

Locally, the wallrock next to the veins is bleached and impregnated with pyrite.

Age of mineralization:

Late Cretaceous.

Deposit model:

Low-sulfide gold-quartz vein (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

The deposit was discovered in 1897 and mined intermittently from 1898 to 1941. It was developed by a 150-foot shaft and 700 feet of drifts and tunnels on two levels. A ten-stamp mill on the site was installed in 1899 and was still operating at 20 tons per day in 1938. An average grade of $6.00 Au/ton was reported in 1922 (Brooks, 1922, p. 35).

Maas and others (1995, p. 192) report a 1300-foot adit and two glory holes at the lower Gold Standard mine, and a nine-foot adit on the Lone Jack claim. They also report (p. 191) that the entire lower Gold Standard adit was sampled by private interests as recently as 1993, but the gold values were subeconomic.

Production notes:

Maas and others (1995, p. 192) report that the combined production from the lower and upper Gold Standard mines from about 1898 to 1941 was 310 kg or more of gold, and 33 kg or more of silver. They do not report the amount produced only from the lower Gold Standard. Judging from the assay values and the extent of the workings, production from each mine may have been about equal. In addition to the lode production, a little placer gold was mined in 1913 from near the main outcrop of the vein (Cobb and Elliott, 1980, p. 46).

Reserves:

Additional comments:

The Gold Standard was the largest producer of gold and silver in the Helm Bay area. In early reports, it was also referred to as the Alaska and Free Gold claims (Cobb and Elliott, 1980, p. 46).

References:

Brooks, 1902; Wright and Wright, 1908; Brooks, 1922; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995; Brew, 1996

Primary reference: Brooks, 1902; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 06/29/99

Site name(s): Gold Mountain: Annie; Mountain Top; Starry Banner; Fannie; Gold Dollar; Jewel; Gertrude; Annex no. 1; Lone Jack (Gold Mountain)

Site type: Mines

ARDF no.: KC029

Latitude: 55.627 **Quadrangle:** KC C-6

Longitude: 131.989

Location description and accuracy:

This site, in section 18, T. 72 S., R. 87 E., of the Copper River Meridian, is at an elevation of about 1000 feet on the north flank of Gold Mountain, about 0.8 mile due west of the south tip of Forss Island in Helm Bay. The site is at the approximate center of a mile-square area on Gold Mountain, and represents a group of claims, including Annie, Mountain Top, Starry Banner, Fannie, Gold Dollar, Jewel, Gertrude, and Annex no. 1 (Wright and Wright, 1908, p. 156 and fig. 14; Cobb and Elliott, 1980, p. 45, 145-146), and Lone Jack (Gold Mountain) (Maas and others, 1995, fig. 46 and p. 192). The site corresponds to loc. 29 in Elliott and others (1978). The location is accurate within about 0.1 mile.

Commodities:

Main: Au

Other: Cu, Pb

Ore minerals: Chalcopyrite, galena, gold, pyrite

Gangue minerals: Calcite, epidote, quartz

Geologic description:

The country rocks in the area of Gold Mountain are marine, andesitic and basaltic metavolcanic rocks that are gradationally interbedded with flyschlike metasedimentary rocks (Berg and others, 1988, p. 18). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time (Brew, 1996, p. 27). The depositional age of the strata is uncertain. Berg and others (1998, p. 17) report that they closely resemble Upper Jurassic to mid-Cretaceous marine strata nearby on Gravina Island.

The deposits at this site are in basaltic or andesitic metavolcanic rocks (greenschist), and consist of quartz-calcite fissure veins and stringer lodes that contain pyrite, chalcopyrite, galena, and free gold, locally in pockets of bonanza ore (Brooks, 1902, p. 58-59; Wright and Wright, 1908, p. 156). Telluride minerals have also been reported. The sulfides, along with some gold, also are disseminated in the country rocks adjacent to the

veins. The deposits vary in width and structural attitude. A quartz stringer lode on the Annie claim is 10.5-20 feet wide and strikes N30W, parallel to the foliation of the greenschist hostrock; some veins in this lode are as much as one foot thick. Maas and others (1995, p. 184) report that the ore at the Annie mine is concentrated in distinct shoots controlled by vertical warps in the faults that carry the veins, rather than evenly distributed in the veins. An 8-inch quartz vein on the Starry Banner claim also strikes northeast, parallel to the foliation. On the Mountain Top claim, an 8-inch vein that strikes N25W and dips 25 NE crosscuts the foliation of the greenschist. The country rocks near this vein contain calcite and epidote veinlets, and, near the surface, the sulfide minerals are oxidized. Maas and others (1995, p. 183) report that the wallrock near some of the veins are bleached and pyritized.

Fluid inclusion studies of quartz vein material from several of the Helm Bay lodes suggest that the veins formed at temperatures and pressures consistent with conditions during the Late Cretaceous greenschist-grade regional metamorphism (Maas and others, 1995, p. 184).

Alteration:

Locally, the wallrock next to the veins are bleached and pyritized.

Age of mineralization:

Late Cretaceous.

Deposit model:

Low-sulfide gold-quartz vein (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

The Gold Mountain deposits were explored in the early 1900s by various underground workings accumulating more than 600 feet (Wright and Wright, 1908, p. 156). On the Annie claim, a 20-foot shaft was sunk on an ore pocket around 1900, and a 450-foot tunnel with a 50-foot winze and drift was completed by about 1906. The Mountain Top claim was explored by shallow shafts and opencuts; and the Starry Banner was explored by a 225-foot tunnel. Maas and others (1995, table 26) describe the following workings on several of the properties. Annie: two adits, 380 and 360 feet long, and two shafts; Lone Jack (Gold Mountain): two adits, 36 and 72 feet long; Mountain Top: two flooded shafts; Jewel: one 160-foot adit.

Assays reported by the owners in the early 1900s ranged in gold values from $4 to several thousand dollars per ton (Au at $20.67/oz.) (Brooks, 1902, p. 58-59). Maas and others (1995, table 25) report the following average metal contents in their samples from several of the properties at this site. Annie: 4.92 ppm Au, 0.92 ppm Ag, 82 ppm Cu, 10.4

ppm Pb, and 88 ppm Zn. Lone Jack (Gold Mountain): 1.0 ppm Au, 0.27 ppm Ag, 125 ppm Cu, 8.1 ppm Pb, and 78 ppm Zn. Mountain Top: 0.45 ppm Au, 0.2 ppm Ag, 45 ppm Cu, 5.0 ppm Pb, and 57 ppm Zn. Jewel: 6.73 ppm Au, 0.97 ppm Ag, 73 ppm Cu, 6.0 ppm Pb, and 61 ppm Zn.

Production notes:

Maas and others (1995, table 26) report production in the early 1900s of 7.9 kg of gold from the Annie lode.

Reserves:

Additional comments:

References:

Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995; Brew, 1996

Primary reference: Brooks, 1902; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 06/30/99

Site name(s): Snowstorm; Last Chance (Helm Bay); Beulah

Site type: Prospects

ARDF no.: KC030

Latitude: 55.645 **Quadrangle:** KC C-6

Longitude: 131.994

Location description and accuracy:

This site, in section 12, T. 72 S., R. 87 E., of the Copper River Meridian, represents three prospects on the southwest side of Helm Bay, about 5 miles from the mouth of the bay. The Snowstorm and Last Chance (Helm Bay) prospects are at or near sea level, and the Beulah prospect is at an elevation of about 150 feet (Maas and others, 1995, fig. 46). The map site is at the approximate center of the 0.25-square-mile area that contains these prospects and is accurate within 0.1 mile.

Commodities:

Main: Au

Other:

Ore minerals: Auriferous pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks near this site are marine, andesitic and basaltic metavolcanic rocks that are gradationally interbedded with flyschlike metasedimentary rocks (Berg and others, 1988, p. 18). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time (Brew, 1996, p. 27). The depositional age of the strata is uncertain. Berg and others (1998, p. 17) report that they closely resemble Upper Jurassic to mid-Cretaceous marine strata nearby on Gravina Island.

According to Maas and others (1995, p. 183-184 and fig. 46), the deposits at the Snowstorm, Beulah, and, presumably, the Last Chance (Helm Bay) prospects consist of quartz vein swarms or stringer lodes in hornblende metadiorite. The veins carry auriferous pyrite, which in places is also disseminated in bleached wallrock adjacent to the veins. Maas and others (1995, table 25) report the following average metal contents in their samples from these deposits. Snowstorm: 1.20 ppm Au, 0.06 ppm Ag, 33 ppm Cu, 3.1 ppm Pb, and 9 ppm Zn. Beulah: 0.62 ppm Au, 0.16 ppm Ag, 30 ppm Cu, 6.3 ppm Pb, and 25 ppm Zn. Au and Cu values at the last Chance respectively were up to 16 ppb and 101 ppm.

Fluid inclusion studies of quartz vein material from several of the Helm Bay lodes

suggest that the veins formed at temperatures and pressures consistent with conditions during the Late Cretaceous greenschist-grade regional metamorphism (Maas and others, 1995, p. 184).

Alteration:
Locally, the wallrocks adjacent to the veins are bleached and pyritized.

Age of mineralization:
Late Cretaceous.

Deposit model:
Low-sulfide gold-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
There are two adits, six feet long and three feet long, on the Snowstorm prospect; a 63-foot adit on the Last Chance prospect; and a 63-foot adit in the Beulah prospect (Maas and others, 1995, table 26). All of the workings date from the early 1900s.

Production notes:

Reserves:

Additional comments:

References:
Berg and others, 1988; Maas and others, 1995; Brew, 1996

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 06/30/99

Site name(s): Rainy Day

Site type: Prospect

ARDF no.: KC031

Latitude: 55.615 **Quadrangle:** KC C-6

Longitude: 131.968

Location description and accuracy:

The Rainy Day prospect is at an elevation of about 200 feet, approximately 0.2 mile inland from the southwest shore of Helm Bay, and about 1.4 miles from the mouth of the bay. The site is in section 19, T. 72 S., R. 88 E., of the Copper River Meridian. It corresponds to loc. 251 in Maas and others (1995, fig. 46), and to loc. 31 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Au

Other: Pb, Zn

Ore minerals: Galena, gold, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks at this site are flyschlike metasedimentary rocks that gradationally intertongue with andesitic and basaltic metatuff (Berg and others, 1988, p. 17-19). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time (Brew, 1996, p. 27). Their premetamorphic age is uncertain. Berg and others (1988, p. 17) state that they closely resemble Upper Jurassic to mid-Cretaceous marine flysch and volcanic rocks nearby on Gravina Island. At the prospect, the bedded rocks are intruded by a 600-1000-foot-thick dike of granite porphyry (Wright and Wright, 1908, p. 156) or granodiorite (Maas and others, 1995, fig. 46). The dike probably is Late Cretaceous or younger, assuming that it postdates the regional metamorphism.

The deposit consists of a 3- to 3.5-foot-thick quartz fissure vein in granite porphyry (Brooks, 1902, p. 58; Wright and Wright, 1908, p. 156). The vein strikes northwest and has been traced in outcrop for 300-500 feet; it contains small amounts of pyrite, sphalerite, and galena, and minute particles of native gold. The prospect was developed in the early 1900s by an opencut and a 105-foot tunnel. Maas and others (1995, table 25) report the following average metal contents in their samples from the Rainy Day prospect: 6.28 ppm Au, 13.2 ppm Ag, 48 ppm Cu, 732 ppm Pb, and 14 ppm Zn.

Fluid inclusion studies of quartz vein material from several of the Helm Bay lodes

suggest that the veins formed at temperatures and pressures consistent with conditions during the Late Cretaceous greenschist-grade regional metamorphism (Maas and others, 1995, p. 184).

Alteration:

Age of mineralization:
Late Cretaceous.

Deposit model:
Low-sulfide gold-quartz veins (Cox and Singer, 1956; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
The prospect was developed in the early 1900s by an opencut and a 105-foot tunnel. Maas and others (1995, table 25) report the following average metal contents in their samples from the Rainy Day prospect: 6.28 ppm Au, 13.2 ppm Ag, 48 ppm Cu, 732 ppm Pb, and 14 ppm Zn.

Production notes:

Reserves:

Additional comments:

References:
Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995; Brew, 1996

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 06/30/99

Site name(s): Kingston

Site type: Prospect

ARDF no.: KC032

Latitude: 55.609 **Quadrangle:** KC C-6

Longitude: 131.967

Location description and accuracy:

The approximate location of the Kingston prospect is at an elevation of about 100 feet, 0.1 mile inland from the southwest shore of Helm Bay, and about 1.4 miles from the mouth of the bay. The site is in section 19, T. 72 S., R. 88 E., of the Copper River Meridian. It corresponds to loc. 32 in Elliott and others (1978). The location is accurate within about 0.3 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals: Quartz

Geologic description:

The country rocks at this site are flyschlike metasedimentary rocks that gradationally intertongue with andesitic and basaltic metavolcanic rocks (Berg and others, 1988, p. 17-19). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time (Brew, 1996, p. 27). Their premetamorphic age is uncertain. Berg and others (1988, p. 17) state that they closely resemble Upper Jurassic to mid-Cretaceous marine flysch and volcanic rocks nearby on Gravina Island. Near Smugglers Cove, they are intruded by metadiorite that may be transitional to the metavolcanic rocks (Berg and others, 1988, p. 20).

The deposit consists of a quartz-fissure-vein stockwork 6-30 feet wide in chloritic schist (Brooks, 1902, p. 58). The largest vein observed by Brooks was 6 feet wide. Assays of the deposit made in the early 1900s reportedly showed gold values of $2.50-$600/ton (Au at $20.67/oz.).

Fluid inclusion studies of quartz vein material from several of the Helm Bay lodes suggest that the veins formed at temperatures and pressures consistent with conditions during the Late Cretaceous greenschist-grade regional metamorphism (Maas and others, 1995, p. 184).

Alteration:

Age of mineralization:
Late Cretaceous.

Deposit model:
Low-sulfide gold-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
Assays of the deposit made in the early 1900s reportedly showed gold values of $2.50-$600/ton (Au at $20.67/oz.) (Brooks, 1902, p. 58).

Production notes:

Reserves:

Additional comments:

References:
Brooks, 1902; Elliott and others, 1978; Berg and others, 1988; Brew, 1996

Primary reference: Brooks, 1902

Reporter(s): H.C. Berg, USGS

Last report date: 06/30/99

Site name(s): Old Glory (main workings); Last Chance

Site type: Mine

ARDF no.: KC033

Latitude: 55.608 **Quadrangle:** KC C-6

Longitude: 131.998

Location description and accuracy:

The Old Glory mine and adjacent Last Chance prospect are on the southwest foot of Gold Mountain at an elevation of 400-500 feet, and about 1.2 miles northwest of the mouth of Falls Creek. The site is in section 24, T. 72 S., R. 88 E., of the Copper River Meridian. It corresponds to locs. 254-2 to 254-28 and 255 in Maas and others (1995, fig. 46). The location is accurate within 0.1 mile.

Also see Additional comments.

Commodities:

Main: Au

Other:

Ore minerals: Bornite, chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks near this site are andesitic and basaltic metavolcanic rocks that gradationally intertongue with subordinate flyschlike metasedimentary rocks (Berg and others, 1988, p. 17-19). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time (Brew, 1996, p. 27). Their premetamorphic age is uncertain. Berg and others (1988, p. 17) state that they closely resemble Upper Jurassic to mid-Cretaceous marine flysch and volcanic rocks nearby on Gravina Island.

The Old Glory and Last Chance deposits consist of quartz fissure veins and stringer lodes in massive to schistose metavolcanic rocks (greenstone) (Maas and others, 1995, p. 183-184). Brooks (1902, p. 57) described two systems of quartz veins on the Last Chance claim: one strikes N-S, parallel to the foliation of the schist; the other strikes N60E. The veins contain pyrite and free gold, and the schistose country rocks adjacent to some of the veins are bleached and pyritic for a distance of up to 4.5 feet from the veins. Brooks also reported small amounts of chalcopyrite and bornite in the Last Chance veins, in addition to the pyrite and gold. The Old Glory mine was developed in the early 1900s by underground workings totalling about 2800 feet; the Last Chance prospect was explored by two adits, one 21 feet long and one 93 feet long (Maas and others, 1995, table 26).

Maas and others (1995, table 25) report the following average metal contents in their samples from the main workings of the Old Glory mine: 2.29 ppm Au, 0.30 ppm Ag, 143 ppm Cu, 14.0 ppm Pb, and 83 ppm Zn. Samples from the Last Chance prospect contain: 6.73 ppm Au, 1.26 ppm Ag, 1338 ppm Cu, 13.5 ppm PB, and 43 ppm Zn. The high copper content in the Last Chance deposit supports the early reports of copper minerals in the veins there. Maas and others (1995, table 24) also compare average gold values of the quartz veins with those of the pyritic schist at the Old Glory mine. Their results show 1.7 ppm Au in the quartz and 17.6 ppm Au in the altered schist next to the veins.

Fluid inclusion studies of quartz vein material from several of the Helm Bay lodes suggest that the veins formed at temperatures and pressures consistent with conditions during the Late Cretaceous greenschist-grade regional metamorphism (Maas and others, 1995, p. 184).

Alteration:

The wallrocks adjacent to some of the veins are bleached and pyritic.

Age of mineralization:

Late Cretaceous.

Deposit model:

Low-sulfide gold-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

The Old Glory mine was developed in the early 1900s by underground workings totalling about 2800 feet; the Last Chance prospect was explored by two adits, one 21 feet long and one 93 feet long (Maas and others, 1995, table 26).

Maas and others (1995, table 25) report the following average metal contents in their samples from the main workings of the Old Glory mine: 2.29 ppm Au, 0.30 ppm Ag, 143 ppm Cu, 14.0 ppm Pb, and 83 ppm Zn. Samples from the Last Chance prospect contain: 6.73 ppm Au, 1.26 ppm Ag, 1338 ppm Cu, 13.5 ppm PB, and 43 ppm Zn. The high copper content in the Last Chance deposit supports the early reports of copper minerals in the veins there. Maas and others (1995, table 24) also compare average gold values of the quartz veins with those of the pyritic schist at the Old Glory mine. Their results show 1.7 ppm Au in the quartz and 17.6 ppm Au in the altered schist next to the veins.

Production notes:

Maas and others (1995, table 26) report production of 0.3 kg Au and 0.8 kg Ag from the Old Glory mine.

Reserves:

Additional comments:

The locations of the Old Glory and Last Chance sites in Elliott and others (1978, locs. 34 and 35) have been revised in this report to agree with the locations of the sites in Maas and others (1995, figs. 46 and 48).

References:

Brooks, 1902; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995; Brew, 1996

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 06/30/99

Site name(s): Old Glory (upper workings); American Eagle

Site type: Mine

ARDF no.: KC034

Latitude: 55.611 **Quadrangle:** KC C-6

Longitude: 131.999

Location description and accuracy:

The upper workings of the Old Glory mine and the adjacent American Eagle prospect are on the southwest slope of Gold Mountain at an elevation of 750-1000 feet, and about 1.35 miles northwest of the mouth of Falls Creek. The site is in section 24, T. 72 S., R. 88 E., of the Copper River Meridian. It corresponds to localities 251-1,2,3 and 253-1 in Maas and others (1995, fig. 46). The location is accurate within 0.1 mile.

Also see Additional comments.

Commodities:

Main: Au

Other:

Ore minerals: Gold, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks near this site are andesitic and basaltic metavolcanic rocks that gradationally intertongue with subordinate flyschlike metasedimentary rocks (Berg and others, 1988, p. 17-19). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time (Brew, 1996, p. 27). Their premetamorphic age is uncertain. Berg and others (1988, p. 17) state that they closely resemble Upper Jurassic to mid-Cretaceous marine flysch and volcanic rocks nearby on Gravina Island.

The following description is based mainly on examinations of the upper Old Glory and American Eagle deposits by Maas and others (1995). The deposits at the Old Glory (upper workings) and American Eagle properties consist of quartz fissure veins and stringer lodes in massive to schistose metavolcanic rocks (greenstone) and interbedded chlorite schist (Maas and others, 1995, p. 183-184 and fig. 46). The veins contain pyrite and free gold and the schistose wallrocks adjacent to some of the veins are bleached and pyritized. The upper Old Glory workings date to the early 1900s and consist of 3 adits of unknown length; the American Eagle deposit was explored at that time by a 336-foot adit (Maas and others, table 26). Brooks (1902, p. 57) reported that a two-stamp mill was under construction at the time of his visit. Gold production, if any, from the upper Old

Glory probably is included in the cumulative production figures for the Old Glory mine given by Maas and others (1995, table 26) (see KC033).

Maas and others (table 25) report the following average metal contents in their samples from the upper Old Glory lode: 4.32 ppm Au, 0.35 ppm Ag, 128 ppm Cu, 120 ppm Pb, and 67 ppm Zn. Samples from the American Eagle lode contain: 1.86 ppm Au, 0.12 ppm Ag, 157 ppm Cu, 11.2 ppm, Pb, and 71 ppm Zn.

Fluid inclusion studies of quartz vein material from several of the Helm Bay lodes suggest that the veins formed at temperatures and pressures consistent with conditions during the Late Cretaceous greenschist-grade regional metamorphism (Maas and others, 1995, p. 184).

Alteration:

The wallrocks adjacent to some of the veins are bleached and pyritic.

Age of mineralization:

Late Cretaceous.

Deposit model:

Low-sulfide gold-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

The upper Old Glory workings date to the early 1900s and consist of three adits of unknown length; the American Eagle deposit was explored at that time by a 336-foot adit (Maas and others, table 26). Brooks (1902, p. 57) reported that a two-stamp mill was under construction at the time of his visit.

Maas and others (table 25) report the following average metal contents in their samples from the upper Old Glory lode: 4.32 ppm Au, 0.35 ppm Ag, 128 ppm Cu, 120 ppm Pb, and 67 ppm Zn. Samples from the American Eagle lode contain: 1.86 ppm Au, 0.12 ppm Ag, 157 ppm Cu, 11.2 ppm, Pb, and 71 ppm Zn.

Production notes:

Gold production, if any, from the upper Old Glory probably is included in the cumulative production figures for the Old Glory mine given by Maas and others (1995, table 26) (see KC033).

Reserves:

Additional comments:

This description is based mainly on examinations of the upper Old Glory and American

Eagle deposits by the U.S. Bureau of Mines in the early 1990s (Maas and others, 1995). Earlier reports include those by Brooks (1902), Wright and Wright (1908), and Smith (1914). Their reports, in turn, were summarized by Elliott and others (1978) and Cobb and Elliott (1980).

References:

Brooks, 1902; Wright and Wright, 1908; Smith, 1914; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995; Brew, 1996

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 06/30/99

Site name(s): New Adit

Site type: Prospect

ARDF no.: KC035

Latitude: 55.608 **Quadrangle:** KC C-6

Longitude: 131.981

Location description and accuracy:

The New Adit prospect is at an elevation of about 350 feet, 0.3 mile east of Falls Creek and and about 0.7 mile north-northwest of the mouth of Falls Creek. The site is in section 19, T. 72 S., R. 88 E., of the Copper River Meridian. It corresponds to loc. 256 in Maas and others (1995, fig. 46). The location is accurate within 0.1 mile.

Also see Additional comments.

Commodities:

Main: Au

Other:

Ore minerals: Gold, pyrite

Gangue minerals: Quartz

Geologic description:

Maas and others (1995, p. 183 and fig 46) describe the country rocks in the area of this site as felsic schist and metavolcanic rocks (greenstone). Berg and others (1988, p. 17-19) describe them as gray and green phyllite and semischist derived from intertonguing flysch and andesitic and basaltic volcanic rocks. The strata were regionally metamorphosed to greenschist grade in Late Cretaceous time (Brew, 1996, p. 27). Their premetamorphic age is uncertain. Berg and others (1988, p. 17) note that they closely resemble Upper Jurassic to mid-Cretaceous marine flysch and volcanic rocks nearby on Gravina Island.

The deposit is a 1.8-foot-thick auriferous quartz fissure vein in felsic schist (Maas and others, 1995, p. 183, table 26, and fig. 46). The mineralization is not described, but it probably consists of pyrite, which may also occur in bleached wallrock adjacent to the vein. The vein was explored, probably in the early 1900s, by an adit of unknown length. Assays of samples taken across the vein show up to 26.9 ppm Au (Maas and others, 1995, table 26).

Maas and others (1995, p. 184 and fig. 46) describe a unit of bleached, chlorite-sericite schist containing varying amounts of pyrite that crops out along the northeast shore of Smugglers Cove. An adjacent schist unit contains more chlorite than sericite. The cumu-

lative width of the two units is up to 90 feet and they have been traced northward along strike for nearly 4200 feet. A gold-bearing horizon that includes the New Adit prospect occurs near the contact between these two units. Maas and others suggest that this gold-bearing pyritic belt of schists is of volcanic-exhalative origin. The age of the postulated exhalative deposits is unknown. The quartz fissure vein at the New Adit, which presumably crosscuts the foliation in the schist, probably is Late Cretaceous (also see KC028).

Alteration:
The wallrock adjacent to the vein is bleached and pyritic.

Age of mineralization:
The quartz fissure vein probably is Late Cretaceous.

Deposit model:
Low-sulfide gold-quartz vein (Cox and Singer, 1986; model 36a); Distal disseminated Ag-Au? (Bliss, 1992; model 19c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a, 19c?

Production Status: None

Site Status: Undetermined

Workings/exploration:
The vein was explored, probably in the early 1900s, by an adit of unknown length. Assays of samples taken across the vein show up to 26.9 ppm Au (Maas and others, 1995, table 26).

Production notes:

Reserves:

Additional comments:
This record is based mainly on a description of the New Adit prospect by Maas and others (1995, loc. 256 on fig. 46). Earlier reports (Brooks, 1902, p. 57: summarized in Elliott and others, 1978, loc. 35; and in Cobb and Elliott, 1980, p. 64) place the Last Chance prospect (KC033) at approximately the same location at the New Adit, but Maas and others indicate that the Last Chance instead is adjacent to the Old Glory mine (KC033).

References:
Brooks, 1902; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995; Brew, 1996

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 06/30/99

Site name(s): Mary T.

Site type: Prospect

ARDF no.: KC036

Latitude: 55.599 **Quadrangle:** KC C-6

Longitude: 131.971

Location description and accuracy:

The Mary T. prospect is at an elevation of about 250 feet, 0.3 mile northeast of the head of the falls at the mouth of Falls Creek. The site is in section 30, T. 72 S., R. 88 E., of the Copper River Meridian. It corresponds to loc. 257 in Maas and others (1995, fig. 46), and to loc. 36 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Au

Other: Cu

Ore minerals: Chalcopyrite, gold, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks near this site include gray and green phyllite and semischist derived from intertonguing flysch and andesitic and basaltic volcanic rocks (Berg and others, 1988, p. 17-20); and gray felsic schist possibly derived from silicic tuff (Maas and others, 1995, p. 183 and fig. 46). Near Smugglers Cove, the bedded rocks are intruded by diorite that may be transitional to the andesitic and basaltic volcanic rocks. The bedded and intrusive rocks were regionally metamorphosed to greenschist grade in Late Cretaceous time (Brew, 1996, p. 27). Their premetamorphic age is uncertain. Berg and others (1988, p. 17) note that the intertonguing flysch and volcanic rocks closely resemble Upper Jurassic to mid-Cretaceous marine strata nearby on Gravina Island.

The deposit consists of sericite or chlorite schist containing quartz blebs and abundant disseminated cubes of pyrite, minor chalcopyrite, and small amounts of gold (Wright and Wright, 1908, p. 157). The chalcopyrite locally is oxidized to malachite and azurite. Maas and others (1995, p. 184 and tables 45 and 46) suggest that the Mary T. prospect may be part of a belt of exhalative volcanogenic gold deposits (KC035) that extends along the northeast shore of Smugglers Cove and also includes the U.S. (KC037) and Blue Bucket (KC039) deposits. The average metal contents of their samples of the Mary T. deposit are: 0.95 ppm Au, 2.89 ppm Ag, 2698 ppm Cu, 7.0 ppm Pb, and 117 ppm Zn. Workings dating to the early 1900s include a flooded, 9-foot-deep shaft, a trench, and two

pits. The owners at that time reported assays of up to 15% Cu and $11 in gold/ton (Au at $20.67/oz.).

Alteration:
The hostrocks are pyritized, and the chalcopyrite locally is oxidized to malachite and azurite.

Age of mineralization:

Deposit model:
Distal disseminated Ag-Au? (Bliss, 1992; model 19c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
19c?

Production Status: None

Site Status: Undetermined

Workings/exploration:
Workings dating to the early 1900s include a flooded, 9-foot-deep shaft, a trench, and two pits. The owners at that time reported assays of up to 15% Cu and $11 in gold/ton (Au at $20.67/oz.). The average metal contents of U.S. Bureau of Mines (Maas, 1995) samples of the Mary T. deposit are: 0.95 ppm Au, 2.89 ppm Ag, 2698 ppm Cu, 7.0 ppm Pb, and 117 ppm Zn.

Production notes:

Reserves:

Additional comments:

References:
Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995; Brew, 1996

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 06/30/99

Site name(s): U.S.

Site type: Prospect

ARDF no.: KC037

Latitude: 55.599 **Quadrangle:** KC C-6

Longitude: 131.969

Location description and accuracy:

The U.S. prospect is at an elevation of about 250 feet, 0.4 mile northeast of the head of the falls at the mouth of Falls Creek. The site is in section 30, T. 72 S., R. 88 E., of the Copper River Meridian. It corresponds to loc. 258 in Maas and others (1995, fig. 46), and to loc. 37 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks near this site include gray and green phyllite and semischist derived from intertonguing flysch and andesitic and basaltic volcanic rocks (Berg and others, 1988, p. 17-20); and gray felsic schist possibly derived from silicic tuff (Maas and others, 1995, p. 183 and fig. 46). Near Smugglers Cove, the bedded rocks are intruded by diorite that may be transitional to the andesitic and basaltic volcanic rocks. The bedded and intrusive rocks were regionally metamorphosed to greenschist grade in Late Cretaceous time (Brew, 1996, p. 27). Their premetamorphic age is uncertain. Berg and others (1988, p. 17) note that the intertonguing flysch and volcanic rocks closely resemble Upper Jurassic to mid-Cretaceous marine strata nearby on Gravina Island.

The deposit consists either of (1) auriferous, pyrite-bearing quartz that forms irregular lenses parallel to the foliation of pyritic chlorite schist (Wright and Wright, 1908, p. 157); or (2) an auriferous pyritic quartz vein 10-20 feet wide that strikes NW and dips 70 NE (Brooks, 1902, p. 57). The deposit was explored in the early 1900s by stripping and by a 6-foot-long adit.

Maas and others (1995, p. 184 and tables 25 and 26) suggest that the U.S. deposit may be part of a belt of exhalative volcanogenic gold deposits (KC035) that extends along the northeast shore of Smugglers Cove and includes the Mary T. (KC036) and Blue Bucket (KC039) deposits. The average metal contents of their samples of the U.S. deposit are:

1.45 ppm Au, 0.15 ppm Ag, 45 ppm Cu, 67.8 ppm Pb, and 124 ppm Zn.

Alteration:
Pyritization of chlorite schist.

Age of mineralization:

Deposit model:
Distal disseminated Ag-Au? (Bliss, 1992, model 19c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
19c?

Production Status: None

Site Status: Undetermined

Workings/exploration:
The deposit was explored in the early 1900s by stripping and by a 6-foot-long adit. The average metal contents of samples of the U.S. deposit collected in the early 1990s by the U.S. Bureau of Mines are 1.45 ppm Au, 0.15 ppm Ag, 45 ppm Cu, 67.8 ppm Pb, and 124 ppm Zn (Maas and others, 1995, table 25).

Production notes:

Reserves:

Additional comments:

References:
Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995; Brew, 1996

Primary reference: Brooks, 1902; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 06/30/99

Site name(s): Little Maumee

Site type: Prospect

ARDF no.: KC038

Latitude: 55.599 **Quadrangle:** KC C-6

Longitude: 131.952

Location description and accuracy:

The approximate location of the Little Maumee prospect is at about 100 feet elevation, 0.1 mile inland from the southwest shore of Helm Bay, and 1.0 mile east -northeast of the head of the falls at the mouth of Falls Creek. The site is in section 29, T. 72 S., R. 88 E., of the Copper River Meridian. It corresponds to loc. 38 in Elliott and others (1978). The location is accurate within about 0.2 mile.

Commodities:

Main: Au

Other: Cu

Ore minerals: Chalcopyrite, gold, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks near this site include gray and green phyllite and semischist derived from intertonguing flysch and andesitic and basaltic volcanic rocks (Berg and others, 1988, p. 17-20); and gray felsic schist possibly derived from silicic tuff (Maas and others, 1995, p. 183 and fig. 46). Near Smugglers Cove, the bedded rocks are intruded by diorite that may be transitional to the andesitic and basaltic volcanic rocks. The bedded and intrusive rocks were regionally metamorphosed to greenschist grade in Late Cretaceous time (Brew, 1996, p. 27). Their premetamorphic age is uncertain. Berg and others (1988, p. 17) note that the intertonguing flysch and volcanic rocks closely resemble Upper Jurassic to mid-Cretaceous marine strata nearby on Gravina Island.

The deposit consists of quartz fissure veins up to about 12 inches thick in porphyritic diorite (Brooks, 1902, p. 58). The principal vein strikes E-W and contains pyrite, chalcopyrite, and, reportedly, small amounts of gold. Small amounts of auriferous pyrite also are disseminated in the diorite adjacent to the vein. Fluid inclusion studies of quartz vein material from several of the Helm Bay lodes suggest that the veins formed at temperatures and pressures consistent with conditions during the Late Cretaceous greenschist-grade regional metamorphism (Maas and others, 1995, p. 184).

Alteration:
Local pyritization of wallrock adjacent to principal vein.

Age of mineralization:
Late Cretaceous.

Deposit model:
Low-sulfide gold-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
Workings in the early 1900s probably consisted of small pits and trenches.

Production notes:

Reserves:

Additional comments:

References:
Brooks, 1902; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995; Brew, 1996

Primary reference: Brooks, 1902

Reporter(s): H.C. Berg, USGS

Last report date: 06/30/99

Site name(s): Blue Bucket; Beach Adit

Site type: Prospect

ARDF no.: KC039

Latitude: 55.593 **Quadrangle:** KC C-6

Longitude: 131.966

Location description and accuracy:

This prospect is on the northeast shore of Smugglers Cove, about 0.5 mile southeast of the head of the falls at the mouth of Falls Creek. The site is in section 29, T. 72 S., R. 88 E., of the Copper River Meridian. It corresponds to loc. 258 in Maas and others (1995, fig. 46), and to loc. 39 in Elliott and others (1978).The location is accurate within 0.1 mile.

Also see Additional comments.

Commodities:

Main: Au

Other: Cu

Ore minerals: Chalcopyrite, gold, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks near this site include gray and green phyllite and semischist derived from intertonguing flysch and andesitic and basaltic volcanic rocks (Berg and others, 1988, p. 17-20); and gray felsic schist possibly derived from silicic tuff (Maas and others, 1995, p. 183 and fig. 46). Near Smugglers Cove, the bedded rocks are intruded by diorite that may be transitional to the andesitic and basaltic volcanic rocks. The bedded and intrusive rocks were regionally metamorphosed to greenschist grade in Late Cretaceous time (Brew, 1996, p. 27). Their premetamorphic age is uncertain. Berg and others (1988, p. 17) note that the intertonguing flysch and volcanic rocks closely resemble Upper Jurassic to mid-Cretaceous marine strata nearby on Gravina Island.

The deposit consists of an auriferous, pyrite- and chalcopyrite-bearing quartz fissure vein in pyritic chlorite and sericite schists (Wright and Wright, 1908, p. 156-157; Maas and others, 1995, p. 184-189). The vein crosscuts the foliation of the schists, which strike N38W and dip 65 NE. The deposit was explored in the early 1900s by a 16-foot adit.

Maas and others (1995, p. 184-189, fig. 46, and tables 25 and 26) suggest that the Blue Bucket deposit may be part of a belt of exhalative volcanogenic gold deposits (KC035) that extends along the northeast shore of Smugglers Cove and also includes the Mary T.

(KC036) and U.S. (KC037) deposits. The average metal contents of their samples of the Blue Bucket deposit are 1.68 ppm Au, 2.3 ppm Ag, 4367 ppm Cu, 10.2 ppm Pb, and 97 ppm Zn. The high Cu assay indicates that the deposit contains chalcopyrite in addition to the auriferous pyrite.

The age of the postulated exhalative deposits is unknown. The quartz fissure vein, which crosscuts the foliation of the schist, probably is Late Cretaceous (see KC028).

Alteration:

Age of mineralization:

The auriferous quartz fissure vein probably is Late Cretaceous.

Deposit model:

Low-sulfide gold-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: None

Site Status: Undetermined

Workings/exploration:

The deposit was explored in the early 1900s by a 16-foot adit. The Blue Bucket prospect area was diamond-drilled by private interests in 1989 (Maas and others, 1995, p. 191). Five holes were drilled with a cumulative length of about 1060 feet. Other private exploration in the Smugglers Cove area has included soil geochemical testing, and VLF and magnetometer surveys. These surveys identified large inferred zones of gold-bearing strata. One such zone is 14-18 feet wide and at least 114 feet long, and is estimated to average 3.4 ppm Au. This zone is part of a larger zone 36 feet wide and at least 456 feet long that is estimated to average 1.7 ppm Au.

Production notes:

Reserves:

Exploration surveys in the Blue Bucket prospect area by private interests have identified large inferred zones of gold-bearing strata (Maas and others, 1995, p. 191). One such zone is 14-18 feet wide and at least 114 feet long, and is estimated to average 3.4 ppm Au. This zone is part of a larger zone 36 feet wide and at least 456 feet long that is estimated to average 1.7 ppm Au.

Additional comments:

The Blue Bucket prospect is also known as the Beach Adit prospect (Maas and others, 1995, p. 191).

References:

Wright and Wright, 1908; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995; Brew, 1996

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 06/30/99

Site name(s): Hot Air; Hot Air No. 1

Site type: Mine

ARDF no.: KC040

Latitude: 55.518 **Quadrangle:** KC C-6

Longitude: 131.983

Location description and accuracy:

The approximate location of this mine is at an elevation of about 200 feet, about 1.4 miles north-northwest of Caamano Point. The site is in section 26, T. 73 S., R. 88 E., of the Copper River Meridian. It corresponds to loc. 40 in Elliott and others (1978). The location is accurate within about 0.2 mile.

Commodities:

Main: Sb

Other: Au

Ore minerals: Kermesite, pyrite, realgar, stibnite

Gangue minerals: Calcite, quartz

Geologic description:

The country rocks near this site are Silurian or Ordovician andesitic and basaltic tuff and agglomerate, and minor interbedded graywacke, argillite, and limestone (Brew, 1996, p. 27, 29). The strata were regionally metamorphosed to greenschist-grade phylliteand semischist in Late Cretaceous time. Their early Paleozoic premetamorphic age assignment is based on a Silurian or Ordovician Pb-U (zircon) isotopic age of a dike that intrudes the bedded rocks.

The deposit consists of stibnite-bearing fissure veins and irregular replacement masses of stibnite in brecciated and partly dolomitized and silicified limestone (Sainsbury, 1957, p. 163-178; Cobb and Elliott, 1980, p. 23; Maas and others, 1995, p. 277). The limestone is interbedded with gray, calcareous slate and phyllite. The contact between the limestone and phyllite country rocks strikes NW and dips about 30 NE. At the prospect, the country rocks are intricately veined with quartz and calcite stringers, and contain abundant disseminated pyrite. The largest stibnite vein is 3.5 feet thick and about 90 feet long, and consists almost entirely of massive stibnite of radiating acicular and platy crystal habits. The crystals show evidence of mild deformation. Small amounts of realgar and kermesite also are reported at the prospect. A small, highly altered dike that crops out east of the main antimony deposit, contains pyrite, and, reportedly, a little gold.

The veins and associated alteration postdate the Late Cretaceous penetrative metamor-

phic fabric of the hostrocks. The relatively mild deformation of the stibnite is undated, but it probably postdates, or occurred during a late phase of, the Upper Cretaceous regional metamorphism.

Alteration:
The country rocks are silicified and dolomitized.

Age of mineralization:
Late Cretaceous or younger.

Deposit model:
Simple antimony deposit (Cox and Singer, 1986; model 27d)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
27d

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:
The deposit was discovered in 1914. Exploration before 1952 included a 15-foot shaft, a 44-foot shaft, drifts totalling 100 feet, and several trenches (Sainsbury, 1957). Maas and others (1995, p. 277) report a third shaft, of unknown length. Samples across about 3 feet of the main vein contained 25.67-48.86% Sb, and a shipment of 956 kg of hand-sorted rock from the trenches assayed 44.8% Sb, 12.6% S, 0.5% As, and 14.8% insolubles (Maas and others, 1995, p. 277). Samples of disseminated stibnite ore collected by the U.S. Geological Survey contained up to 10,000 ppm Sb (Sainsbury, 1957, p. 173).

A sample of pyrite-rich quartz- and carbonate-veined phyllite and marble collected in 1975 by the U.S. Geological Survey on the coast about 1 mile north-northeast of Caamano Point contained up to 7.5 ppm Au, 2 ppm Ag, 1000 ppm Sb, and more than 1% As (Elliott and others, 1978, loc. 40; Koch and Elliott, 1978, USGS sample 75BG125 [OFR 78-156A]).

Production notes:
Samples across about 3 feet of the main vein contained 25.67-48.86% Sb, and a shipment of 956 kg of hand-sorted rock from the trenches assayed 44.8% Sb, 12.6% S, 0.5% As, and 14.8% insolubles (Maas and others, 1995, p. 277).

Reserves:

Additional comments:
Soil sampling in the area of this site revealed small stibnite deposits beneath muskeg swamp (Sainsbury, 1957).

References:

Sainsbury, 1957; Elliott and others, 1978; Koch and Elliott, 1978 (0FR 78-156A); Cobb and Elliott, 1980; Maas and others, 1995; Brew, 1996

Primary reference: Sainsbury, 1957

Reporter(s): H.C. Berg, USGS

Last report date: 06/30/99

Site name(s): Lucky Four; Hump Island

Site type: Prospect

ARDF no.: KC041

Latitude: 55.523 **Quadrangle:** KC C-6

Longitude: 131.757

Location description and accuracy:

This prospect is on Hump Island, which is in Clover Passage about 13 miles northwest of Ketchikan. The island is about 0.9 mile long and 0.2 mile wide, and is in sections 20, 21, and 29, T. 73 S., R. 90 E., of the Copper River Meridian. The site corresponds to loc. 41 in Elliott and others (1978), and to loc. 264 in Maas and others (1995, p. 277 and fig. 5). The location is accurate within a hundred or so feet.

Commodities:

Main: Cu

Other: Au

Ore minerals: Chalcopyrite, molybdenite, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks on and near Hump Island consist chiefly of flyschlike metasedimentary rocks and subordinate andesitic and basaltic metavolcanic rocks that are intruded by Cretaceous feldspar-porphyritic granodiorite stocks, sills, and dikes (Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time (Brew, 1996, p. 27). Near some of the granodiorite contacts, the phyllite and semischist were subsequently contact metamorphosed to hornblende hornfels (Berg and others, 1988). The premetamorphic age range of the strata is unknown; Berg and others (1988, p. 17) note that they closely resemble Upper Jurassic and mid-Cretaceous marine flysch and volcanic rocks nearby on Gravina Island.

Hump Island consists largely of intensely hydrothermally altered and locally sulfide-bearing rocks. Maas and others (1995, p. 277) describe the island as a small, foliated, Cretaceous quartz diorite or quartz monzonite pluton that intrudes Jurassic or Cretaceous mafic to felsic volcanic rocks and interbedded pelitic sedimentary rocks. Weak porphyry copper mineralization accompanied emplacement of the pluton, along with silicic and argillic alteration of the surrounding country rocks. The east side of the island is underlain by felsic volcanic rocks that have been altered to quartz-sericite-pyrite schist with a high silica content. The west side is intensely argillized pelitic schist.

The deposit consists of pyrite, chalcopyrite, and minor molybdenite that form veinlets and disseminations in the hydrothermally altered rocks. Locally, chalcopyrite, and possibly other sulfides, occur as small masses in quartz veinlets (Maas and others, 1995, p. 278). Assays of samples of sulfide-bearing veins and altered country rocks collected in the early 1990s by the U.S. Bureau of Mines ranged from 806-3080 ppm Cu (average: 2064 ppm Cu) and 6-236 ppm Mo (average: 69 ppm Mo), along with as much as 3.6 ppm Ag, 3837 ppb Au, 172 ppm Bi, and 11 ppm Te (Maas and others, 1995, p. 278 and fig. 73). Other samples of sulfide-bearing altered rocks contained up to 2.0% Cu, 10 ppm Ag, 30 ppm Mo, and 500 ppm Co (Elliott and others, 1978, loc. 41). Maas and others (1995, p. 278) classify the prospect as a metamorphosed porphyry Cu deposit, and note that it is the only one known in the Ketchikan district.

Alteration:

Locally intense silicification, argillization, and sericitization. Local iron-staining and oxidation of copper minerals.

Age of mineralization:

Probably Late Cretaceous.

Deposit model:

Metamorphosed porphyry Cu deposit (Cox and Singer, 1986; model 17)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

17

Production Status: None

Site Status: Undetermined

Workings/exploration:

Assays of samples of sulfide-bearing veins and altered country rocks collected in the early 1990s by the U.S. Bureau of Mines ranged from 806-3080 ppm Cu (average: 2064 ppm Cu) and 6-236 ppm Mo (average: 69 ppm Mo), along with as much as 3.6 ppm Ag, 3837 ppb Au, 172 ppm Bi, and 11 ppm Te (Maas and others, 1995, p. 278 and fig. 73). Other samples of sulfide-bearing altered rocks contained up to 2.0% Cu, 10 ppm Ag, 30 ppm Mo, and 500 ppm Co (Elliott and others, 1978, loc. 41).

Production notes:

Reserves:

Additional comments:

References:

Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995; Brew, 1996

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 06/30/99

Site name(s): Golden Bear

Site type: Prospect

ARDF no.: KC042

Latitude: 55.484 **Quadrangle:** KC B-6

Longitude: 131.762

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 100 feet in or near the valley of First Waterfall Creek, about ten miles northwest of Ketchikan. The site is in section 5, T. 74 S., R. 90 E., of the Copper River Meridian. It corresponds to loc. 42 in Elliott and others (1978). The location probably is accurate within 0.3 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks near this prospect consist mainly of flyschlike metasedimentary rocks, and andesitic and basaltic metavolcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite (Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time, and, near some of the granodiorite contacts, subsequently contact metamorphosed to hornblende hornfels (Brew, 1996, p. 27; Berg and others, 1988, p. 17). The premetamorphic age range of the strata is unknown. Berg and others (1988, p. 17) note that they closely resemble Upper Jurassic to mid-Cretaceous marine flysch and volcanic rocks nearby on Gravina Island.

According to U S. Bureau of Mines claim records (1977), this prospect, which appears to be in metapelite near a granodiorite contact, was staked for gold. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Brew, 1996

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Conkle

Site type: Prospect

ARDF no.: KC043

Latitude: 55.551 **Quadrangle:** KC C-6

Longitude: 131.685

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 200 feet in or near the valley of an unnamed, north-flowing stream that empties into the cove just inside the west mouth of Moser Bay. The site is in section 11, T. 73 S., R. 93 E., of the Copper River Meridian. It corresponds to loc. 43 in Elliott and others (1978). The location is accurate within 0.2 mile.

Commodities:

Main: Cu, Fe

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks near this prospect consist mainly of andesitic and basaltic metavolcanic rocks and subordinate flyschlike metasedimentary rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite (Berg and others, 1988). There also are scattered, small, fault-bounded outcrops of Cretaceous ultramafic rocks. The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time, and, near some of the granodiorite contacts, subsequently contact metamorphosed to hornblende hornfels (Brew, 1996, p. 27; Berg and others, 1988, p. 17). The premetamorphic age range of the strata is unknown. Berg and others (1988, p. 17) note that they closely resemble Upper Jurassic to mid-Cretaceous marine flysch and volcanic rocks nearby on Gravina Island.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be at or near a metapelite-metavolcanic contact not far from a granodiorite plug, was staked for copper and iron. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Brew, 1996

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Prince

Site type: Prospect

ARDF no.: KC044

Latitude: 55.529 **Quadrangle:** KC C-6

Longitude: 131.683

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 1400 feet, about 0.8 mile inland from the east shore of Clover Passage, and about 1.8 miles due east of the south tip of Joe Island. The site is in section 23, T. 73 S., R. 90 E., of the Copper River Meridian. It corresponds to loc. 44 in Elliott and others (1978). The location is accurate within 0.2 mile.

Commodities:

Main: Fe

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks near this prospect consist mainly of flyschlike metasedimentary rocks, and subordinate andesitic and basaltic metavolcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite (Berg and others, 1988). There also are scattered, small, fault-bounded outcrops of Cretaceous ultramafic rocks. The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time, and, near some of the granodiorite contacts, subsequently contact metamorphosed to hornblende hornfels (Brew, 1996, p. 27; Berg and others, 1988, p. 17). The premetamorphic age range of the strata is unknown. Berg and others (1988, p. 17) note that they closely resemble Upper Jurassic to mid-Cretaceous marine flysch and volcanic rocks nearby on Gravina Island.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in metapelite not far from an ultramafic body, was staked for iron. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Brew, 1996

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Crystal

Site type: Prospect

ARDF no.: KC045

Latitude: 55.529 **Quadrangle:** KC C-5

Longitude: 131.642

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of less than 100 feet, in or near the valley of an unnamed, north-northwest-flowing creek that empties into the tidal mud flat at the head of Moser Bay. The site is in section 19, T. 73 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 45 in Elliott and others (1978). The location is accurate within 0.2 mile.

Commodities:

Main:

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks near this prospect consist mainly of flyschlike metasedimentary rocks, and subordinate andesitic and basaltic metavolcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite (Berg and others, 1988). There also are scattered, small, fault-bounded outcrops of Cretaceous ultramafic rocks. The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time, and, near some of the granodiorite contacts, subsequently contact metamorphosed to hornblende hornfels (Brew, 1996, p. 27; Berg and others, 1988, p. 17). The premetamorphic age range of the strata is unknown. Berg and others (1988, p. 17) note that they closely resemble Upper Jurassic to mid-Cretaceous marine flysch and volcanic rocks nearby on Gravina Island.

The prospect appears to be in metapelite that probably is intruded by granodiorite sills or dikes. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Brew, 1996

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): J.C.

Site type: Prospect

ARDF no.: KC046

Latitude: 55.488 **Quadrangle:** KC B-5

Longitude: 131.616

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 1700 feet west of the west edge of Lake Harriet Hunt. The site is in section 5, T. 74 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 46 in Elliott and others (1978). The location is probably accurate within about 0.2 mile.

Commodities:

Main: As, Au, Fe

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks near this prospect are mainly flyschlike metasedimentary rocks, and subordinate andesitic and basaltic metavolcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite (Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time, and, near some of the granodiorite contacts, subsequently contact metamorphosed to hornblende hornfels (Brew, 1996, p. 27; Berg and others, 1988, p. 17). The premetamorphic age range of the strata is unknown. Berg and others (1988, p. 17) note that they closely resemble Upper Jurassic to mid-Cretaceous marine flysch and volcanic rocks nearby on Gravina Island.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in metapelite at or near a granodiorite contact, was staked for As, Au, and Fe. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Brew, 1996

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Unnamed (shore of Leask Cove)

Site type: Prospect

ARDF no.: KC047

Latitude: 55.506 **Quadrangle:** KC C-5

Longitude: 131.499

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at or near sea level in Leask Cove, about 0.2 mile north-northwest of Bat Point. The site is in section 30, T. 73 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 47 in Elliott and others (1978) The location probably is accurate within 0.1 mile.

Commodities:

Main: Cu, Pb?

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks near this prospect consist mainly of flyschlike metasedimentary rocks, and subordinate andesitic and basaltic metavolcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite (Berg and others, 1988). There also are scattered, small, fault-bounded outcrops of Cretaceous ultramafic rocks. The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time, and, near some of the granodiorite contacts, subsequently contact metamorphosed to hornblende hornfels (Brew, 1996, p. 27; Berg and others, 1988, p. 17). The premetamorphic age range of the strata is unknown. Berg and others (1988, p. 17) note that they closely resemble Upper Jurassic to mid-Cretaceous marine flysch and volcanic rocks nearby on Gravina Island.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in metapelite that probably is intruded by granodiorite sills and dikes, was staked for copper and possibly lead. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Brew, 1996

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Lou Jo

Site type: Prospect

ARDF no.: KC048

Latitude: 55.519 **Quadrangle:** KC C-5

Longitude: 131.484

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 250 feet, in or near the valley of an unnamed, south-flowing creek that enters the tidal flat at the head of the northeast arm of Leask Cove. The site is in section 19, T. 73 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 48 in Elliott and others (1978). The location probably is accurate within 0.2 mile.

Commodities:

Main: Ag, Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks near this prospect consist mainly of flyschlike metasedimentary rocks, and subordinate andesitic and basaltic metavolcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite (Berg and others, 1988). There also are scattered, small, fault-bounded outcrops of Cretaceous ultramafic rocks. The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time, and, near some of the granodiorite contacts, subsequently contact metamorphosed to hornblende hornfels (Brew, 1996, p. 27; Berg and others, 1988, p. 17). The premetamorphic age range of the strata is unknown. Berg and others (1988, p. 17) note that they closely resemble Upper Jurassic to mid-Cretaceous marine flysch and volcanic rocks nearby on Gravina Island.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in metapelite that probably is intruded by granodiorite sills and dikes, was staked for silver and gold. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Brew, 1996

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Unnamed (Coon Cove)

Site type: Prospect

ARDF no.: KC049

Latitude: 55.461 **Quadrangle:** KC B-5

Longitude: 131.479

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at or near sea level about midway along the northwest shore of Coon Cove. The site is in section 7, T. 74 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 49 in Elliott and others (1978). The location probably is accurate within 0.2 mile.

Commodities:

Main: Cu, Pb, Zn

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks near this prospect are mainly gray pelitic phyllite and subordinate andesitic or basaltic metavolcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by small metadiorite plutons of undetermined age (Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time, and, near some of the granodiorite contacts, subsequently contact metamorphosed to hornblende hornfels (Berg and others, 1988; Brew, 1996, p. 27). The premetamorphic age of the metapelite-metavolcanic unit is unknown. Berg and others (1988, p. 17) noted its resemblance to Upper Jurassic to mid-Cretaceous marine flysch and volcanic rocks on Annette and Gravina islands, but assigned it an undivided Mesozoic or Paleozoic age. Near Coon Cove it structurally overlies faunally-dated Permian and Triassic rocks.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in metapelite that probably is intruded by granodiorite sills and dikes, was staked for Cu, Pb, and Zn. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Brew, 1996

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Perk

Site type: Prospect

ARDF no.: KC050

Latitude: 55.581 **Quadrangle:** KC C-4

Longitude: 131.185

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 2500 feet, about 2.5 miles west of the tidal mudflat at the head of the west arm of Manzanita Lake. The site is in section 32, T. 72 S., R. 93 E., of the Copper River Meridian. It corresponds to loc. 50 in Elliott and others (1978). The location probably is accurate within 0.2 mile.

Commodities:

Main: Cu, Pb, Zn

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks near this prospect are pelitic schist and gneiss, and subordinate andesitic and basaltic metavolcanic rocks, that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by small metadiorite plutons of undetermined age (Berg and others, 1988). The strata were regionally metamorphosed to upper greenschist or amphibolite grade in Cretaceous time, and, near some of the granodiorite contacts, subsequently contact metamorphosed to hornblende hornfels. The premetamorphic age range of the strata is unknown. Berg and others (1988, p. 17) assigned them an undivided Mesozoic or Paleozoic age. More recent studies suggest that at least some of the strata may be as old as Precambrian (Crawford and others, in press).

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in pelitic schist near a granodiorite contact, was staked for Cu, Pb, and Zn. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:
The site is in Misty Fiords National Monument Wilderness.

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Crawford and others, in press

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Unnamed (east of Swan Lake)

Site type: Occurrence

ARDF no.: KC051

Latitude: 55.609 **Quadrangle:** KC C-4

Longitude: 131.227

Location description and accuracy:

This occurrence is about 2.0 miles east of Swan Lake, on the crest of a north-northeast-trending ridge at an elevation of 3650 feet. The site is on the boundary between sections 19 and 20, T. 72 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 50.1 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Mo

Other:

Ore minerals: Molybdenite

Gangue minerals:

Geologic description:

The country rocks near this prospect are pelitic schist and gneiss, and subordinate andesitic and basaltic metavolcanic rocks, that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by small metadiorite plutons of undetermined age (Berg and others, 1988). The strata were regionally metamorphosed to upper greenschist or amphibolite grade in Cretaceous time, and, near some of the granodiorite contacts, subsequently contact metamorphosed to hornblende hornfels. The premetamorphic age range of the strata is unknown. Berg and others (1988, p. 17) assigned them an undivided Mesozoic or Paleozoic age. More recent studies suggest that at least some of the strata may be as old as Precambrian (Crawford and others, in press).

This occurrence consists of sparsely disseminated, minute particles of molybdenite in a rusty-weathering, 45-foot-thick granodiorite(?) sill that intrudes pelitic paragneiss (Elliott and others, 1978). An analysis of the molybdenite-bearing rock showed 150 ppm Mo (Koch and Elliott, 1978 [OFR 78-156A]). The molybdenite may be a late-stage hydrothermal mineral in the granodiorite.

Alteration:

Locally conspicuous iron-staining.

Age of mineralization:
Cretaceous?

Deposit model:
Porphyry Mo, low-F? (Cox and Singer, 1986; model 21b)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
21b?

Production Status: None

Site Status: Undetermined

Workings/exploration:
An analysis of the molybdenite-bearing rock showed 150 ppm Mo (Koch and Elliott, 1978 [OFR 78-156A]).

Production notes:

Reserves:

Additional comments:
Site is on the western boundary of Misty Fiords National Monument Wilderness.

References:
Elliott and others, 1978; Koch and Elliott, 1978 (OFR 78-156A); Berg and others, 1988; Crawford and others, in press

Primary reference: Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Unnamed (near Ella Point)

Site type: Occurrence

ARDF no.: KC052

Latitude: 55.497 **Quadrangle:** KC B-3

Longitude: 130.982

Location description and accuracy:
The approximate location of this occurrence is on the west shore of Behm Canal near Ella Point. The site is in section 33, T. 73 S., R. 95 E., of the Copper River Meridian. It corresponds to loc. 51 in Elliott and others (1978). The location probably is accurate within about 0.5 mile.

Commodities:

Main: Zn

Other:

Ore minerals: Pyrite, sphalerite

Gangue minerals:

Geologic description:
The country rocks near Ella Point consist of pelitic and quartzofeldspathic paragneiss that is intruded by an elongate stock of Cretaceous leucocratic granodiorite and quartz monzonite (Berg and others, 1988). The paragneiss represents marine argillaceous and clastic strata that underwent regional high-grade regional metamorphism in Cretaceous or Tertiary time. The premetamorphic age of the strata is uncertain. Most are probably Paleozoic, but some may be as young as Mesozoic and some as old as Precambrian (Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press).

According to Berg and Cobb (1967, p. 182), 'A zinc-bearing lode that may be similar to the one at Moth Bay [KC086] is on the west shore of Bradfield Canal near Ella Point, where pyrite and sphalerite reportedly replace sericitic schist.' No other information about this occurrence has been made public.

Alteration:

Age of mineralization:

Deposit model:
Sedimentary exhalative Zn-Pb? (Cox and Singer, 1986; model 31a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
31a?

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:
Site is in Misty Fiords National Monument Wilderness.

References:
Berg and Cobb, 1967; Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Berg and Cobb, 1967

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): White Knight

Site type: Prospect

ARDF no.: KC053

Latitude: 55.34 **Quadrangle:** KC B-6

Longitude: 131.86

Location description and accuracy:
The approximate location of the White Knight prospect is near sea level on the northwest coast of Gravina Island, about 3.0 miles south of South Vallenar Point. The site is in section 27, T. 75 S., R. 89 E., of the Copper River Meridian. It corresponds to loc. 52 in Elliott and others (1978). The location probably is accurate within 0.5 mile.

Commodities:

Main: Au?, Cu

Other:

Ore minerals: Chalcopyrite, pyrite, pyrrhotite

Gangue minerals: Quartz?

Geologic description:
The country rocks near the White Knight prospect are Silurian or Ordovician extrusive, intrusive, and marine sedimentary rocks that are intruded by a Silurian trondhjemite stock (Berg, 1973; Berg and others, 1988). The Silurian or Ordovician rocks have been regionally metamorphosed to greenschist grade.

Wright and Wright (1908, p. 140) describe the deposit as small masses of chalcopyrite, pyrite, and pyrrhotite in greenstone country rock. In the early 1900s, prospectors staked two claims on the property, which they probably explored mainly for gold.

Alteration:

Age of mineralization:

Deposit model:
Polymetallic veins? (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c?

Production Status: None

Site Status: Undetermined

Workings/exploration:
Two claims staked in early 1900s.

Production notes:

Reserves:

Additional comments:

References:
Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Berg and others, 1988

Primary reference: Wright and Wright, 1908; Berg, 1973

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Unnamed (western Gravina Island)

Site type: Prospect

ARDF no.: KC054

Latitude: 55.263 **Quadrangle:** KC B-6

Longitude: 131.834

Location description and accuracy:

This prospect is at an elevation of about 150 feet on western Gravina Island, about 0.3 mile from tidewater, and about 1.0 mile south-southeast of triangulation point 'Pug.' The site is in section 23, T. 76 S., R. 89 E., of the Copper River Meridian. It corresponds to loc. 52.1 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Ag, Cu

Other: Mo(?)

Ore minerals: Chalcopyrite, hematite, molybdenite?, pyrite

Gangue minerals: Dolomite, quartz

Geologic description:

The country rocks at this prospect consist of Upper Triassic rhyolite and rhyolite tuff (Berg, 1973, Berg and others, 1988). This formation is depositionally overlain by, and locally in fault contact with, Upper Triassic carbonate, clastic, and basaltic volcanic rocks. The strata were regionally metamorphosed to prehenite-pumpellyite or to low-greenschist grade in Late Cretaceous time. Locally, the limestone is dolomitized, and the rhyolite contains conspicuous hydrothermal hematite.

The deposit is in iron-stained metarhyolite(?) and consists of a ten-foot-wide breccia zone containing quartz, hematite, dolomite, chalcopyrite, and pyrite (Berg, 1973, p. 37). An analysis of a sample of the mineralized breccia showed 1.5 ppm Ag and 2% Cu (Koch and Elliott, 1978; OFR 78-156A). In 1970, workings consisted of a water-filled adit that probably was driven in the early 1900s. Prospecting in this area in the 1960s and 70s reportedly revealed disseminated chalcopyrite and pyrite, and traces of molybdenite and secondary copper minerals in complexly sheared, hydrothermally altered metamorphic and intrusive country rocks (Berg, 1973, p. 37). Assuming that the mineralized breccia postdates the regional metamorphism, the deposit is Late Cretaceous or younger.

Alteration:

Limestone locally is dolomitized, and rhyolite locally contains conspicuous hydrother-

mal hematite. Local iron- and copper-staining.

Age of mineralization:
Late Cretaceous or younger.

Deposit model:
Polymetallic veins? (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c?

Production Status: None

Site Status: Undetermined

Workings/exploration:
In 1970, workings consisted of a water-filled adit that probably was driven in the early 1900s. An analysis of a sample of the mineralized breccia showed 1.5 ppm Ag and 2% Cu (Koch and Elliott, 1978 [OFR 78-156A]). Prospecting in this area in the 1960s and 70s reportedly revealed disseminated chalcopyrite and pyrite, and traces of molybdenite and secondary copper minerals in complexly sheared, hydrothermally altered metamorphic and intrusive country rocks (Berg, 1973, p. 37).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1973; Elliott and others, 1978; Koch and Elliott, 1978 (OFR 78-156A); Berg and others, 1988

Primary reference: Berg, 1973

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Unnamed (southwest Gravina Island)

Site type: Prospect

ARDF no.: KC055

Latitude: 55.198 **Quadrangle:** KC A-6

Longitude: 131.824

Location description and accuracy:

This prospect is at sea level on the northeast shore of the unnamed cove about 0.3 mile south of Nelson Cove on southwest Gravina Island. The site is in section 15, T. 77 S., R. 88 E., of the Copper River Meridian. It corresponds to loc. 52.1 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Ag, Au

Other: Barite

Ore minerals: Barite, chalcopyrite?, galena?, sphalerite?

Gangue minerals: Carbonate, quartz

Geologic description:

The country rocks in the general area of this prospect are complexly folded and faulted Upper Triassic carbonate, clastic, and basaltic volcanic strata (Berg, 1973; Berg and others, 1980). The deposit consists of a 3-foot-wide fault breccia in a mafic dike(?) that is structurally mixed with the Upper Triassic sedimentary and volcanic rocks. The breccia weathers orange or red, and contains quartz, carbonate, barite, and small amounts of unidentified sulfide minerals, which also are sparsely disseminated in the adjacent country rocks. Analyses of samples of the breccia and the adjacent country rocks showed up to 70 ppm Ag, 0.15 ppm Au, more than 0.5% Ba, 700 ppm Cu, 1.5% Pb, and more than 1% Zn (Koch and Elliott, 1978 [OFR 78-156A]). The analytical data indicate that the unidentified sulfide minerals probably include sphalerite, chalcopyrite, and argentiferous galena. In 1969, workings that probably date to the early 1900s consisted of an approximately 21-foot-long adit.

Alteration:

Local iron-staining.

Age of mineralization:

The mineralized fault breccia is Late Triassic or younger.

Deposit model:
Polymetallic veins? (Singer and Cox, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c?

Production Status: None

Site Status: Undetermined

Workings/exploration:
In 1969, workings that probably date to the early 1900s consisted of an approximately 21-foot-long adit. Analyses of samples of the breccia and the adjacent country rocks showed up to 70 ppm Ag, 0.15 ppm Au, more than 0.5% Ba, 700 ppm Cu, 1.5% Pb, and more than 1% Zn (Koch and Elliott, 1978 [OFR 78-156A]).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1973; Elliott and others, 1978; Koch and Elliott, 1978 (OFR 78-156A); Berg and others, 1988

Primary reference: Berg, 1973; Koch and Elliott, 1978 (OFR 78-156A)

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Six Point

Site type: Prospect

ARDF no.: KC056

Latitude: 55.381 **Quadrangle:** KC B-6

Longitude: 131.849

Location description and accuracy:

The Six Point prospect is within a few yards of tidewater on the south side of Vallenar Bay, about 1.2 miles east of South Vallenar Point. The site is in section 11, T. 75 S., R. 89 E., of the Copper River Meridian. It corresponds to loc. 53 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Au?, Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks in the general area of this prospect are complexly folded and faulted Devonian carbonate and clastic strata; Upper Triassic carbonates, clastics, and basaltic and rhyolitic volcanic rocks; and Upper Jurassic or Lower Cretaceous flysch (Berg, 1973; Berg and others, 1988). At least some of the folding was accompanied by low-grade regional metamorphism, probably in Late Cretaceous time.

The deposit consists of a pinch-and-swell quartz fissure vein up to a few feet thick that contains pyrite and a little chalcopyrite (Brooks, 1902, p. 73-74; Wright and Wright, 1908, p. 140). The vein follows a fault-breccia zone at the contact between an altered mafic(?) dike and Devonian slaty limestone, and apparently formed during or after the Late Cretaceous folding and regional metamorphism. The deposit was prospected for gold in the early 1900s, and explored at that time by a shaft and tunnel of unknown length.

Alteration:

Age of mineralization:

Late Cretaceous or younger.

Deposit model:

Low-sulfide gold-quartz veins? (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a?

Production Status: None

Site Status: Undetermined

Workings/exploration:
The deposit was prospected for gold in the early 1900s, and explored at that time by a shaft and tunnel of unknown length.

Production notes:

Reserves:

Additional comments:

References:
Brooks, 1902; Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Berg and others, 1988

Primary reference: Brooks, 1902; Berg, 1973

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Easter

Site type: Prospect

ARDF no.: KC057

Latitude: 55.404 **Quadrangle:** KC B-6

Longitude: 131.809

Location description and accuracy:

The Easter prospect is at an elevation of about 150 feet in or near the valley of an unnamed, northeast-flowing creek that enters the west side of the north end of Tongass Narrows, about 0.5 mile south of Rock Point. The site is in section 36, T. 74 S., R. 89 E., of the Copper River Meridian. It corresponds to loc. 54 in Elliott and others (1978), and to loc. 265 in Maas and others (1995). The location is accurate within 0.1 mile.

Commodities:

Main: Au

Other:

Ore minerals: Arsenopyrite, gold, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks on northern Gravina Island are chiefly Upper Jurassic to mid-Cretaceous andesitic and basaltic volcanic rocks that gradationally intertongue with flyschlike sedimentary rocks. The rocks are intruded by at least one pluglike body of Tertiary gabbro (Berg, 1973; Berg and others, 1988). The bedded rocks were regionally metamorphosed to low-greenschist grade in Late Cretaceous time, and subsequently contact metamorphosed to hornblende hornfels near the contact of the Tertiary gabbro. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

The deposit is in slate and greenschist and consists of quartz fissure veins up to two feet thick that contain pyrite, a trace of arsenopyrite, and free gold (Brooks, 1902, p. 62-63). The principal vein was traced on the surface for 3800 feet. It strikes NW and dips steeply NE, at an angle to the foliation of the schist. Around 1901, the owners reported gold values of $3-$400/ton (Au at $20.67/oz.). At that time, the deposit had been explored by a six-foot-deep pit.

Alteration:

Age of mineralization:
Late Cretaceous or younger.

Deposit model:
Low-sulfide gold-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
Around 1901, the owners reported gold values of $3-$400/ton (Au at $20.67/oz.). At that time, the deposit had been explored by a six-foot-deep pit.

Production notes:

Reserves:

Additional comments:

References:
Brooks, 1902; Berg, 1973; Elliott and others, 1978; Berg and others, 1988

Primary reference: Brooks, 1902; Berg, 1973

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Typhoon

Site type: Prospect

ARDF no.: KC058

Latitude: 55.412 **Quadrangle:** KC B-6

Longitude: 131.807

Location description and accuracy:

The Typhoon prospect is at tidewater on the west side of the north end of Tongass Narrows, about 0.1 mile southwest of Rock Point. The site is in section 36, T. 74 S., R. 89 E., of the Copper River Meridian. It corresponds to loc. 55 in Elliott and others (1978) and to loc. 266 in Maas and others (1995). The location is accurate within 0.1 mile.

Commodities:

Main: Au?

Other:

Ore minerals: Gold?, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks on northern Gravina Island are chiefly Upper Jurassic to mid-Cretaceous andesitic and basaltic volcanic rocks that gradationally intertongue with flyschlike sedimentary rocks. The rocks are intruded by at least one pluglike body of Tertiary gabbro (Berg, 1973; Berg and others, 1988). The bedded rocks were regionally metamorphosed to low-greenschist grade in Late Cretaceous time, and subsequently contact metamorphosed to hornblende hornfels near the contact of the Tertiary gabbro. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

The deposit is in Jurassic or Cretaceous slate and phyllite and consists of a reportedly auriferous, pyrite-bearing quartz fissure vein up to 8 inches thick (Brooks, 1902, p. 61). The vein strikes NE and dips steeply SE, at an angle to the N60W, 60NE foliation of the slate and phyllite.

Alteration:

Age of mineralization:

Late Cretaceous or younger.

Deposit model:
Low-sulfide Au-quartz veins (Cox and Singer, 1989; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Brooks, 1902; Berg, 1973; Elliott and others, 1978; Berg and others, 1988

Primary reference: Brooks, 1902; Berg, 1973

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Tongass

Site type: Prospect

ARDF no.: KC059

Latitude: 55.409 **Quadrangle:** KC B-6

Longitude: 131.809

Location description and accuracy:

The Tongass prospect is at tidewater on northeast Gravina Island, about 0.3 mile southwest of Rock Point. The site is in section 36, T. 74 S., R. 89 E., of the Copper River Meridian. It corresponds to loc. 56 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Au?

Other:

Ore minerals: Gold?, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks on northern Gravina Island are chiefly Upper Jurassic to mid-Cretaceous andesitic and basaltic volcanic rocks that gradationally intertongue with flyschlike sedimentary rocks. The rocks are intruded by at least one pluglike body of Tertiary gabbro (Berg, 1973; Berg and others, 1988). The bedded rocks were regionally metamorphosed to low-greenschist grade in Late Cretaceous time, and subsequently contact metamorphosed to hornblende hornfels near the contact of the Tertiary gabbro. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

The deposit is in Jurassic or Cretaceous slate and phyllite and consists of a reportedly auriferous, pyrite-bearing quartz fissure vein about one foot thick (Brooks, 1902, p. 61). The vein strikes NE and dips steeply NW, at an acute angle to the layering in the slate and phyllite.

Alteration:

Age of mineralization:

Late Cretaceous or younger.

Deposit model:
Low-sulfide Au-quartz vein (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Brooks, 1902; Berg, 1973; Elliott and others, 1978; Berg and others, 1988

Primary reference: Brooks, 1902; Berg, 1973

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Green Hornet

Site type: Prospect

ARDF no.: KC060

Latitude: 55.388 **Quadrangle:** KC B-6

Longitude: 131.779

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is on northern Gravina Island at an elevation of about 250 feet, 0.3 mile southwest of triangulation point 'Sim' on Tongass Narrows. The site is at the intersection of sections 5, 6, 7, and 8, T. 75 S., R. 90 E., of the Copper River Meridian. It corresponds to loc. 57 in Elliott and others (1978). The location is probably accurate within about 0.2 mile.

Commodities:

Main: U?

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks on northern Gravina Island are chiefly Upper Jurassic to mid-Cretaceous andesitic and basaltic volcanic rocks that gradationally intertongue with flyschlike sedimentary rocks. The rocks are intruded by at least one pluglike body of Tertiary gabbro (Berg, 1973; Berg and others, 1988). The bedded rocks were regionally metamorphosed to low-greenschist grade in Late Cretaceous time, and subsequently contact metamorphosed to hornblende hornfels near the contact of the Tertiary gabbro. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in hornfelsed Jurassic or Cretaceous strata near the contact of a Tertiary gabbro plug, reportedly was staked for uranium, or for other radioactive minerals. No other information about it has been made public.

Alteration:

Age of mineralization:

Tertiary?

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Berg, 1973; Elliott and others, 1978; Berg and others, 1988

Primary reference: U.S. Bureau of Mines, 1977; Berg, 1973

Reporter(s): H.C. Berg, USGS

Last report date: 07/01/99

Site name(s): Ken Pond

Site type: Prospect

ARDF no.: KC061

Latitude: 55.411 **Quadrangle:** KC B-6

Longitude: 131.707

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 250 feet on the northwest side of Ward Creek, approximately 0.2 mile southwest of the outlet of Ward Lake. The site is in section 34, T. 74 S., R. 90 E., of the Copper River Meridian. It corresponds to loc. 58 in Elliott and others (1978). The location probably is accurate within about 0.2 mile.

Commodities:

Main: Ag

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This part of Revillagigedo Island is underlain mainly by marine, pelitic sedimentary rocks and subordinate andesitic or basaltic volcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. They subsequently were contact metamorphosed to hornblende hornfels: locally, near some of the Cretaceous granodiorite contacts, and, more widely, peripheral to the Tertiary gabbro. The premetamorphic age range of the strata is uncertain. Berg and others (1988) note that they closely resemble Upper Jurassic to mid-Cretaceous flysch and volcanic rocks nearby on Gravina Island. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in hornfelsed metapelitic strata near the contact of a Tertiary gabbro stock, was staked for silver. No other information about it has been made public.

Alteration:

Age of mineralization:
Tertiary?

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: U.S. Bureau of Mines, 1977; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/02/99

Site name(s): Beach

Site type: Prospect

ARDF no.: KC062

Latitude: 55.376 **Quadrangle:** KC B-6

Longitude: 131.713

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 750 feet on the southwest slope of Signal Mountain, about 1.0 mile southeast of Peninsula Point. The site is in section 10, T. 75 S., R. 90 E., of the Copper River Meridian. It corresponds to loc. 59 in Elliott and others (1978). The location is accurate within about 0.2 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This part of Revillagigedo Island is underlain mainly by marine, pelitic sedimentary rocks and subordinate andesitic or basaltic volcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. They subsequently were contact metamorphosed to hornblende hornfels: locally, near some of the Cretaceous granodiorite contacts, and, more widely, peripheral to the Tertiary gabbro. The premetamorphic age range of the strata is uncertain. Berg and others (1988) note that they closely resemble Upper Jurassic to mid-Cretaceous flysch and volcanic rocks nearby on Gravina Island. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in hornfelsed metapelitic strata near the contact of Tertiary gabbro stock, was staked for gold. No other information about it has been made public.

Alteration:

Age of mineralization:
Tertiary?

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: U.S. Bureau of Mines, 1977; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/02/99

Site name(s): Ready Mix; Carlanna Creek; Hoadley Creek; Trapdoor; Little Sue

Site type: Prospects

ARDF no.: KC063

Latitude: 55.36 **Quadrangle:** KC B-6

Longitude: 131.68

Location description and accuracy:

This site includes several prospects or occurrences in about a square-mile area in and near the city of Ketchikan. They are at elevations below 500 feet, mainly between Hoadley Creek and Carlanna Creek, and near sea level along the highway northwest of town for about a half mile (sections 14, 15, and 23, T. 75 S., R. 90 E., of the Copper River Meridian). The location is accurate within about 0.5 mile. The site represents loc. 60 in Elliott and others (1978), and locs. 267-269 and 271-274 in Maas and others (1995). Old workings on several of the prospects are concealed by construction and other city development, or are on private lots had have been filled in or covered by the owners (Maas and others, 1995, p. 194).

Commodities:

Main: Au, Cu, Mo

Other:

Ore minerals: Chalcopyrite?, molybdenite, pyrite, pyrrhotite

Gangue minerals: Quartz

Geologic description:

This part of Revillagigedo Island is underlain mainly by marine, pelitic sedimentary rocks and subordinate andesitic or basaltic volcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. They subsequently were contact metamorphosed to hornblende hornfels: locally, near some of the Cretaceous granodiorite contacts, and, more widely, peripheral to the Tertiary gabbro. The premetamorphic age range of the strata is uncertain. Berg and others (1988) note that they closely resemble Upper Jurassic to mid-Cretaceous flysch and volcanic rocks nearby on Gravina Island. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

The Ready Mix occurrence is in an industrial rock quarry and consists of quartz lenses

in the contact zone between metasedimentary and dioritic intrusive rocks (Maas and others, 1995, loc. 267). Samples collected in the early 1990s by the U.S. Bureau of Mines contained up to 1176 ppb Au (Maas and others, 1995).

At the Carlanna Creek rock quarry, a deposit discovered in the early 1990s during a U. S. Bureau of Mines investigation consists of wisps, fracture coatings, and disseminations of molybdenite in silicified porphyritic quartz diorite, and of fracture coatings of molybdenite in adjacent metasedimentary country rocks (Maas and others, 1995, loc. 268: p. 194-200). The molybdenite occurs in varying amounts for about 300 horizontal feet in the quarry walls and adjacent rocks. The richest mineralization is in the quartz diorite, and in contact zones between the quartz diorite and the metasedimentary rocks. The mineralogy and geological character of the deposit suggest a Quartz Hill (KC105) type porphyry molybdenum deposit. A 40-foot sample across a quartz diorite-metasedimentary rock contact contained 1532 ppm Mo; other samples contained 6 to 3295 ppm Mo. Near this quarry, panned concentrates from Carlanna Creek contained 3.06 ppm Au (Maas and others, 1995, loc. 269).

There are four occurrences along and near Hoadley Creek: (1) the Hoadley Creek occurrence consists of pyrite and pyrrhotite disseminated in quartz diorite (Maas and others, 1995, loc. 274). Samples of this rock contained up to 21.6 ppm Au; (2) the upper Hoadley Creek occurrence, explored by a 70-foot adit, consists of a sulfide vein that assayed up to 1044 ppb Au and 4695 ppm Cu (Maas and others, 1995, loc. 271); (3) the lower Hoadley Creek occurrence, explored by a 9-foot adit, consists of a quartz vein that assayed up to 1101 ppm Cu (loc. 272); (4) and the so-called 'Trapdoor' Hoadley Creek occurrence, developed by a 66-foot adit, consists of a quartz vein that assayed up to 7237 ppb Au (loc. 273). All of the workings date to the early 1900s.

According to U.S. Bureau of Mines (1977) claim records, the Little Sue prospect, which appears to be in metasedimentary rocks near the intrusive contact of Tertiary gabbro, was staked for gold. No other information about it has been made public.

Alteration:

Metasedimentary rocks are contact metamorphosed to hornblende hornfels near intrusive contacts of Tertiary gabbro. Cretacous or younger quartz diorite at Carlanna Creek quarry is silicified.

Age of mineralization:

Cretaceous or younger.

Deposit model:

Low-sulfide Au-quartz veins or polymetallic veins (Cox and Singer, 1986; models 36a or 22c); Porphyry Mo, low-F (Cox and Singer, 1986; model 21b)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a or 22c, 21b

Production Status: None

Site Status: Undetermined

Workings/exploration:

Several of the prospects were explored in the early 1900s by opencuts, adits, and shafts. Most of these workings have been covered by housing or other developments in the city of Ketchikan. The Carlanna Creek occurrence is in an active rock quarry.

Several of the prospects and occurrences were mapped and sampled in the early 1990s by the U.S. Bureau of Mines (Maas and others, 1995). The results of their sampling are summarized in the Geologic description.

Production notes:

Reserves:

Additional comments:

References:

U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995

Primary reference: Berg and others, 1988; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/02/99

Site name(s): White Cliff

Site type: Prospect

ARDF no.: KC064

Latitude: 55.351 **Quadrangle:** KC B-5

Longitude: 131.666

Location description and accuracy:

The White Cliff prospect is at an elevation of about 300 feet, on a hillside overlooking the city of Ketchikan, and about 1.25 miles northwest of the mouth of Ketchikan Creek. The site is in section 24, T. 75 S., R. 90 E., of the Copper River Meridian. It corresponds to loc. 61 in Elliott and others (1978), and to loc. 275 in Maas and others (1995). The location is probably accurate within 0.2 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This part of Revillagigedo Island is underlain mainly by marine, pelitic sedimentary rocks and subordinate andesitic or basaltic volcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. They subsequently were contact metamorphosed to hornblende hornfels: locally, near some of the Cretaceous granodiorite contacts, and, more widely, peripheral to the Tertiary gabbro. The premetamorphic age range of the strata is uncertain. Berg and others (1988) note that they closely resemble Upper Jurassic to mid-Cretaceous flysch and volcanic rocks nearby on Gravina Island. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in hornfelsed strata near the contact of Tertiary gabbro stock, was staked for gold. Maas and others (1995, p. 201) report a 12-foot-long adit, dating from the early 1900s, at the site, but no mineralization. No other information about the prospect has been made public.

Alteration:

Age of mineralization:
If there is a mineral deposit at this site, it probably is Cretaceous or younger in age.

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
Prospect was explored in early 1900s by a twelve-foot adit.

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995

Primary reference: Berg and others, 1988; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/02/99

Site name(s): Hoadley; Hoadley Brothers

Site type: Prospect

ARDF no.: KC065

Latitude: 55.361 **Quadrangle:** KC B-6

Longitude: 131.684

Location description and accuracy:

The Hoadley prospect is at an elevation of about 350 feet, approximately 0.3 mile northwest of Hoadley Creek, and about 0.5 mile southeast of the dam at the foot of Carlanna Lake. The site is in section 14, T. 75 S., R. 90 E., of the Copper River Meridian. It corresponds to loc. 62 in Elliott and others (1978), and to loc. 270 in Maas and others (1995). The location is accurate within about 0.1 mile.

Also see Additional comments.

Commodities:

Main: Au

Other: Bi

Ore minerals: Arsenopyrite, gold, pyrite, pyrrhotite, tetradymite

Gangue minerals: Quartz

Geologic description:

This part of Revillagigedo Island is underlain mainly by marine, pelitic sedimentary rocks and subordinate andesitic or basaltic volcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. They subsequently were contact metamorphosed to hornblende hornfels: locally, near some of the Cretaceous granodiorite contacts, and, more widely, peripheral to the Tertiary gabbro. The premetamorphic age range of the strata is uncertain. Berg and others (1988) note that they closely resemble Upper Jurassic to mid-Cretaceous flysch and volcanic rocks nearby on Gravina Island. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

The Hoadley deposit consists of sulfide-bearing quartz veins and argillaceous schists that strike northwest and are intruded by sills or dikes ranging in composition from syenite to gabbro (Wright and Wright, 1980, p. 151-152). The veins are mainly in the intrusive rocks, vary from 4-24 inches thick, and are up to a few hundred feet long. An older set of veins contains chiefly pyrite and pyrrhotite and strikes N and dips W. A younger

set of thinner veins, characterized by arsenopyrite, free gold, and minor tetradymite, strikes NW and dips SW. According to Maas and others (1995, loc. 270: p. 194-200), the deposit, which in 1995 was covered by a condominium, is at a syenite-slate contact and consists of a quartz vein containing bands and disseminations of pyrite and arsenopyrite. A 1.5-foot-wide sample across vein rubble contained 88.25 ppm Au (Maas and others, 1995).

The Hoadley prospect was discovered around 1900 and developed in the early 1900s by opencuts, adits, and a 27-foot shaft. Other developments included an arrastre and a Gibson mill. A small amount of gold probably was recovered at that time, but there is no public record of any such production.

Alteration:

Greenschist-grade metasedimentary country rocks are contact metamorphosed to hornblende hornfels near contacts of Tertiary intrusive rocks.

Age of mineralization:

Cretaceous or younger.

Deposit model:

Polymetallic veins or low-sulfide, Au-quartz veins (Cox and Singer, 1986; models 22c or 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c or 36a

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

The Hoadley prospect was discovered around 1900 and developed by opencuts, adits, and a 27-foot shaft. Other early developments included an arrastre and a Gibson mill. In 1995, the old workings were covered by a condominium. A 1.5-foot-wide sample across vein rubble contained 88.25 ppm Au (Maas and others, 1995).

Production notes:

A small amount of gold probably was recovered in the early 1900s, but there is no public record of any such production.

Reserves:

Additional comments:

The property has been covered by housing construction in the city of Ketchikan. In some early reports, the prospect was also referred to as Hoadley Brothers (Cobb and Elliott, 1980, p. 56).

References:

Wright and Wright, 1908; U.S. Bureau of Mines, 1977; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/02/99

Site name(s): Wildcat

Site type: Mine

ARDF no.: KC066

Latitude: 55.356 **Quadrangle:** KC B-6

Longitude: 131.669

Location description and accuracy:

The Wildcat mine is at an elevation of about 700 feet, about 1.15 miles southeast of the dam at the outlet of Carlanna Lake. The site is in section 24, T. 75 S., R 90 E., of the Copper River Meridian. It corresponds to loc. 63 in Elliott and others (1978). The location is accurate within about 0.2 mile.

Commodities:

Main: Au

Other: Cu, Bi?, Sb?

Ore minerals: Chalcopyrite, gold, pyrite, pyrrhotite

Gangue minerals: Quartz

Geologic description:

This part of Revillagigedo Island is underlain mainly by marine, pelitic sedimentary rocks and andesitic or basaltic volcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. They subsequently were contact metamorphosed to hornblende hornfels: locally, near some of the Cretaceous granodiorite contacts, and, more widely, peripheral to the Tertiary gabbro. The premetamorphic age range of the strata is uncertain. Berg and others (1988) note that they closely resemble Upper Jurassic to mid-Cretaceous flysch and volcanic rocks nearby on Gravina Island. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

The Wildcat deposit consists of two sets of quartz fissure veins in a dioritic dike or sill (called syenite by Wright and Wright, 1908, p. 151-152) that cuts black slate-phyllite (Brooks, 1902, p. 61-62, Cobb and Elliott, 1980, p. 112). The older set, which is roughly parallel to the foliation of the slate-phyllite, contains pyrrhotite. The younger set, which crosscuts the metamorphic foliation, includes the principal vein, which contains free gold, pyrite, and minor chalcopyrite. This vein is up to about 16 inches thick, and was traced on the surface for more than 900 feet. The country rock adjacent to the vein con-

tains disseminated sulfide minerals and, possibly, gold values. The prospect was explored in the early 1900s by opencuts and short tunnels and shafts. A 5-ton test shipment made at that time reportedly contained 1.0-1.5 ounce Au/ton; some gold probably was recovered from this shipment.

According to Brooks (1902, p. 61), a nearby [quartz fissure] vein carries pyrite and pyrite, and reportedly, antimony and bismuth.

Alteration:

The wallrock adjacent to the vein is impregnated with sulfides.

Age of mineralization:

Cretaceous or younger.

Deposit model:

Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

The prospect was explored in the early 1900s by opencuts and short tunnels and shafts. A 5-ton test shipment made at that time reportedly contained 1.0-1.5 ounce Au/ton; some gold probably was recovered from this shipment.

Production notes:

A 5-ton test shipment made in the early 1900s reportedly contained 1.0-1.5 ounce Au/ton; some gold probably was recovered from this shipment.

Reserves:

Additional comments:

Early reports note that the Wildcat deposit is similar to the one at the Hoadley prospect (KC065).

References:

Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988

Primary reference: Brooks, 1902

Reporter(s): H.C. Berg, USGS

Last report date: 07/02/99

Site name(s): Bear Mountain; Malaspina

Site type: Prospect

ARDF no.: KC067

Latitude: 55.356 **Quadrangle:** KC B-5

Longitude: 131.637

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 300 feet, about 0.7 mile west-southwest of the mouth of Lower Ketchikan Lake. The site is in section 19, T. 75 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 64 in Elliott and others (1978). The location probably is accurate within about 0.2 mile.

Commodities:

Main: Au, Cu

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This part of Revillagigedo Island is underlain mainly by marine, pelitic sedimentary rocks and andesitic or basaltic volcanic rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. They subsequently were contact metamorphosed to hornblende hornfels: locally, near some of the Cretaceous granodiorite contacts, and, more widely, peripheral to the Tertiary gabbro. The premetamorphic age range of the strata is uncertain. Berg and others (1988) note that they closely resemble Upper Jurassic to mid-Cretaceous flysch and volcanic rocks nearby on Gravina Island. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in hornfelsed strata near the contact of a Tertiary gabbro stock, reportedly was staked for gold and copper. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/02/99

Site name(s): Laskawonda; Schoenbar; Forest Avenue quarry; Prison parking lot; Nevada lode; American Legion quarry; Cape Fox

Site type: Prospects

ARDF no.: KC068

Latitude: 55.35 **Quadrangle:** KC B-5

Longitude: 131.64

Location description and accuracy:

This site includes several prospects or occurrences in about a square-mile area in and near the city of Ketchikan. They are at elevations ranging from near sea level to about 300 feet, and from 0.1 to 0.7 mile northwest of Ketchikan Creek (sections 19, 24, and 30, T. 75 S., R. 91 E., of the Copper River Meridian). The location is accurate within about 0.5 mile. The site represents loc. 65 in Elliott and others (1978), and locs. 276-280 in Maas and others (1995). Old workings on several of the prospects are concealed by housing and other city development, or are on private lots and have been filled in or covered by the owners (Maas and others, 1995, p. 194).

Commodities:

Main: Ag, Au

Other: Cu

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

This part of Revillagigedo Island is underlain mainly by marine, andesitic or basaltic volcanic rocks and pelitic sedimentary rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. They subsequently were contact metamorphosed to hornblende hornfels: locally, near some of the Cretaceous granodiorite contacts, and, more widely, peripheral to the Tertiary gabbro. The premetamorphic age range of the strata is uncertain. Berg and others (1988) note that they closely resemble Upper Jurassic to mid-Cretaceous flysch and volcanic rocks nearby on Gravina Island. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

The Laskawonda (also referred to as Schoenbar in early reports) prospect consists of a N50W, 50NE sulfide-bearing band of phyllite and greenschist, cut by sulfide-bearing

quartz fissure veinlets. The sulfide minerals are pyrite and chalcopyrite, and there were early reports of gold and silver (Wright and Wright, 1908, p. 152; Cobb and Elliott, 1980, p. 69). The deposit was explored in the early 1900s by two shafts, one of which was 85 feet deep, a short tunnel, and surface stripping.

The following five occurrences were examined in the early 1990s by Maas and others (1995, locs. 276-280), who named them either from U.S. Bureau of Mines claim records, or, informally, for local landmarks.

Loc. 276 (Maas and others, p. 201): Forest Avenue quarry. Samples of silicified(?) volcanic rocks contained up to 222 ppb Au, 2970 ppm Cu, and 111 ppm Mo.

Loc. 277: Prison parking lot. A 2-foot sample of silicified(?) volcanic rock contained 2.1 ppm Au.

Loc. 278: Nevada lode. a 7-foot sample of silicified(?) greenstone contained 1282 ppb Au and 5705 ppm Cu. A shaft on this property was plugged.

Loc. 279: American Legion quarry. Samples of unidentified material contained up to 2235 ppm Zn.

Loc. 280: Cape Fox. Samples of unidentified material contained up to 20 ppb Au. This property was explored in the early 1900s by a 24-foot adit and a shaft, which have been plugged.

Alteration:

Age of mineralization:

The quartz fissure veins that crosscut the metamorphic foliation probably are Late Cretaceous or younger.

Deposit model:

Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: None

Site Status: Inactive

Workings/exploration:

Workings in the early 1900s included surface cuts and several short adits, shafts, and tunnels most of which have been covered by housing or commercial development, or filled in.

Production notes:

Reserves:

Additional comments:

References:

Wright and Wright, 1908; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/02/99

Site name(s): Venitia; Black Swan; Laundromat; Jim's cut

Site type: Prospect

ARDF no.: KC069

Latitude: 55.33 **Quadrangle:** KC B-5

Longitude: 131.62

Location description and accuracy:

This site represents four prospects or occurrences distributed along a northwest-trending line about a mile long on southwest Revillagigedo Island. They are at elevations ranging from near sea level to about 300 feet, and from about 0.4 to 1.5 miles southeast of Ketchikan Creek (sections 30 and 32, T. 75 S., R. 91 E., of the Copper River Meridian). The coordinates of the site are for the approximate midpoint of the line of prospects. The site includes loc. 66 in Elliott and others (1978), and locs. 281-283 in Maas and others (1995). The location is accurate within about 0.5 mile.

Commodities:

Main: Au, Mo

Other: Cu

Ore minerals: Chalcopyrite, malachite, molybdenite, pyrite

Gangue minerals:

Geologic description:

This part of Revillagigedo Island is underlain mainly by marine, andesitic or basaltic volcanic rocks and interbedded pelitic sedimentary rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. They subsequently were contact metamorphosed to hornblende hornfels: locally, near some of the Cretaceous granodiorite contacts, and, more widely, peripheral to the Tertiary gabbro. The premetamorphic age range of the strata is uncertain. Berg and others (1988) note that they closely resemble Upper Jurassic to mid-Cretaceous flysch and volcanic rocks nearby on Gravina Island. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

According to U.S. Bureau of Mines claim records (1977), the Venitia prospect, which appears to be in hornfelsed strata near the contact of a Tertiary gabbro stock, reportedly was staked for gold. No other information about this prospect has been made public.

The following three occurrences were examined by Maas and others (1995, loc. 281-

283), who named them either from U.S. Bureau of Mines claim records, or, informally, for local landmarks.

Loc. 281 (Maas and others, p. 201): Black Swan. Samples of unidentified rock contained up to 555 ppm Cu.

Loc. 282. Laundromat. A sample of unidentified rock contained 11 ppb Au. There is a 15-foot adit on this property.

Loc. 283: Jim's cut. This occurrence, discovered during Maas and others' investigation, was exposed by residential and commercial development along the highway southeast of Ketchikan. It consists of diorite containing disseminated pyrite, chalcopyrite, molybdenite, and malachite that is exposed for 180 feet in a 12-foot deep cut in the back yards of several new houses. A 68-foot-long sample across disseminated sulfide mineralization in the diorite contained 163 ppb Au, 2632 ppm Cu, and 115 ppm Mo, Maas and others (1995, p. 201) interpret this occurrence as a porphyry molybdenum-type deposit.

Alteration:

Local oxidation of copper minerals (Jim's cut).

Age of mineralization:

Probably Cretaceous (Jim's cut).

Deposit model:

Porphyry Mo, low-F (Jim's cut) (Cox and Singer, 1986; model 21b)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

21b

Production Status: None

Site Status: Undetermined

Workings/exploration:

Workings dating from the early 1900s have largely been covered by housing or commercial development, or plugged.

At Jim's cut, a 68-foot-long sample across disseminated sulfide mineralization in the diorite contained 163 ppb Au, 2632 ppm Cu, and 115 ppm Mo (Maas and others, 1995, p. 201).

Production notes:

Reserves:

Additional comments:

References:

U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/02/99

Site name(s): Clairvoyance

Site type: Prospect

ARDF no.: KC070

Latitude: 55.316 **Quadrangle:** KC B-6

Longitude: 131.691

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is on eastern Gravina Island at an elevation of about 100 feet, and approximately 0.3 mile north of the upper end of the tidal flat at the head of Blank Inlet. The site is in section 35, T. 75 S., R. 90 E., of the Copper River Meridian. It corresponds to loc. 67 in Elliott and others (1978). The location is probably accurate within about 0.2 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks on eastern Gravina Island are Upper Jurassic or Cretaceous marine andesitic or basaltic volcanic rocks interbedded with subordinate flyschlike sedimentary rocks (Berg, 1973; Berg and others, 1988). These strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in andesitic or basaltic metavolcanic rocks, was staked for gold. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1973; U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: Elliott and others, 1978; Berg, 1973

Reporter(s): H.C. Berg, USGS

Last report date: 07/02/99

Site name(s): Goldstone

Site type: Prospect

ARDF no.: KC071

Latitude: 55.314 **Quadrangle:** KC B-5

Longitude: 131.643

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is on the shoreline of southeastern Gravina Island, about 0.7 mile southeast of the mouth of Clam Cove. The site is in section 6, T. 76 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 68 in Elliott and others (1978). The location is probably accurate within about 0.1 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks on southeastern Gravina Island are Upper Jurassic or Cretaceous marine andesitic or basaltic volcanic rocks that are gradationally interbedded with subordinate flyschlike sedimentary rocks (Berg, 1973; Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in andesitic or basaltic metavolcanic rocks, was staked for gold. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1973; U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: Berg, 1973; Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 07/02/99

Site name(s): Goldstream; Bell; Miller (and Phillips); Goldstone; Goldstring

Site type: Mine

ARDF no.: KC072

Latitude: 55.305 **Quadrangle:** KC B-5

Longitude: 131.629

Location description and accuracy:

The Goldstream mine is at sea level on southeastern Gravina Island, opposite Pennock Island. The old workings are 1.0-3.0 miles north of Gravina Point, in section 6, T. 76 S., R. 91 E., of the Copper River Meridian. The site includes loc. 69 in Elliot and others (1978), and loc. 286 (1-3) in Maas and others (1995). The location is accurate within 0.1 mile.

Also see Additional comments.

Commodities:

Main: Ag, Au

Other: Cu, Pb, Zn

Ore minerals: Arsenopyrite, chalcopyrite, galena, gold, pyrite, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:

The country rocks on southeastern Gravina Island are Upper Jurassic or Cretaceous marine andesitic or basaltic volcanic rocks interbedded with subordinate flyschlike sedimentary rocks (Berg, 1973; Berg and others, 1988). These strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

Wright and Wright (1908, p. 177-178) describe two types of lode deposits at the Goldstream mine. The main deposit consists of apparently stratiform massive sulfides in two or more layers of greenschist or quartz-sericite schist that strike NW and dip NE, and which are separated by layers of relatively barren schist. The sulfide-rich layers in the main deposit are 4-8 feet thick and have been traced on the surface and in underground workings for 1000 feet or more. Zones of lower-grade ore are as much as 40 feet thick and several hundred feet long. The principal ore minerals in the stratiform deposits are pyrite, chalcopyrite, galena, arsenopyrite, and native gold, small particles of which accompany the sulfides and also occur in quartz seams. The other type of deposit consists of

quartz-calcite fissure veins that carry galena and sphalerite, and which crosscut the massive-sulfide-bearing layers. Both types of deposits are cut by barren quartz stringers and by an altered diabase dike several feet wide that strikes N10W and dips 75NE. Several thousand tons of ore were produced in the early 1900s from the Goldstream mine, mainly from a 5-foot-long, steeply-pitching oreshoot in the main deposit (Cobb and Elliott, 1980, p. 47). Maas and others (1995, p. 201) report cumulative production of 8.1 kg Au and 15 kg Ag.

Maas and others (1995, p. 197) report that a 4-foot sample across quartz lenses in talc schist contained 4.7 ppm Au, 74.4 ppm Ag, 0.8% Cu, and 6.28% Zn.

Maas and others (1995, p. 201) suggest that the massive-sulfide-bearing layers are of stratiform volcanogenic origin. If so, The Goldstream deposit probably can be classified as a metamorphosed Besshi massive sulfide deposit, possibly of Late Jurassic age. The sulfide-bearing quartz fissure veins that cut the stratiform deposits probably formed by remobilization, during or following Upper Cretaceous regional metamorphism.

Alteration:

Age of mineralization:

Late Jurassic? (stratiform sulfides); Late Cretaceous or younger (quartz fissure veins).

Deposit model:

Besshi massive sulfide?; Polymetallic veins (Cox and Singer, 1986; models 24b, 24c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

24b?, 22c

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

The Goldstream deposit was discovered in 1897 and worked mainly in the early 1900s. Some gold was also produced by reworking dump material in the 1930s. Development of the main deposit in the early 1900s included a 115-foot shaft with 2 levels (50 and 100 feet deep), and between 400 and 600 feet of drifts. The veins were developed at that time by two 50-foot shafts, opencuts, and trenches. Maas and others (1995) report that the two 50-foot shafts are plugged.

Maas and others (1995, p. 197) report that a 4-foot sample across quartz lenses in talc schist contained 4.7 ppm Au, 74.4 ppm Ag, 0.8% Cu, and 6.28% Zn.

Production notes:

Several thousand tons of ore were produced in the early 1900s from the Goldstream mine, mainly from a 5-foot-long, steeply-pitching oreshoot in the main deposit (Cobb and Elliott, 1980, p. 47). Maas and others (1995, p. 201) report cumulative production of 8.1 kg Au and 15 kg Ag.

Reserves:

Additional comments:

The Goldstream mine was the most productive of the early mines in the Ketchikan area. In some early reports, the property was also referred to as Bell, or Miller (and Phillips) (Brooks, 1902, p. 62; Cobb and Elliott, 1980, p. 47, 145). In 1925, two of the Goldstream claims, the Goldstone and Goldstring, were patented (Maas and others, 1995, p. 194).

References:

Brooks, 1902; Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/02/99

Site name(s): Gold Flakes

Site type: Prospect

ARDF no.: KC073

Latitude: 55.291 **Quadrangle:** KC B-5

Longitude: 131.639

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 300 feet on the southeast slope of Judy Hill on southeastern Gravina Island. The site is in section 7, T. 76 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 70 in Elliott and others (1978). The location probably is accurate within about 0.1 mile.

Commodities:

Main: Ag, Au, Pb

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks on southeastern Gravina Island are Upper Jurassic or Cretaceous marine andesitic or basaltic volcanic rocks that are gradationally interbedded with subordinate flyschlike sedimentary rocks (flysch) (Berg, 1973; Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in andesitic or basaltic metavolcanic rocks, was staked for gold, silver, and lead. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1973; U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: Berg, 1973; Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 07/02/99

Site name(s): Heckman; unnamed (northwest of Heckman prospect)

Site type: Mine

ARDF no.: KC074

Latitude: 55.293 **Quadrangle:** KC B-5

Longitude: 131.617

Location description and accuracy:

This site is in section 8, T. 76 S., R. 91 E., of the Copper River Meridian. It includes two, closely-spaced, deposits at sea level on southeastern Gravina Island opposite Pennock Island. They are the Heckman mine, which is about 0.3 mile from Gravina Point, and an unnamed prospect about 0.3 mile northwest of the Heckman. The coordinates of the map site are for the Heckman prospect. The site corresponds to loc. 71 in Elliott and others (1978), and to locs. 287 and 288 in Maas and others (1995). The location of the Heckman mine is accurate within 0.1 mile.

Commodities:

Main: Au

Other: Pb, Zn

Ore minerals: Galena, gold, pyrite, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:

The country rocks on southeastern Gravina Island are Upper Jurassic or Cretaceous marine andesitic or basaltic volcanic rocks that are gradationally interbedded with subordinate flyschlike sedimentary rocks (Berg, 1973; Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

Maas and others (1995, p. 194, 199, 201-202, and fig. 51) describe the Heckman prospect, and a similar unnamed lode about 0.3 mile to the northwest, as stratiform, sulfide-bearing, northwest-trending layers of greenschist or quartz-chlorite schist, locally cut by sulfide-bearing quartz fissure veins. At the Heckman prospect, pyrite, sphalerite, and galena occur as bands of massive sulfides, and as disseminations, in several layers of quartz-chlorite schist, separated by several layers of relatively barren schist.

The sulfides also occur in quartz stringers parallel to the foliation of the schist. The stratiform deposit, as exposed in old trenches, is at least 25 feet wide and 60 feet long. Samples of this deposit indicated a zone up to about 10 feet wide containing 6.2 ppm Au and

1.6% Zn. The other prospect, at sea level about 0.3 mile northwest of the Heckman prospect, consists of talc-chlorite schist that contains pyrite, sphalerite, and galena disseminated in quartz-rich layers parallel to the foliation of the schist.

Brooks (1902, p. 62) interpreted the Heckman deposit as the southeast continuation of the deposit at the Goldstream (Bell) mine (KC072). Maas and others (1995, p. 194, 201) suggest that the stratiform deposits are of volcanogenic origin. If so, the Heckman probably can be classified as a metamorphosed Besshi massive sulfide deposit of Late Jurassic age. The sulfide-bearing quartz fissure veins that cut the foliation probably formed by remobilization, during or following Upper Cretaceous regional metamorphism.

These prospects were discovered in the early 1900s (Brooks, 1902, p. 62; Wright and Wright, 1908, 179). The Heckman was explored at that time by a 60-foot shaft, and drifts totalling 32 feet. The other prospect was explored by a 50-foot shaft.

Alteration:

Age of mineralization:
Late Jurassic?; Late Cretaceous or younger.

Deposit model:
Besshi massive sulfide?; Polymetallic veins (Cox and Singer, 1986; models 24b, 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
24b?, 22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:
These prospects were discovered in the early 1900s (Brooks, 1902, p. 62; Wright and Wright, 1908, 179). The Heckman was explored at that time by a 60-foot shaft, and drifts totalling 32 feet. The other prospect was explored by a 50-foot shaft. Samples collected by Maas and others (1995) of the Heckman deposit indicated a zone up to about 10 feet wide containing 6.2 ppm Au and 1.6% Zn.

Production notes:
There is no public record of any production from the Heckman mine, but the extent of the underground workings suggests that at least a small amount of gold was recovered in the early 1900s.

Reserves:

Additional comments:
Brooks (1902, p. 62), noting their similarity, interpreted the Heckman deposit as the southeast continuation of the deposit at the Goldstream (Bell) mine (KC072).

Also see Production notes.

References:

Brooks, 1902; Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995

Primary reference: Berg, 1973; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Moonshine

Site type: Prospect

ARDF no.: KC075

Latitude: 55.291 **Quadrangle:** KC B-5

Longitude: 131.615

Location description and accuracy:

The Moonshine prospect is at sea level on southeastern Gravina Island, about 0.3 mile northwest of Gravina Point. The site is in section 8, T. 76 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 72 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Au?

Other:

Ore minerals: Basemetal sulfides?

Gangue minerals:

Geologic description:

The country rocks on southeastern Gravina Island are Upper Jurassic or Cretaceous marine andesitic or basaltic volcanic rocks that are gradationally interbedded with subordinate flyschlike sedimentary rocks (Berg, 1973; Berg and others, 1988). The strata were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. The country rocks are cut by intermediate or mafic dikes that apparently postdate the regional metamorphism.

Wright and Wright (1908, p. 179) describe the deposit as two parallel 'veins' that strike northwest, parallel to the foliation of altered greenschist hostrock. They do not describe the ore minerals, but the deposits probably contain basemetal sulfides and were prospected in the early 1900s chiefly for gold. The deposits are 6 and 18 feet thick and are separated by 50 feet of relatively barren rock. Although Wright and Wright do not mention quartz at the Moonshine, Elliott and others (1978) infer that the deposits are quartz veins. However, Wright and Wright's description, the geologic setting of the Moonshine prospect, and its proximity to other lode deposits on southeastern Gravina Island (KC073, 074), suggest instead that the Moonshine is mainly a stratiform deposit, comprising sulfide bands or disseminations parallel to the foliation of the schist hostrock. If so, the Moonshine may be a metamorphosed Besshi massive sulfide deposit of Late Jurassic age.

Alteration:

Age of mineralization:
Late Jurassic?

Deposit model:
Besshi massive sulfide? (Cox and Singer, 1986; model 24b)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
24b?

Production Status: None

Site Status: Undetermined

Workings/exploration:
Workings in the early 1900s included a 30-foot-long opencut and a 12-foot shaft.

Production notes:

Reserves:

Additional comments:

References:
Wright and Wright, 1980; Berg, 1973; Elliott and others, 1978; Berg and others, 1988

Primary reference: Wright and Wright, 1908; Berg, 1973

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Birdseye

Site type: Prospect

ARDF no.: KC076

Latitude: 55.306 **Quadrangle:** KC B-5

Longitude: 131.564

Location description and accuracy:

The Birdseye prospect is on the Tongass Narrows shoreline of Revillagigedo Island, about 4 miles southeast of Ketchikan and 1.3 miles northwest of Mountain Point. The site is in section 3, T. 76 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 73 in Elliott and others (1978). The location is accurate within about 0.1 mile.

Commodities:

Main: Au

Other: Pb, Zn

Ore minerals: Galena, gold, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are mainly marine, andesitic or basaltic metavolcanic rocks and interbedded pelitic sedimentary rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These rocks subsequently were contact metamorphosed to hornblende hornfels: locally, near some of the Cretaceous granodiorite contacts, and, more widely, peripheral to the Tertiary gabbro. The premetamorphic age of the strata is uncertain. Berg and others (1988) note that they closely resemble Upper Jurassic to mid-Cretaceous flysch and volcanic rocks nearby on Gravina Island. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

The deposit consists of pyrite-bearing quartz fissure veins or lenses, 3-5 feet wide, in a porphyry dike/sill intruded parallel to the composition layering of slate and schist, which strike NW and dip 45 NE (Brooks, 1902, p. 62; Wright and Wright, 1908, p. 152. The dike/sill is 10-20 feet thick, contains many inclusions of black slate, and adjacent to the veins is impregnated with sulfide minerals. The ore minerals in the vein are pyrite, galena, sphalerite, and free gold. Pyrite-bearing quartz veins also occur in the slate and schist country rocks. These veins predate the porphyry dike and do not carry gold.

The prospect, one of the first discovered in the Ketchikan area, was explored in the early 1900s by surface stripping and a 32-foot-deep shaft. A small amount of gold probably was recovered, but there is no public record of any production.

Alteration:
The wallrock adjacent to the veins is impregnated with sulfides.

Age of mineralization:
Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:
The Birdseye deposit, one of the first discovered in the Ketchikan area, was explored in the early 1900s by surface stripping and a 32-foot-deep shaft.

Production notes:
A small amount of gold probably was recovered in the early 1900s, but there is no public record of any production.

Reserves:

Additional comments:

References:
Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Berg and others, 1988

Primary reference: Wright and Wright, 1908

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Gold Nugget; South quarry

Site type: Prospect

ARDF no.: KC077

Latitude: 55.309 **Quadrangle:** KC B-5

Longitude: 131.575

Location description and accuracy:

This site is in section 3, T. 76 S., R. 91 E., of the Copper River Meridian. It includes the Gold Nugget prospect and the South quarry occurrence. The Gold Nugget prospect is on the Tongass Narrows shoreline of Revillagigedo Island, about 1.8 miles northwest of Mountain Point. The South quarry occurrence is at an elevation of about 100 feet, 0.25 mile southeast of the Gold Nugget prospect. The coordinates are for the Gold Nugget prospect. The Gold Nugget prospect corresponds to loc. 74 in Elliott and others (1978), and to loc. 284 in Maas and others (1995). The South quarry occurrence is loc. 285 in Maas and others (1995). The location of the Gold Nugget prospect is accurate within 0.1 mile.

Commodities:

Main: Ag, Au

Other: Pb, Zn

Ore minerals: Galena, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are mainly marine, andesitic or basaltic metavolcanic rocks and interbedded pelitic sedimentary rocks that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These rocks subsequently were contact metamorphosed to hornblende hornfels: locally, near some of the Cretaceous granodiorite contacts, and, more widely, peripheral to the Tertiary gabbro. The premetamorphic age of the strata is uncertain. Berg and others (1988) note that they closely resemble Upper Jurassic to mid-Cretaceous flysch and volcanic rocks nearby on Gravina Island. The country rocks are cut by a high-angle fault along Tongass Narrows that displays about 4 miles of right-lateral offset.

Maas and others (1995, p. 194, 197) describe the Gold Nugget deposit as irregular quartz ladder veins hosted in a 30-foot-thick porphyritic dike that cuts the foliation of

slate country rock. The veins carry lenses and disseminations of pyrite, sphalerite, and galena. The dike is exposed for a length of 150 feet. Samples of the deposit assayed as high as 14.05 ppm Au, 7.9 ppm Ag, 829 ppm Pb, and 1585 ppm Zn, but most samples were much lower in grade. The Gold Nugget prospect was developed in the early 1900s by opencuts and two shafts that subsequently were covered or plugged during housing development. Small amounts of gold probably were recovered early in the century, but there is no public record of any production.

At the South quarry occurrence, a small rock sample of unspecified type contained 8.1 ppm Au, 31.5 ppm Ag, 1.04% Pb, and 2.08% Zn (Maas and others, 1995, p. 201).

Alteration:

Age of mineralization:
Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:
The Gold Nugget prospect was developed in the early 1900s by opencuts and two shafts that subsequently were covered or plugged during housing development. Samples of the deposit assayed as high as 14.05 ppm Au, 7.9 ppm Ag, 829 ppm Pb, and 1585 ppm Zn, but most samples were much lower in grade (Maas and others, 1995, p. 197, 201).

At the South quarry occurrence, a small rock sample of unspecified type contained 8.1 ppm Au, 31.5 ppm Ag, 1.04% Pb, and 2.08% Zn (Maas and others, 1995, p. 201).

Production notes:
Small amounts of gold probably were recovered in the early 1900s, but there is no public record of any production.

Reserves:

Additional comments:

References:
Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Sharon

Site type: Prospect

ARDF no.: KC078

Latitude: 55.331 **Quadrangle:** KC B-5

Longitude: 131.518

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 100 feet on Whitman Creek, about 0.3 mile north of the mouth of Herring Bay. The site is in section 25, T. 75 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 75 in Elliott and others (1978). The location is accurate within about 0.2 mile.

Commodities:

Main: Cu, Zn

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks in this part of Revillagigedo Island are mainly marine, andesitic or basaltic metavolcanic rocks and interbedded pelitic metasedimentary rocks that are intruded by Cretaceous sills and dikes of feldspar-porphyritic granodiorite, and by a stock of Tertiary gabbro (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time, and subsequently remetamorphosed to hornblende hornfels near the contacts of the gabbro stock. The premetamorphic age of the strata is uncertain. Berg and others (1988) note that they closely resemble Upper Jurassic to mid-Cretaceous flysch and volcanic rocks nearby on Gravina Island.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in metasedimentary rocks near the contact of the gabbro stock, was staked for copper and zinc. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Mahoney; Ash; Asche

Site type: Mine

ARDF no.: KC079

Latitude: 55.428 **Quadrangle:** KC B-5

Longitude: 131.508

Location description and accuracy:

The Mahoney mine is less than 100 feet above sea level on the west shore of George Inlet. It is on the north side of the mouth of the creek draining Mahoney Lake. The site is in section 25, T. 74 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 76 in Elliott and others (1978), and to loc. 293 in Maas and others (1995). The location is accurate within a few hundred feet.

Also see Additional comments.

Commodities:

Main: Pb, Zn

Other: Ag, Au, Cd, Cu

Ore minerals: Galena, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, pelitic phyllite and schist that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally contact metamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism, and then more widely remetamorposed to hornblende hornfels near the contacts of the Tertiary gabbro. The premetamorphic age range of the pelitic strata is uncertain. Berg and others (1988) assign them a Mesozoic or (Late) Paleozoic age; Brew and Ford (1998) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age.

The Mahoney deposit consists of a pod or lens 6 inches to 3 feet thick and 350 feet long of massive sphalerite and galena, accompanied by interstitial quartz and calcite. The orebody formed by fracture filling in, and by minor replacement of, dark gray, graphitic, slaty to phyllitic metapelite (Robinson and Twenhofel, 1953; Cobb and Elliott, 1980, p. 71).

The metapelite locally is intruded by feldspar-porphyritic dikes or sills.

Maas and others (1995, p. 203-204) note that the deposit has a shallow dip and is slightly discordant to the gently-dipping foliation of the phyllite hostrock. The orebody thickens from west to east and its dip steepens from 17 to 54 degrees. They believe that the deposit was emplaced along a fault, or, more likely, that there has been fault movement along the boundary of the soft sulfides and the relatively hard phyllite. Where the massive sulfides are not present, the fault zone is filled with quartz and crushed phyllite.

The Mahoney deposit was discovered in the early 1900s and originally referred to as the Asche claim (Brooks, 1902, p. 63). The mine was developed mainly in the 1940s and included more than 600 feet of underground workings, along with several surface pits and trenches (Maas and others, 1995, p. 202). From 1947 to 1949, total recovery from about 400-500 tons of ore was 33.1 metric tons (mt) of Zn, 18.1 mt of Pb, 1.27 mt of Cu, 11.6 kg of Ag, and 0.25 kg of Au (Maas and others, 1995, p, 202). Resources are estimated at 2,500 tons of material averaging 6-7% Pb and about 28% Zn (Robinson and Twenhofel, 1953; Cobb and Elliott, 1980, p. 71).

Maas and others (1995, p. 210) collected one-foot-wide samples across the deposit for the first 118 feet of the main adit. These samples averaged 3.2% Pb, 7.6% Zn, and 25.5 ppm Ag. The weighted average of assays of 1.4-foot-long samples along 60 feet of the richest ore was 20.1% Zn, 8.0% Pb, 61 ppm Ag, and 0.69 ppm Au (Maas and others, p. 204). Some samples also contained up to 1200 ppm Cd. Maas and others' sampling showed a direct correlation between high lead and silver values.

Alteration:

Age of mineralization:

Deposit model:

Stratiform, massive-sulfide replacement body

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

The Mahoney deposit was discovered in the early 1900s and originally referred to as the Asche claim (Brooks, 1902, p. 63). The mine was developed mainly in the 1940s and included more than 600 feet of underground workings, along with several surface pits and trenches (Maas and others, 1995, p. 202). From 1947-49, total recovery from about 400-500 tons of ore was 33.1 metric tons (mt) of Zn, 18.1 mt of Pb, 1.27 mt of Cu, 11.6 kg of Ag, and 0.25 kg of Au (Maas and others, 1995, p, 202).

Maas and others (1995, p. 210) collected one-foot-wide samples across the deposit for the first 118 feet of the main adit. These samples averaged 3.2% Pb, 7.6% Zn, 25.5 ppm Ag. The weighted average of assays of 1.4-foot-long samples along 60 feet of the richest ore was 20.1% Zn, 8.0% Pb, 61 ppm Ag, and 0.69 ppm Au (Maas and others, p. 204).

Some samples also contained up to 1200 ppm Cd. Maas and others' sampling showed a direct correlation between high lead and silver values.

Production notes:

From 1947 to 1949, total recovery from about 400-500 tons of ore was 33.1 metric tons (mt) of Zn, 18.1 mt of Pb, 1.27 mt of Cu, 11.6 kg of Ag, and 0.25 kg of Au (Maas and others, 1995, p, 202). Resources are estimated at 2,500 tons of material averaging 6-7% Pb and about 28% Zn (Cobb and Elliott, 1980, p. 71).

Reserves:

Resources are estimated at 2,500 tons of material averaging 6-7% Pb and about 28% Zn (Robinson and Twenhofel, 1953; Cobb and Elliott, 1980, p. 71).

Additional comments:

Early reports refer to this property as the Asche, or Ash, claim (Brooks, 1902, p. 63-64; Cobb and Elliott, 1980, p. 71).

References:

Brooks, 1902; Robinson and Twenhofel, 1953; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995; Brew and Ford, 1998; Crawford and others, in press

Primary reference: Robinson and Twenhofel, 1953; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Unnamed (west shore of George Inlet)

Site type: Prospect

ARDF no.: KC080

Latitude: 55.407 **Quadrangle:** KC B-5

Longitude: 131.482

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at or near sea level on the west shore of George Inlet, about 1.7 miles southeast of the Mahoney mine (KC079). The site is in section 31, T. 74 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 77 in Elliott and others (1978). The location probably is accurate within 0.2 mile.

Commodities:

Main: Ag

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, pelitic phyllite and schist that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally contact metamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism, and then more widely remetamorposed to hornblende hornfels near the contacts of the Tertiary gabbro. The premetamorphic age range of the pelitic strata is uncertain. Berg and others (1988) assign them a Mesozoic or (Late) Paleozoic age; Brew and Ford (1998) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in hornfelsed metapelite near the contact of a Tertiary gabbro plug, was staked for Ag. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Brew and Ford, 1998; Crawford and others, in press

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Londevan; Lon-De-Van; Telegraph group

Site type: Prospect

ARDF no.: KC081

Latitude: 55.399 **Quadrangle:** KC B-5

Longitude: 131.481

Location description and accuracy:

The Londevan prospect is at an elevation of about 200-1000 feet, from near the west shore of George Inlet to about a mile inland, and about 1.2 miles north of the mouth of Beaver Falls Creek. The site is in section 6, T. 75 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 78 in Elliott and others (1978), and to loc. 294 in Maas and others (1995). The location is accurate within 0.1 mile.

Commodities:

Main: Ag, Pb, Zn

Other: Au, Cu

Ore minerals: Chalcopyrite, galena, pyrite

Gangue minerals: Albite, calcite, quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, pelitic phyllite and schist that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally contact metamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism, and then more widely remetamorposed to hornblende hornfels near the contacts of the Tertiary gabbro. The premetamorphic age range of the pelitic strata is uncertain. Berg and others (1988) assign them a Mesozoic or (Late) Paleozoic age; Brew and Ford (1998) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age.

The Londevan deposit consists of sulfide-bearing quartz-calcite(-albite?)-fissure veins in dark gray, graphitic, pelitic phyllite and argillite. The country rocks locally are intruded by dikes or sills of feldspar-porphyritic granodiorite (Wright and Wright, 1988, p. 150; Cobb and Elliott, 1980, p. 68). The main vein and several subparallel, smaller veins dip steeply and strike NW, parallel to the foliation of the country rocks. Many of these

veins are adjacent to the granodiorite intrusions. The main vein is about 3 feet thick; the other veins are up to about a foot thick. These veins generally contain 5% or less of pyrite, sphalerite, and galena, and traces of chalcopyrite, silver, and gold. Slickensides and sulfide minerals are common along the footwall portions of these veins. Small amounts of pyrite also are disseminated in the metapelite country rocks. The veins have been traced on the surface for several hundred feet along strike, and the main vein was followed in underground workings for about 2100 feet. Another set of quartz veins that is older than the main vein system follows an anastomosing shear zone that strikes east and dips steeply south (Maas and others, 1995, p. 203). Brooks (1902, p. 63) describes a set of east-west fissure veins, the largest of which is 12 feet thick. These veins contain pyrite, and, locally, considerable argentiferous galena.

The deposit was discovered in the early 1900s and originally referred to as the Telegraph group. By 1913, a 4350-foot-long adit had been abandoned, apparently due to oxygen-poor air (Maas and others, 1995, p. 202). Efforts as recent as the 1980s to examine or reopen the mine also have been hampered or abandoned because of bad air. Some ore was mined in the early 1900s and stockpiled at the water's edge, but not shipped (Cobb and Elliott, 1980, p. 68). Sampling of the main vein system by Maas and others (1995, p. 209-210) was limited by bad air and caving. A chip sample of a subparallel vein about 650 feet into the adit contained 237.7 ppm Ag, 4300 ppm Pb, and 1.84% Zn across 3.5 feet; and a selected sample of the same vein contained 936 ppm Ag and 6.43% Zn. Two samples across a 12-foot-thick portion of quartz in the main drift averaged 5 ppm Ag and 68 ppb Au, along with minor Pb and Zn.

Alteration:

Small amounts of pyrite are disseminated in the country rocks adjacent to the veins.

Age of mineralization:

The fissure veins probably are Cretaceous or younger in age.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

The deposit was discovered in the early 1900s and originally referred to as the Telegraph group. By 1913, a 4350-foot-long adit had been abandoned, apparently due to oxygen-poor air (Maas and others, 1995, p. 202). Efforts as recent as the 1980s to examine or reopen the mine also have been hampered or abandoned because of bad air. Sampling of the main vein system by Maas and others (1995, p. 209-210) was limited by bad air and caving. A chip sample of a subparallel vein about 650 feet into the adit contained

237.7 ppm Ag, 4300 ppm Pb, and 1.84% Zn across 3.5 feet; and a selected sample of the same vein contained 936 ppm Ag and 6.43% Zn. Two samples across a 12-foot-thick portion of quartz in the main drift averaged 5 ppm Ag and 68 ppb Au, along with minor Pb and Zn.

Production notes:

Some ore was mined in the early 1900s and stockpiled at the water's edge, but not shipped (Cobb and Elliott, 1980, p. 68).

Reserves:

Additional comments:

References:

Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995; Brew and Ford, 1998; Crawford and others, in press

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Alaska Lead and Silver; A.L.S.

Site type: Mine

ARDF no.: KC082

Latitude: 55.387 **Quadrangle:** KC B-5

Longitude: 131.471

Location description and accuracy:

The Alaska Lead and Silver mine is 125 feet above sea level, a few hundred feet inland from George Inlet, and about 0.3 mile north of the mouth of Beaver Falls Creek. The site is in section 8, T. 75 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 79 in Elliott and others (1978), and to loc. 295 in Maas and others (1995). The location is accurate within a few hundred feet.

Commodities:

Main: Ag, Pb, Zn

Other: Cd, Cu

Ore minerals: Chalcopyrite, galena, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, pelitic phyllite and schist that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally contact metamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism, and then more widely remetamorposed to hornblende hornfels near the contacts of the Tertiary gabbro. The premetamorphic age range of the pelitic strata is uncertain. Berg and others (1988) assign them a Mesozoic or (Late) Paleozoic age; Brew and Ford (1998) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age.

The Alaska Lead and Silver deposit consists of a sulfide-bearing quartz fissure vein in hornfelsed biotite schist (Maas and others, 1995, p. 203 and figs. 52, 53). The vein is up to three feet thick and contains 1-4% combined sphalerite, galena, chalcopyrite, and pyrite. It strikes NE and dips 73 SE, and has been traced along strike for about 300 feet. The deposit was discovered in 1967. By 1968, the operators had extended drifts in two

separate adits (37 and 260 feet long), stoped 88 feet along the vein, constructed a flotation mill at the beach, and mined about 500 metric tons of ore of unknown grade. Samples along about 210 feet of the vein contained a weighted average of 21.6 ppm Ag, 685 ppm Pb, and 2731 ppm Zn across an average width of two feet (Maas and others, 1995, p. 209). A high-grade sample of this vein contained 63.1 ppm Ag, 0.36% Pb, and 0.29% Zn across three feet. Some of the samples also contained a significant amount of Cd.

Alteration:

Age of mineralization:
The vein is Late Cretaceous or Tertiary, assuming that it cuts the foliation of the schist hostrock.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:
The deposit was discovered in 1967. By 1968, the operators had extended drifts in two separate adits (37 and 260 feet long), stoped 88 feet along the vein, and constructed a flotation mill at the beach. Samples along about 210 feet of the vein contained a weighted average of 21.6 ppm Ag, 685 ppm Pb, and 2731 ppm Zn across an average width of two feet (Maas and others, 1995, p. 209). A high-grade sample of this vein contained 63.1 ppm Ag, 0.36% Pb, and 0.29% Zn across three feet. Some of the samples also contained a significant amount of Cd.

Production notes:
About 500 metric tons of ore of unknown grade was mined in 1967 and 1968.

Reserves:

Additional comments:

References:
Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995; Brew and Ford, 1998; Crawford and others, in press

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Peterson; Surprise

Site type: Prospect

ARDF no.: KC083

Latitude: 55.365 **Quadrangle:** KC B-5

Longitude: 131.474

Location description and accuracy:

The Peterson prospect is just above sea level on the west shore of George Inlet, about 1.15 miles south of the mouth of Beaver Falls Creek. The site is in section 17, T. 75 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 80 in Elliott and others (1978), and to loc. 296 in Maas and others (1995). The location is accurate within a few hundred feet. Some early reports apparently refer to this property as the Surprise prospect (Cobb and Elliott, 1980, p. 84).

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

Ore minerals: Chalcopyrite, galena, pyrite, pyrrhotite, sphalerite

Gangue minerals: Calcite, graphite, quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, pelitic phyllite and schist that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally contact metamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism, and then more widely remetamorposed to hornblende hornfels near the contacts of the Tertiary gabbro. The premetamorphic age range of the pelitic strata is uncertain. Berg and others (1988) assign them a Mesozoic or (Late) Paleozoic age; Brew and Ford (1998) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age.

Wright and Wright (1908, p. 150) described the principal Peterson deposit as a fault-gouge-bounded, sulfide-bearing, quartz-calcite-graphite fissure vein that averages 15 feet wide and has been traced along strike for 1000 feet. The vein strikes NW, parallel to the foliation of pelitic schist host rock, and dips steeply NE to vertical, which intersects the

SW dip of the foliation. The sulfide minerals in the vein are pyrite, galena, sphalerite, and pyrrhotite, along with reported values of Au and Ag. Pyrite is also sparsely disseminated in the wallrocks adjacent to the vein.

The Peterson deposit was discovered in 1908 and explored by 3 short adits in 1913. There has been no additional mining-related work since then (Maas and others, 1995, p. 202). In 1995, the patented property was on the site of the George Inlet Lodge. Samples of a shear zone exposed in an adit showed low metal values (Maas and others, 1995, p. 209). A sample of massive pyrrhotite collected from the creek adjacent to this adit contained 6.2 ppm Ag, 1066 ppm Cu, 2469 ppm Zn, and 246 ppm Ni.

Alteration:

Pyrite is sparsely disseminated in the schist wallrock adjacent to the vein.

Age of mineralization:

Probably Late Cretaceous or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: None

Site Status: Undetermined

Workings/exploration:

The Peterson deposit was discovered in 1908 and explored by 3 short adits in 1913. There has been no additional mining-related work since then (Maas and others, 1995, p. 202). In 1995, the patented property was on the site of the George Inlet Lodge. Samples of a shear zone exposed in an adit showed low metal values (Maas and others, 1995, p. 209). A sample of massive pyrrhotite collected from the creek adjacent to this adit contained 6.2 ppm Ag, 1066 ppm Cu, 2469 ppm Zn, and 246 ppm Ni.

Production notes:

Reserves:

Additional comments:

References:

Wright and Wright, 1908; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995; Brew and Ford, 1998; Crawford and others, in press

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Blue Streak

Site type: Prospect

ARDF no.: KC084

Latitude: 55.361 **Quadrangle:** KC B-5

Longitude: 131.484

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 500 feet. It is approximately 0.3 mile inland from the west shore of George Inlet, about 2.7 miles northeast of the north mouth of Herring Bay, and 1.6 miles southwest of the mouth of Beaver Falls Creek. The site is in section 18, T. 75 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 81 in Elliott and others (1978). The location probably is accurate within about 0.1 mile.

Commodities:

Main: Au, Cu, Ni

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, pelitic phyllite and schist that are intruded by Cretaceous stocks, sills, and dikes of feldspar-porphyritic granodiorite, and by a stock and probably related plugs of Tertiary gabbro (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally contact metamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism, and then more widely remetamorposed to hornblende hornfels near the contacts of the Tertiary gabbro. The premetamorphic age range of the pelitic strata is uncertain. Berg and others (1988) assign them a Mesozoic or (Late) Paleozoic age; Brew and Ford (1998) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in a Tertiary gabbro stock near its contact with pelitic metasedimentary rocks, was staked for Au, Cu, and Ni. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Brew and Ford, 1998; Crawford and others, in press

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Black Ridge

Site type: Prospect

ARDF no.: KC085

Latitude: 55.273 **Quadrangle:** KC B-5

Longitude: 131.429

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 200 feet, approximately 0.2 mile inland from the southwest coast of Revillagigedo Island, and midway between the mouths of Carroll Inlet and Thorne Arm. The site is in section 16, T. 76 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 82 in Elliott and others (1978). The location is probably accurate within about 0.1 mile.

Commodities:

Main: Ag, Au, Co, Cr

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The principal country rock in this part of Revillagigedo Island is a stock of Cretaceous quartz diorite (Berg and others, 1988). On the north and south, the stock intrudes diverse metamorphosed Mesozoic or Paleozoic sedimentary, volcanic, and intrusive rocks. In part, the southern boundary of the stock also is a moderately northeast-dipping thrust fault and blastomylonite zone (Berg, 1982). The outcrop area of the stock includes roof pendants and inclusions of dioritic metaplutonic rocks and pelitic metasedimentary rocks. Berg and others (1988) assigned these rocks a Mesozoic or Paleozoic premetamorphic age.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in the Cretaceous quartz diorite stock near its south contact, was staked for Ag, Au, Co, and Cr. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg, 1982; Berg and others, 1988

Primary reference: Elliott and others, 1978; Berg, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Moth Bay; Black Jack; Bonanza King; Lone Jack; Sulphide; Youzinka

Site type: Prospect

ARDF no.: KC086

Latitude: 55.296 **Quadrangle:** KC B-5

Longitude: 131.343

Location description and accuracy:

The Moth Bay prospect is at an elevation of 300-350 feet, 0.55 mile north of the head of Moth Bay. The site is in section 7, T. 76 S., R. 93 E., of the Copper River Meridian. It corresponds to loc. 83 in Elliott and others (1978), and to loc. 307 in Maas and others (1995). The location is accurate within a few hundred feet.

Commodities:

Main: Pb, Zn

Other: Ag, Au, Cu

Ore minerals: Bornite, chalcopyrite, covellite, galena, pyrite, pyrrhotite, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:

The principal country rock in this part of Revillagigedo Island is a stock of Cretaceous quartz diorite (Berg and others, 1988). On the north and south, the stock intrudes diverse metamorphosed Mesozoic or Paleozoic sedimentary, volcanic, and intrusive rocks. In part, the southern boundary of the stock also is a moderately northeast-dipping thrust fault and blastomylonite zone (Berg, 1982). The outcrop area of the stock includes roof pendants and inclusions of dioritic metaplutonic rocks and pelitic metasedimentary rocks. Berg and others (1988) assigned these rocks a Mesozoic or Paleozoic premetamorphic age. One such pelitic roof pendant, 0.5 mile long and 0.25 mile wide, hosts the Moth Bay deposit.

The Moth Bay deposit consists of layers of biotite schist and underlying muscovite schist that are partly replaced by pyrite, pyrrhotite, sphalerite, chalcopyrite, galena, and minor bornite and covellite, accompanied by interstitial quartz and calcite (Robinson and Twenhofel, 1953, p. 59-71). Locally, the sulfide minerals form isolated, podlike masses of ore. The deposit crops out in an area at least 1500 feet long and 700 feet wide. The ore beds are as much as 15 feet thick, but generally no more than 5 feet thick. The principal ore bed ranges from 2-17 feet thick; it has been traced on the surface for 600 feet and in underground workings for 440 feet. The orebody has a vertical extent of 200 feet and a

downdip length of 140 feet. A second ore bed averages 4 feet thick for a length of 80 feet. A third ore bed of unknown length is up to 3 feet thick and occurs on the crest of a southeast-plunging anticlinal drag fold in the schist hostrock. The order of abundance of the sulfide minerals is: 25% pyrite, up to 10% pyrrhotite, 3-15% sphalerite, 1-5% chalcopyrite, and trace galena. Gold and silver have been reported only in some assays of the ore.

The deposit was explored between about 1911 and 1931 by trenches, pits, and about 900 feet of underground workings, including an 800-foot adit and short crosscuts, and a 75-foot adit and 100-foot inclined winze (Robinson and Twenhofel, 1953; Maas and others, 1995, p. 221). The deposit was drilled by the U.S. Bureau of Mines in 1950 (see Reserves).

Alteration:

Age of mineralization:

Deposit model:

Stratiform massive sulfide replacement body. Possibly sedimentary exhalative Zn-Pb (Cox and Singer, 1986; model 31a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

31a?

Production Status: None

Site Status: Undetermined

Workings/exploration:

The deposit was explored between about 1911 and 1931 by trenches, pits, and about 900 feet of underground workings, including an 800-foot adit and short crosscuts, and a 75-foot adit and 100-foot inclined winze (Robinson and Twenhofel, 1953; Maas and others, 1995, p. 221). The deposit was drilled by the U.S. Bureau of Mines in 1950 (see Reserves).

Production notes:

Despite fairly extensive underground workings, there is no public record of any ore shipments from the Moth Bay prospect.

Reserves:

Drilling of the Moth Bay deposit by the U.S. Bureau of Mines in 1950 indicated: (1) about 100,000 tons of ore containing 7.5% Zn, 1% Cu, and 0.02 ounce of Au and 0.20 ounce of Ag per ton; (2) 10,000 tons of ore containing 3% Cu; and (3) an additional 100,000 tons of lower-grade ore (Robinson and Twenhofel, 1953; Cobb and Elliott, 1980, p. 77; Maas and others, 1995, p. 221).

Additional comments:

Robinson and Twenhofel (1953) provide detailed drill core and assay data for this deposit. At various times, the property has been called Black Jack, Bonanza King, Lone Jack, Sulphide, and Youzinka (Cobb and Elliott, 1980, p. 144-146).

References:

Robinson and Twenhofel, 1953; Elliott and others, 1978; Cobb and Elliott, 1980; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Robinson and Twenhofel, 1953

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Lake

Site type: Prospect

ARDF no.: KC087

Latitude: 55.409 **Quadrangle:** KC B-4

Longitude: 131.195

Location description and accuracy:

The Lake prospect is at an elevation of about 200 feet on Fish Creek, about 0.1 mile above the junction of Silver Creek. The site is in section 31, T. 74 S., R. 94 E., of the Copper River Meridian. It corresponds to loc. 84 in Elliott and others (1978). The location is accurate within 0.1 mile.

Also see Additional comments.

Commodities:

Main: Pb, Zn

Other:

Ore minerals: Galena, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

The deposit consists of sulfide-bearing quartz fissure veins in intercalated metapelitic and metavolcanic (greenstone) schists near the contact of a granodiorite puton (Wright and Wright, 1908, p. 149). The sulfide minerals are pyrite, galena, and sphalerite, generally in small amounts. The largest vein reportedly is up to 60 feet wide; it strikes N15W and dips vertically, across the foliation of the schists.

Alteration:

Age of mineralization:
Late Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:
Wright and Wright refer to this property as 'Lake claims nos. 1, 2, and 3.'
The site is at the boundary of, or within, Misty Fiords National Monument Wilderness.

References:
Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988

Primary reference: Wright and Wright, 1908

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Tyee

Site type: Prospect

ARDF no.: KC088

Latitude: 55.389 **Quadrangle:** KC B-4

Longitude: 131.183

Location description and accuracy:

The Tyee prospect is at an elevation of about 250 feet, on the north bank of the creek just below the outlet of Granite Lake. The site is in section 6, T. 77 S., R. 94 E., of the Copper River Meridian. It corresponds to loc. 85 in Elliott and others (1978), and to loc. 297 in Maas and others (1995). The location is accurate within 0.1 mile.

Commodities:

Main: Au, Pb, Zn

Other:

Ore minerals: Galena, gold, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

The Tyee deposit consists of a four-foot-wide quartz fissure vein in granodiorite (Wright and Wright, 1908, p. 148). The vein strikes east and dips 78S, and contains small amounts of pyrite, sphalerite, and galena, accompanied by low values in gold. According to Maas and others (1995, p. 215), the quartz in the veins is not recrystallized, so the veins probably are younger than most or all of the Late Cretaceous regional metamorphism.

Alteration:

Age of mineralization:
Late Cretaceous or younger.

Deposit model:
Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Massachusetts; Keystone

Site type: Prospect

ARDF no.: KC089

Latitude: 55.387 **Quadrangle:** KC B-4

Longitude: 131.169

Location description and accuracy:

This prospect is at an elevation of 500 feet in the south wall of the unnamed creek that flows west into Granite Lake . The site is about 0.3 mile east of Granite Lake, in section 8, T. 75 S., R. 94 E., of the Copper River Meridian. It corresponds to loc. 86 in Elliott and others (1978), and to loc. 298 in Maas and others (1995). The location is accurate within 0.1 mile.

Commodities:

Main: Au

Other: Pb, Zn

Ore minerals: Galena, gold, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

The deposit consists of a sulfide-bearing quartz fissure vein in intercalated metapelitic and metavolcanic (greenstone) schists that are cut by a granodiorite dike (Wright and Wright, 1908, p. 148-9). The vein at the surface is five feet wide, but at depth it decreases to six inches and divides into stringers. The sulfides are pyrite, galena, and sphalerite, accompanied by favorable gold values near the surface. According to Maas

and others (1995, p. 215), the Massachusetts auriferous veins strike NE and are hosted in hydrothermally altered mafic metavolcanic rocks that crop out on both sides of the granodiorite dike (see Alteration). The quartz in these veins is not recrystallized, so the veins are probably younger than most or all of the Late Cretaceous regional metamorphism.

The prospect was explored in the early 1900s by several opencuts, an 80-foot adit, a 30-foot shaft, and a 50-foot drift off the shaft. Gold values of $12/ton (Au at $20.67/oz.) were reported by the operators at that time (Brooks, 1902, p. 68).

Maas and others (1995, p. 217, 218) report a mean value of 2071 ppb Au in 12 samples of the Massachusetts deposit; their best assay showed 11.1 ppm Au and 134 ppm Ag in a 3-foot sample across the main vein.

Alteration:

According to Maas and others (1995, p. 215), the wallrocks of the auriferous veins in the Sea Level mine area are hydrothermally altered to bluish-gray carbonate-sericite-pyrite rock, called 'blue porphyry' in some early reports (for example, Brooks, 1902; Wright and Wright, 1908) (also see KC095).

Age of mineralization:

Late Cretaceous or younger.

Deposit model:

Low-sulfide gold-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: None

Site Status: Undetermined

Workings/exploration:

The prospect was explored in the early 1900s by several opencuts, an 80-foot adit, a 30-foot shaft, and a 50-foot drift off the shaft. Gold values of $12/ton (Au at $20.67/oz.) were reported by the operators at that time (Brooks, 1902, p. 68). Maas and others (1995, p. 217, 218) report a mean value of 2071 ppb Au in 12 samples of the Massachusetts deposit; their best assay showed 11.1 ppm Au and 134 ppm Ag in a 3-foot sample across the main vein.

Production notes:

Reserves:

Additional comments:

Wright and Wright (1908, p. 148) refer to this property as the Massachusetts claims nos. 1 and 2, and note that they were originally known as the Keystone claims (Brooks, 1902, p. 68).

References:

Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995; Crawford and others, in press

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Baltic

Site type: Prospect

ARDF no.: KC090

Latitude: 55.383 **Quadrangle:** KC B-4

Longitude: 131.191

Location description and accuracy:

The Baltic prospect is at an elevation of about 150-200 feet, 0.3 mile east of the shore of Thorne Arm, and 0.5 mile west of Star Lake. The site is in section 7, T. 75 S., R. 94 E., of the Copper River Meridian. It corresponds to loc. 87 in Elliott and others (1978), and to loc. 299 in Maas and others (1995). The location is accurate within 0.1 mile. Elliott and others, following an error in Wright and Wright (1908, p. 148), erroneously called the site 'Baltic Star.'

Commodities:

Main: Au

Other: Pb, Zn

Ore minerals: Galena, gold, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

According to Wright and Wright (1908, p. 148), the Baltic prospect (which they erroneously called 'Baltic Star') consists of a 1.5-foot-thick quartz fissure vein in mineralized schist. The vein, which was traced on the surface for 300 feet, strikes NE and dips 75 SE, and contains small amounts of pyrite, sphalerite, and galena, in addition to low values in

gold. The northeast end of the Baltic claim abuts against a Quaternary basalt lava flow.

Maas and others (1995, p. 215) interpret the 'mineralized schist' in the Sea Level mine area as hydrothermally altered mafic metavolcanic rock (see Alteration, below; also see KC095). They also note that the quartz in the veins in this area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Alteration:

According to Maas and others (1995, p. 215), the wallrocks of the auriferous veins in the Sea Level mine area are hydrothermally altered to bluish-gray carbonate-sericite-pyrite rock, called 'blue porphyry' in some early reports (for example, Brooks, 1902; Wright and Wright, 1908) (also see KC095).

Age of mineralization:

Maas and others (1995, p. 215) note that the quartz in the veins in this area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Deposit model:

Low-sulfide gold-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

The Baltic prospect was erroneously called 'Baltic Star' by Wright and Wright (1908, p. 148) and by Elliott and others (1978, loc. 87).

References:

Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995; Crawford and others, in press

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/03/99

Site name(s): Baltic Star; Queen

Site type: Prospect

ARDF no.: KC091

Latitude: 55.381 **Quadrangle:** KC B-4

Longitude: 131.192

Location description and accuracy:

The Baltic Star and Queen claims extend from the shore of Thorne Arm east-northeastward to an elevation of approximately 200 feet, about 0.3 mile west-southwest of the head of Star Lake The map site is in section 7, T. 75 S., R. 94 E., of the Copper River Meridian, about at the junction of the two claims, and is accurate within a few hundred feet. The site corresponds to loc. 88 in Elliott and others (1978), who, following an error in Wright and Wright (1908), erroneously call it 'Baltic/Queen.'

Commodities:

Main: Au

Other: Pb, Zn

Ore minerals: Galena?, gold, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

The Baltic Star and Queen claims are on a quartz fissure vein that strikes generally eastward and dips steeply to vertically, across the foliation of the enclosing schist, which strikes N20W and dips 70NE (Wright and Wright, 1908, p. 148). The vein is 1-6 feet thick and contains small amounts of pyrite, sphalerite, and [probably] galena, along with

low values in gold. The deposit was explored in the early 1900s by opencuts, two short prospect tunnels, and an inclined shaft 40 feet deep (Wright and Wright, 1908, p. 148). Maas and others (1995, p. 215) note that the quartz in the veins in this area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Alteration:

Age of mineralization:
Maas and others (1995, p. 215) note that the quartz in the veins in this area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Deposit model:
Low-sulfide Au-quartz veins (Cox and singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
The deposit was explored in the early 1900s by opencuts, two short prospect tunnels, and an inclined shaft 40 feet deep (Wright and Wright, 1908, p. 148).

Production notes:

Reserves:

Additional comments:
The Baltic Star prospect was erroneously called 'Baltic' by Wright and Wright (1908, p. 148) and by Elliott and others (1978, loc. 88).

References:
Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995; Crawford and others, in press

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Golden Rod

Site type: Prospect

ARDF no.: KC092

Latitude: 55.373 **Quadrangle:** KC B-4

Longitude: 131.184

Location description and accuracy:

The Golden Rod prospect is at an elevation of about 300 feet, approximately 0.15 mile east of the mouth of Beaver Lake. The site is in section 7, T. 75 S., R. 94 E., of the Copper River Meridian. It corresponds to loc. 89 in Elliott and others (1978). The location is accurate within about 0.1 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

The deposit at this site consists of a quartz fissure vein up to 16 feet thick in aplitic and gneissic granodiorite (Wright and Wright, 1908, p. 147). The vein strikes N50E and dips 80SE. According to the Wrights, 'The mineralization is slight and the [gold] values are ... correspondingly low.' The vein was explored in the early 1900s by several opencuts.

Maas and others (1995, p. 215) note that the quartz in the veins in the Sea Level mine area is not recrystallized; the veins thus are probably younger than most or all of the Late

Cretaceous regional metamorphism.

Alteration:

Age of mineralization:
Maas and others (1995, p. 215) note that the quartz in the veins in the Sea Level mine area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Deposit model:
Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
The deposit was prospected in the early 1900s by several opencuts.

Production notes:

Reserves:

Additional comments:

References:
Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995; Crawford and others, in press

Primary reference: Wright and Wright, 1908

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Salve

Site type: Prospect

ARDF no.: KC093

Latitude: 55.373 **Quadrangle:** KC B-4

Longitude: 131.195

Location description and accuracy:
The Salve claim is at or near sea level along the shoreline of Thorne Arm, about 0.45 mile northwest of the mouth of Gokachin Creek. The site is in section 18, T. 75 S., R. 94 E., of the Copper River Meridian. It corresponds to loc. 90 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Au

Other:

Ore minerals: Auriferous? pyrite

Gangue minerals: Quartz

Geologic description:
The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

The deposit consists of a band of sericitic schist that contains a few stringers of quartz (Wright and Wright, 1908, p. 148). The schist strikes NW and dips steeply NE. It is folded and faulted, and cut by dikes of feldspar-porphyritic granodiorite that strike NE, and apparently postdate at least some of the quartz stringers. The quartz contains pyrite, which probably also is sparsely disseminated in the schist. The prospect was explored in the early 1900s by an opencut and test pit.

Alteration:

Age of mineralization:
The veins may have formed during Cretaceous regional metamorphism, but before intrusion of Cretaceous granodiorite.

Deposit model:
Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
The prospect was explored in the early 1900s by an opencut and test pit.

Production notes:

Reserves:

Additional comments:

References:
Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Crawford and others, in press

Primary reference: Wright and Wright, 1908

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Sea Breeze

Site type: Prospect

ARDF no.: KC094

Latitude: 55.371 **Quadrangle:** KC B-4

Longitude: 131.187

Location description and accuracy:

The Sea Breeze prospect is at an elevation of about 200 feet, approximately 0.2 mile south-southwest of the mouth of Beaver Lake. The site is in section 18, T. 75 S., R. 94 E., of the Copper River Meridian. It corresponds to loc. 91 in Elliott and others (1978), and to loc. 300 (1-5) in Maas and others (1995). The location is accurate within a few hundred feet.

Commodities:

Main: Au

Other: Pb, Zn

Ore minerals: Galena, gold, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

The Sea Breeze claim adjoins the Sea Level claim (KC095) on the northeast, and is located on the extension of its mineralized belt (Brooks, 1902, p. 67; Wright and Wright, 1908, p. 146; Maas and others, 1995, fig. 55). The deposit consists of quartz fissure veins 1-8 feet thick in mafic metavolcanic (greenstone) country rock. The veins strike NE and dip steeply SE, and are sharply discordant to the NW foliation of the metavolcanic coun-

try rocks. The veins are characterized by intense fracturing, brecciation, and abrupt variations in mineralization. The ore minerals include [auriferous] pyrite, galena, sphalerite, and an occasional speck of native gold. Auriferous pyrite also is sparsely disseminated in the wallrocks adjacent to the veins (Maas and others, 1995, p. 215). The walls of some of the veins are bluish-gray, hydrothermally altered rock that was interpreted by the early miners as a dike, or dikes, of intrusive porphyry ('blue porphyry' of Brooks, 1902, p. 65-67; and Wright and Wright, 1908, p. 144-146). Maas and others (1995, p. 215), however, interpret it as a zone of hydrothermally altered mafic metavolcanic rock.

Maas and others (1995) also report that the quartz in the veins is not recrystallized. The veins thus probably are younger than most or all of the Late Cretaceous regional metamorphism, but are older than a period of intense local faulting and brecciation.

The prospect was explored in the early 1900s by two short tunnels, and by numerous opencuts that exposed the veins for several hundred feet along strike. Maas and others (1995, p. 218) report two adits, one 69 feet long, and one caved. Maas and others (1995, p. 217-218) report a mean value of 661 ppb Au in 12 samples of the Sea Breeze vein. Their best assay showed 2.0 ppm Au in an 8.5-foot sample across the vein.

Alteration:

The walls of some of the veins are bluish-gray, hydrothermally altered rock that was interpreted by the early miners as a dike, or dikes, of intrusive porphyry ('blue porphyry' of Brooks, 1902, p. 65-67; and Wright and Wright, 1908, p. 144-146). Maas and others (1995, p. 215), however, interpret it as a zone of hydrothermally altered mafic metavolcanic rock.

Age of mineralization:

Maas and others (1995) report that the quartz in the veins is not recrystallized. The veins thus probably are younger than most or all of the Late Cretaceous regional metamorphism, but are older than a period of intense local faulting and brecciation.

Deposit model:

Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

The prospect was explored in the early 1900s by two short tunnels, and by numerous opencuts that exposed the veins for several hundred feet along strike. Maas and others (1995, p. 218) report two adits, one 69 feet long, and one caved. Maas and others (1995, p. 217-218) report a mean value of 661 ppb Au in 12 samples of the Sea Breeze vein. Their best assay showed 2.0 ppm Au in an 8.5-foot sample across the vein.

Production notes:

Reserves:

Additional comments:

References:

Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995; Crawford and others, in press

Primary reference: Brooks, 1902; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Sea Level; Sealevel

Site type: Mine

ARDF no.: KC095

Latitude: 55.369 **Quadrangle:** KC B-4

Longitude: 131.192

Location description and accuracy:

The Sea Level claim extends from the shoreline of Thorne Arm northeastward to an elevation of about 300 feet. The map site is in section 18, T. 75 S., R. 94 E., of the Copper River Meridian, and it coincides with the 'Sealevel Mine' symbol on the 1:63,360-scale, Ketchikan B-4 topographic map (1949 ed., rev. 1973). The site corresponds to loc. 92 in Elliott and others (1978), and to loc. 301 (1-5) in Maas and others (1995). The location is accurate within a hundred or so feet.

Also see Additional comments.

Commodities:

Main: Ag, Au

Other: Pb, Zn

Ore minerals: Galena, gold, pyrite, sphalerite

Gangue minerals: Muscovite, quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

The Sea Level deposit consists of sulfide-bearing quartz fissure veins. The veins cut hydrothermally altered mafic metavolcanic (greenstone schist) country rocks, and a 25-foot-thick body that either is an intrusive dike of altered porphyry ('blue porphyry' of Brooks,

1902, p. 65-67; and Wright and Wright, 1908, p. 144-146), or a zone of hydrothermally altered mafic metavolcanic rock (Maas and others, 1995, p. 210-218). The principal workings were on two parallel veins 15 feet apart. One is 5 feet thick and one 1-2 feet thick; both strike NE and dip steeply SE, at an acute angle to the NW strike of the foliation of the metamorphic country rocks. The veins consist of coarsely crystalline, milky quartz and minor muscovite, and contain (auriferous) pyrite, galena, and sphalerite, and sparse flakes of native gold. Pyrite cubes also are common in the altered wallrocks of the veins. Included in the veins are large breccia fragments of altered country rocks that reportedly carried as high values in precious metals as the quartz. Locally conspicuous, open-space-filling textures indicate quartz deposition at shallow crustal levels. In addition to the faulting that preceded vein formation; some of the veins in turn are sheared and offset by small faults. The quartz in the veins, however, is not recrystallized, and they thus are probably younger than most or all of the Late Cretaceous regional metamorphism (Maas and others, 1995, p. 215).

Most of the quartz veins are bordered by a hydrothermally altered zone up to three feet thick, characterized by generally fine-grain, light-gray to bluish-gray, massive, carbonate- and sericite-bearing rock that commonly contains cubic pyrite crystals up to an inch across (Maas and others, 1995, p. 215). Maas and others (1995) interpret this zone as hydrothermally altered mafic metavolcanic rock. Early miners called this altered rock 'blue porphyry,' which they interpreted as crosscutting altered dikes that predate the quartz veins, but are closely associated with some of the orebodies (Brooks, 1902, p. 65; Wright and Wright, 1908, p. 143). Gold content of these pyritic altered zones is high adjacent to the quartz veins and diminishes away from them. Weathered altered rocks have a reddish-brown, oxidized rind up to three inches thick.

The Sea Level mine was developed in the early 1900s by a three-compartment shaft 125 feet deep, with drifts along the orebody at the 50- and 125-foot levels (Wright and Wright, 1908, p. 144). Total length of these workings was more than 1200 feet. A short tunnel with winze was also driven on the main vein at a point 350 feet N60E of the shaft house. The vein was exposed at several other points by opencuts and prospect tunnels, and it appears to continue northeastward for at least 2000 feet, onto the adjoining Sea Breeze claim (KC094). Other surface developments included an inclined tram, a 30-stamp mill, and a pipeline for water power.

An unknown amount of gold and silver was produced from the Sea Level mine in the early 1900s, when the ore reportedly averaged $5.35/ton (Au at $20.67/ounce) (Brooks, 1902, p. 66-67). Maas and others (1995, p. 217) report a mean value of 4940 ppb Au in 38 samples of the Sea Level deposit.

Alteration:

Most of the quartz veins are bordered by a hydrothermally altered zone up to three feet thick, characterized by generally fine-grain, light-gray to bluish-gray, massive, carbonate- and sericite-bearing rock that commonly contains cubic pyrite crystals up to an inch across (Maas and others, 1995, p. 215). Maas and others (1995) interpret this zone as hydrothermally altered mafic metavolcanic rock. Early miners called this altered rock 'blue porphyry,' which they interpreted as crosscutting altered dikes that predate the quartz veins, but are closely associated with some of the orebodies (Brooks, 1902, p. 65; Wright and Wright, 1908, p. 143). Gold content of these pyritic altered zones is high adjacent to

the quartz veins and diminishes away from them. Weathered altered rocks have a reddish-brown, oxidized rind up to three inches thick.

Age of mineralization:

The quartz in the veins is not recrystallized (Maas and others, 1995, p. 215). The veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Deposit model:

Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

The Sea Level mine was developed in the early 1900s by a three-compartment shaft 125 feet deep, with drifts along the orebody at the 50- and 125-foot levels (Wright and Wright, 1908, p. 144). Total length of these workings was more than 1200 feet. A short tunnel with winze was also driven on the (main) vein at a point 350 feet N60E of the shaft house. The vein was exposed at several other points by opencuts and prospect tunnels, and it appears to continue northeastward for at least 2000 feet, onto the adjoining Sea Breeze claim (KC094). Other surface developments included an inclined tram, a 30-stamp mill, and a pipeline for water power.

Maas and others (1995, p. 217) report a mean value of 4940 ppb Au in 38 samples of the Sea Level deposit.

Production notes:

An unknown amount of gold and silver was produced from the Sea Level mine in the early 1900s, when the ore reportedly averaged $5.35/ton (Au at $20.67/ounce) (Brooks, 1902, p. 66-67).

Reserves:

Additional comments:

Throughout its history, the name of the property has varied from 'Sea Level' to 'Sealevel.'

References:

Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995; Crawford and others, in press

Primary reference: Brooks, 1902; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Goo Goo; Golden Dream; Mountain

Site type: Mine

ARDF no.: KC096

Latitude: 55.369 **Quadrangle:** KC B-4

Longitude: 131.186

Location description and accuracy:

The Goo Goo claim is in section 18, T. 75 S., R. 94 E., of the Copper River Meridian. It adjoins the Goo Goo Extension (KC097) claim on the northeast. It is at an elevation of approximately 150-200 feet north of, and roughly parallel to, Gokachin Creek. The main workings are about 0.3-0.4 mile inland from the shore of Thorne Arm, and the map coordinates are for the approximate center of the claim. The site corresponds to loc. 93 in Elliott and others (1978), and to loc. 302 (1-6) in Maas and others (1995). The location is accurate within 0.1 mile.

Also see Additional comments.

Commodities:

Main: Au

Other: Pb, Zn

Ore minerals: Galena, gold, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

According to Wright and Wright (1908, p. 147), the Goo Goo deposit is a quartz fissure vein that contains pyrite, sphalerite, galena, and free gold. The vein reportedly included

pockets of ore containing considerable free gold. The Wrights do not describe the country rocks or the geologic setting of the vein. The Goo Goo vein was located in 1905 and developed in the early 1900s by a 20-foot shaft and 15-foot tunnel. Brooks (1902, p. 67) reported gold assay values up to $4.00/ton (Au at $20.67/ounce). Maas and others (1995, p. 217) report a mean value of 760 ppb Au in 7 samples of the Goo Goo vein.

Maas and others (1995, p. 216) provide the following combined description of an auriferous quartz fissure vein more than 4900 feet long on the Goo Goo claim and its continuation southwestward onto the adjoining Goo Goo Extension claim (KC097). The vein, which strikes NE and dips steeply SE, is in mafic metavolcanic rocks and contains, in addition to free gold, pyrite, sphalerite, and galena. Hydrothermally altered metavolcanic rock adjacent to the vein contains disseminated pyrite and accompanying gold values (see Alteration). The best results of sampling in 1946 (Maas and others, 1995, p. 217) included: 5.8 ppm Au in a section of vein 7.5 feet thick and 79 feet long; and 7.1 ppm Ag in a section of vein 4.6 feet thick and 25 feet long. Thirty-one samples of the vein collected by Maas and others (1995) contained an average of 1.1 ppm Au. Workings, dating from the early 1900s, included 2 adits, one 1800 feet long and one caved; one flooded shaft; and several surface trenches and pits. Combined recorded production from the claims, probably all in the early 1900s, was 1.4 kg of gold. Maas and others' description of the Goo Goo and Goo Goo Extension vein indicates that its character and setting are virtually identical to the main vein on the Sea Level claim (KC095).

Alteration:

The Goo Goo vein, like most of the other principal veins in the Sea Level mine area, is bordered by a hydrothermally altered zone up to three feet thick, characterized by generally fine-grain, light-gray to bluish-gray, massive, carbonate- and sericite-bearing rock that commonly contains cubic pyrite crystals up to an inch across (Maas and others, 1995, p. 215). Maas and others (1995) interpret this zone as hydrothermally altered mafic metavolcanic rock. Early miners called this altered rock 'blue porphyry,' which they interpreted as crosscutting altered dikes that predate the quartz veins, but are closely associated with some of the orebodies (Brooks, 1902, p. 65; Wright and Wright, 1908, p. 143). Gold content of these pyritic altered zones is high adjacent to the quartz veins and diminishes away from them. Weathered altered rocks have a reddish-brown, oxidized rind up to three inches thick.

Age of mineralization:

Maas and others (1995, p. 215) note that the quartz in the veins in the Sea Level mine area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Deposit model:

Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

The Goo Goo vein was located in 1905 and developed in the early 1900s by a 20-foot shaft and 15-foot tunnel. Brooks (1902, p. 67) reported gold assay values up to $4.00/ton (Au at $20.67/ounce). Maas and others (1995, p. 217) report a mean value of 760 ppb Au in 7 samples of the Goo Goo vein.

According to Maas and others (1995, p. 217), the best results of sampling in 1946 included: 5.8 ppm Au in a section of vein 7.5 feet thick and 79 feet long; and 7.1 ppm Ag in a section of vein 4.6 feet thick and 25 feet long. Thirty-one samples of the vein collected by Maas and others (1995) contained an average of 1.1 ppm Au. Workings, dating from the early 1900s, included 2 adits, one 1800 feet long and one caved; one flooded shaft; and several surface trenches and pits.

Production notes:

Combined recorded production from the Goo Goo and Goo Goo Extension claims, probably all in the early 1900s, was 1.4 kg of gold (Maas and others, 1995, p. 218).

Reserves:

Additional comments:

Some early reports apparently refer to this property as the Golden Dream claim, or Mountain claim (Cobb and Elliott, 1980, p. 145).

References:

Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Cobb and Elliott, 1980; Berg, 1982; Berg and others, 1988; Maas and others, 1995; Crawford and others, in press

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Goo Goo Extension; Majestic; Mother Lode

Site type: Prospect

ARDF no.: KC097

Latitude: 55.369 **Quadrangle:** KC B-4

Longitude: 131.189

Location description and accuracy:

The Goo Goo Extension claim is in section 18, T. 75 S., R. 94 E., of the Copper River Meridian. It adjoins the Goo Goo claim (KC096) on the southwest. It is about 0.15 mile north of, and parallel to, Gokachin Creek, and extends from the shoreline of Thorne Arm northeastward to an elevation of about 150 feet. The coordinates of the map site are for the approximate center of the claim. The site corresponds to loc. 94 in Elliott and others (1978), and to loc. 303 (1-16) in Maas and others (1995). The location is accurate within 0.1 mile.

Also see Additional comments.

Commodities:

Main: Au

Other: Pb, Zn

Ore minerals: Galena, gold, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

Wright and Wright (1908, p. 147) describe this deposit as a 20-foot-thick quartz fissure vein in altered schists. The vein, which they suggest is a continuation of the Goo Goo

vein (KC096), strikes N63E, and contains pyrite, sphalerite, and galena. Workings in the early 1900s consisted of an open pit 10 feet deep, and a tunnel 10 feet long. At that time, a picked sample assayed $30 Au/ton (Au at $20.67/ounce) (Brooks, 1902, p. 67). Maas and others (1995, p. 217) report a mean value of 959 ppb Au in 24 samples of the Goo Goo Extension vein. Private examination in the early-mid-1980s of an 1837-foot adit on the Goo Goo Extension claim outlined five zones of elevated gold values, mainly along the margins of the vein(s) (Maas and others, 1995, p. 215).

Maas and others (1995, p. 216) provide the following combined description of an auriferous quartz fissure vein more than 4900 feet long on the Goo Goo Extension claim and its continuation northeastward onto the adjoining Goo Goo claim (KC096). The vein, which strikes NE and dips steeply SE, is in mafic metavolcanic rocks and, in addition to free gold, contains pyrite, sphalerite, and galena. Hydrothermally altered metavolcanic rock adjacent to the vein contains disseminated pyrite and accompanying gold values (see Alteration). The best results of sampling in 1946 included: 5.8 ppm Au in a section of vein 7.5 feet thick and 79 feet long; and 7.1 ppm Ag in a section of vein 4.6 feet thick and 25 feet long. Thirty-one samples of the vein collected by Maas and others (1995) contained an average of 1.1 ppm Au. The workings, which date from the early 1900s, include 2 adits, one 1800 feet long and one caved; one flooded shaft; and several surface trenches and pits. Combined recorded production from the claims, probably all in the early 1900s, was 1.4 kg of gold. Maas and others' description of the Goo Goo and Goo Goo Extension vein indicates that its character and setting are virtually identical to the main vein on the Sea Level claim (KC095).

Alteration:

The Goo Goo Extension vein, like most of the other principal veins in the Sea Level mine area, is bordered by a hydrothermally altered zone up to three feet thick, characterized by generally fine-grain, light-gray to bluish-gray, massive, carbonate- and sericite-bearing rock that commonly contains cubic pyrite crystals up to an inch across (Maas and others, 1995, p. 215). Maas and others (1995) interpret this zone as hydrothermally altered mafic metavolcanic rock. Early miners called this altered rock 'blue porphyry,' which they interpreted as crosscutting altered dikes that predate the quartz veins, but are closely associated with some of the orebodies (Brooks, 1902, p. 65; Wright and Wright, 1908, p. 143). Gold content of these pyritic altered zones is high adjacent to the quartz veins and diminishes away from them. Weathered altered rocks have a reddish-brown, oxidized rind up to three inches thick.

Age of mineralization:

Maas and others (1995, p. 215) note that the quartz in the veins in the Sea Level mine area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Deposit model:

Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

Workings in the early 1900s consisted of an open pit 10 feet deep, and a tunnel 10 feet long. At that time, a picked sample assayed $30 Au/ton (Au at $20.67/ounce) (Brooks, 1902, p. 67). Maas and others (1995, p. 217) report a mean value of 959 ppb Au in 24 samples of the Goo Goo Extension vein. Private examination in the early-mid-1980s of an 1837-foot adit on the Goo Goo Extension claim outlined five zones of elevated gold values, mainly along the margins of the vein(s) (Maas and others, 1995, p. 215).

Production notes:

Combined recorded production from the Goo Goo Extension and Goo Goo (KC096) claims, probably all in the early 1900s, was 1.4 kg of gold (Maas and others, 1995, p. 218).

Reserves:

Additional comments:

Early reports refer to this property as the Majestic or Mother Lode claim.

References:

Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995; Crawford and others, in press

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Gold Banner; Golden Banner; Golden Tree

Site type: Prospect

ARDF no.: KC098

Latitude: 55.368 **Quadrangle:** KC B-4

Longitude: 131.182

Location description and accuracy:

The Gold Banner claim is in section 18, T. 75 S., R. 94 E., of the Copper River Meridian. It straddles Gokachin Creek about 0.4 mile upstream from its mouth at Thorne Arm The map site is roughly at the midpoint of the claim. The site corresponds to loc. 95 in Elliott and others (1978), and to loc. 304 (2-6) in Maas and others (1995). The location is accurate within 0.1 mile.

Also see Additional comments.

Commodities:

Main: Au

Other: Pb, Zn

Ore minerals: Galena, gold, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

Wright and Wright (1908, p. 147) describe the Gold Banner deposit as a 1-6 foot thick, auriferous quartz fissure vein in several types of schist. The schist is intruded by a porphyry dike that forms the hanging wall of the vein at the surface. The vein, traced on the surface for several hundred feet, strikes N65E and dips 70-80SE, at an acute angle to the

foliation of the schist, which generally strikes NW and dips steeply SW. In addition to sparse particles of free gold, the vein contains pyrite, galena, and sphalerite. The deposit was explored in the early 1900s by a shaft and a 60-foot tunnel.

Maas and others (1995, p. 215-218) describe the deposit as an auriferous quartz fissure vein in hydrothermally altered mafic metavolcanic rock that also carries gold values adjacent to the vein (see Alteration). In addition to free gold, the vein contains pyrite and minor amounts of galena and sphalerite. Forty-seven samples that Maas and others (1995) collected averaged 1.0 ppm Au, and the mean value of 46 of the samples was 2048 ppb Au. Workings include 4 adits, one 160 feet long, one 128 feet long, and two caved; a shaft at least 18 feet deep; a 72-foot-deep glory hole; and several trenches. Maas and others (1995, p. 218) report a minimum production, probably all in the early 1900s, of 0.3 kg Au and 0.2 kg Ag.

Maas and others (1995, p. 215) note that the quartz in the veins in the Sea Level mine area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Alteration:

The Gold Banner vein, like most of the other principal veins in the Sea Level mine area, is bordered by a hydrothermally altered zone up to three feet thick, characterized by generally fine-grain, light-gray to bluish-gray, massive, carbonate- and sericite-bearing rock that commonly contains cubic pyrite crystals up to an inch across (Maas and others, 1995, p. 215). Maas and others (1995) interpret this zone as hydrothermally altered mafic metavolcanic rock. Early miners called this altered rock 'blue porphyry,' which they interpreted as crosscutting altered dikes that predate the quartz veins, but are closely associated with some of the orebodies (Brooks, 1902, p. 65; Wright and Wright, 1908, p. 143). Gold content of these pyritic altered zones is high adjacent to the quartz veins and diminishes away from them. Weathered altered rocks have a reddish-brown, oxidized rind up to three inches thick.

Age of mineralization:

Maas and others (1995, p. 215) note that the quartz in the veins in the Sea Level mine area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Deposit model:

Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

The deposit was explored in the early 1900s by a shaft and a 60-foot tunnel. At the time

of Maas and others' (1995) investigation, workings included 4 adits, one 160 feet long, one 128 feet long, and two caved; a shaft at least 18 feet deep; a 72-foot-deep glory hole; and several trenches. Forty-seven samples that Maas and others (1995) collected averaged 1.0 ppm Au, and the mean value of 46 of the samples was 2048 ppb Au.

Production notes:

Maas and others (1995, p. 218) report a minimum production, probably all in the early 1900s, of 0.3 kg Au and 0.2 kg Ag.

Reserves:

Additional comments:

Early reports refer to this property as the Golden Banner or Golden Tree claim (Wright and Wright, 1908, p. 147).

References:

Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995; Crawford and others, in press

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Baby George

Site type: Prospect

ARDF no.: KC099

Latitude: 55.368 **Quadrangle:** KC B-4

Longitude: 131.187

Location description and accuracy:

The Baby George claim adjoins the north side of Gokachin Creek in section 18, T. 75 S., R. 94 E., of the Copper River Meridian. The claim is roughly parallel to the creek and extends from the mouth of the creek at Thorne Arm, northeastward for about 1450 feet. The location of the map site is roughly in the center of the claim as shown in Wright and Wright (1908, fig. 12). The site corresponds to loc. 96 in Elliott and others (1978). The location probably is accurate within 0.1 mile.

Commodities:

Main: Au?

Other:

Ore minerals: Gold?, pyrite?

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

According to Wright and Wright (1908, p. 147) the Baby George deposit is a quartz [fissure] vein about 10 feet thick in argillaceous and metavolcanic (greenstone) schist. The vein was prospected in the early 1900s by a short tunnel. The Wrights' description, although scant, suggests that the Baby George vein is similar in character and geologic

setting to other auriferous quartz fissure veins in the Sea Level mine area (see KC095-098).

Maas and others (1995, p. 215) note that the quartz in the veins in the Sea Level mine area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Alteration:

Most of the principal veins in the Sea Level mine area are bordered by a hydrothermally altered zone up to three feet thick, characterized by generally fine-grain, light-gray to bluish-gray, massive, carbonate- and sericite-bearing rock that commonly contains cubic pyrite crystals up to an inch across (Maas and others, 1995, p. 215). Maas and others (1995) interpret this zone as hydrothermally altered mafic metavolcanic rock. Early miners called this altered rock 'blue porphyry,' which they interpreted as crosscutting altered dikes that predate the quartz veins, but are closely associated with some of the orebodies (Brooks, 1902, p. 65; Wright and Wright, 1908, p. 143). Gold content of these pyritic altered zones is high adjacent to the quartz veins and diminishes away from them. Weathered altered rocks have a reddish-brown, oxidized rind up to three inches thick.

Age of mineralization:

Maas and others (1995, p. 215) note that the quartz in the veins in the Sea Level mine area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Deposit model:

Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

The deposit was explored by a short prospect tunnel in the early 1900s.

Production notes:

Reserves:

Additional comments:

References:

Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995; Crawford and others, in press

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Wild West; Tide Water

Site type: Prospect

ARDF no.: KC100

Latitude: 55.367 **Quadrangle:** KC B-4

Longitude: 131.187

Location description and accuracy:

The Wild West claim adjoins the south side of Gokachin Creek in section 18, T. 75 S., R. 94 E., of the Copper River Meridian. It is roughly parallel to the creek, and extends from the mouth of the creek at Thorne Arm northeastward for about 1450 feet. The location of the map site is roughly at the center of the claim. The site corresponds to loc. 97 in Elliott and others (1978), and to loc. 305 in Maas and others (1995). The location is accurate within 0.1 mile.

See Additional comments.

Commodities:

Main: Au

Other:

Ore minerals: Gold, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

Brooks (1902, p. 68) describes the Tide Water (subsequently relocated as Wild West) deposit as a well-defined vein, 18 inches wide, that cuts diabase schist and carries a small amount of free gold.

According to Wright and Wright (1908, p. 147), the Wild West prospect consists of several quartz stringers about a foot thick, that strike N60E and dip 70SE. The veins are hosted by banded argillite and sericite schist. At the time of the Wrights' examination, the deposit had been prospected only by surface cuts.

Maas and others (1995, p. 215-218) describe the Wild West deposit as NE-striking quartz fissure veins hosted by hydrothermally altered mafic metavolcanic rocks (see Alteration), and subordinate intercalated metasedimentary rocks. They indicate that the deposit is similar in character and geologic setting to other deposits in the Sea Level mine area (see KC095-098), except that the metavolcanic country rocks at the Wild West prospect contain somewhat more intercalated metasedimentary layers. Workings, all dating to the early 1900s, include a caved adit; 2 shafts, one 23 feet deep and one at least 20 feet deep; and several surface trenches and pits.

Maas and others (1995, p. 215) note that the quartz in the veins in the Sea Level mine area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Alteration:

Most of the principal veins in the Sea Level mine area are bordered by a hydrothermally altered zone up to three feet thick, characterized by generally fine-grain, light-gray to bluish-gray, massive, carbonate- and sericite-bearing rock that commonly contains cubic pyrite crystals up to an inch across (Maas and others, 1995, p. 215). Maas and others (1995) interpret this zone as hydrothermally altered mafic metavolcanic rock. Early miners called this altered rock 'blue porphyry,' which they interpreted as crosscutting altered dikes that predate the quartz veins, but are closely associated with some of the orebodies (Brooks, 1902, p. 65; Wright and Wright, 1908, p. 143). Gold content of these pyritic altered zones is high adjacent to the quartz veins and diminishes away from them. Weathered altered rocks have a reddish-brown, oxidized rind up to three inches thick.

Age of mineralization:

Maas and others (1995, p. 215) note that the quartz in the veins in the Sea Level mine area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Deposit model:

Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

Workings, all dating to the early 1900s, include a caved adit; 2 shafts, one 23 feet deep and one at least 20 feet deep; and several surface trenches and pits (Maas and others,

1995).

Production notes:

Reserves:

Additional comments:

The Wild West claim is a relocation of the original Tide Water claim (Wright and Wright, 1908, p. 147).

References:

Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995; Crawford and others, in press

Primary reference: Wright and Wright, 1908, Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): High Horse; Monster

Site type: Prospect

ARDF no.: KC101

Latitude: 55.367 **Quadrangle:** KC B-4

Longitude: 131.181

Location description and accuracy:

The High Horse claim is in section 18, T. 75 S., R. 94 E., of the Copper River Meridian. It straddles Gokachin and Sea Level creeks, just upstream from their confluence. The map site represents the approximate center of the claim as shown in Wright and Wright (1908, fig. 12). The site corresponds to loc. 98 in Elliott and others (1978). The location is accurate within about 0.25 mile.

Also see Additional comments.

Commodities:

Main: Au

Other: Zn

Ore minerals: Gold, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in this part of Revillagigedo Island are marine, interbedded, andesitic and basaltic metavolcanic rocks and subordinate pelitic metasedimentary rocks that are intruded by stocks, sills, and dikes of Cretaceous feldspar-porphyritic granodiorite (Berg and others, 1988). The strata and some of the granodiorite were regionally metamorphosed to greenschist grade in Late Cretaceous time. These regionally metamorphosed rocks subsequently were locally remetamorphosed to hornblende hornfels near the contacts of Cretaceous granodiorite plutons that were emplaced after the regional metamorphism. The premetamorphic age of the strata is uncertain. Berg and others (1988) assign them a Mesozoic or (late) Paleozoic age. Berg (1982) and Crawford and others (in press) assign them to the Gravina belt, of Late Jurassic or Cretaceous age, or to the Taku terrane, of late Paleozoic to Late Triassic age. The metamorphic and intrusive rocks locally are overlain by basalt and andesite lava flows of Quaternary or Tertiary age.

Brooks (1902, p. 68) describes the Monster (subsequently relocated as High Horse) deposit as a 12- to 20-foot-wide pegmatite dike that contains abundantly disseminated pyrite, but very low gold values. The dike cuts diabase schist, which also carries considerable pyrite near its contact with the pegmatite.

According to Wright and Wright (1908, p. 147-148), the High Horse prospect is an [auriferous] quartz fissure vein 6 inches to 3 feet thick that strikes N55E and dips 75SE. The vein is hosted by schists that strike N50W and dip 80NE. The ore consists chiefly of pyrite and sphalerite, and, reportedly, carries low values in gold.

The foregoing descriptions, although scanty, suggest that the High Horse vein is similar in character and geologic setting to other auriferous quartz fissure veins in the Sea Level mine area (see KC095-098).

Maas and others (1995, p. 215) note that the quartz in the veins in the Sea Level mine area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Alteration:

Most of the principal veins in the Sea Level mine area are bordered by a hydrothermally altered zone up to three feet thick, characterized by generally fine-grain, light-gray to bluish-gray, massive, carbonate- and sericite-bearing rock that commonly contains cubic pyrite crystals up to an inch across (Maas and others, 1995, p. 215). Maas and others (1995) interpret this zone as hydrothermally altered mafic metavolcanic rock. Early miners called this altered rock 'blue porphyry,' which they interpreted as crosscutting altered dikes that predate the quartz veins, but are closely associated with some of the orebodies (Brooks, 1902, p. 65; Wright and Wright, 1908, p. 143). Gold content of these pyritic altered zones is high adjacent to the quartz veins and diminishes away from them. Weathered altered rocks have a reddish-brown, oxidized rind up to three inches thick.

Age of mineralization:

Maas and others (1995, p. 215) note that the quartz in the veins in the Sea Level mine area is not recrystallized; the veins thus are probably younger than most or all of the Late Cretaceous regional metamorphism.

Deposit model:

Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

36a

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

The deposit was explored in the early 1900s by opencuts and a short prospect tunnel.

Production notes:

Reserves:

Additional comments:

The High Horse claim is a relocation of the original Monster claim (Wright and Wright, 1908, p. 147).

References:

Brooks, 1902; Wright and Wright, 1908; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995; Crawford and others, in press

Primary reference: Brooks, 1902; Wright and Wright, 1908;

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Ace

Site type: Prospect

ARDF no.: KC102

Latitude: 55.218 **Quadrangle:** KC A-4

Longitude: 131.156

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is about 0.45 mile southwest of the mouth of Alava Bay, adjacent to the northeast corner of an unnamed lake at 202 feet elevation. The site is in section 6, T. 77 S., R. 95 E., of the Copper River Meridian. It corresponds to loc. 99 in Elliott and others (1978). The location probably is accurate within 0.2 mile.

Commodities:

Main: U?

Other:

Ore minerals:

Gangue minerals:

Geologic description:

This part of Revillagigedo Island is underlain by an assemblage of undivided Mesozoic or Paleozoic, metamorphosed sedimentary, volcanic, and intrusive rocks. This assemblage is intruded by a stock, dikes, and sills of Cretaceous granodiorite, and by a plug and associated dikes of ultramafic hornblendite and pyroxenite, also of Cretaceous age (Berg and others, 1988). The undivided assemblage and some of the Cretaceous granodiorite were regionally metamorphosed to greenschist grade in middle or Late Cretaceous time. These metamorphic rocks subsequently were remetamorphosed to hornblende hornfels grade near the contacts of intrusive rocks that were emplaced after the regional metamorphism.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in granodiorite near the contacts both of the undivided metamorphic assemblage and of an ultramafic plug, apparently was staked for uranium or for other radioactive minerals. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:
The site is in Misty Fiords National Monument Wilderness.

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Unnamed (near Alava Bay)

Site type: Prospect

ARDF no.: KC103

Latitude: 55.22 **Quadrangle:** KC A-4

Longitude: 131.15

Location description and accuracy:

The approximate location of this prospect is at the south entrance of Alava Bay, about 1.8 mile southwest of Ape Point. The site is in section 6, T. 77 S., R. 94 E., of the Copper River Meridian. It corresponds to loc. 100 in Elliott and others (1978), who erroneously placed it at the north corner of Alava Bay. The location is probably accurate within about 0.5 mile.

Commodities:

Main: Fe

Other:

Ore minerals: Titaniferous magnetite

Gangue minerals:

Geologic description:

The country rocks at Alava Bay include: Permian marble; an assemblage of undivided Mesozoic or upper Paleozoic, metamorphosed sedimentary, volcanic, and intrusive rocks; a stock, dikes, and sills of Cretaceous granodiorite; and a plug and associated dikes of ultramafic hornblendite and pyroxenite, also of Cretaceous age (Berg and others, 1988). The marble, the undivided assemblage, and some of the Cretaceous granodiorite were regionally metamorphosed to greenschist grade in middle or Late Cretaceous time. These metamorphic rocks subsequently were remetamorphosed to hornblende hornfels grade near the contacts of intrusive rocks that were emplaced after the regional metamorphism. The structural base of the Permian marble is a thrust fault that dips gently to moderately northeast.

The deposit consists of magmatic titaniferous magnetite in a Cretaceous hornblendite-pyroxenite plug or dike that apparently intrudes both the Cretaceous granodiorite and the undivided metamorphic assemblage (Berg and others, 1978, p. 24,25; Berg and others, 1988). The magnetite occurs as individual crystals and as streaks and small, podlike segregations in the ultramafic rocks. The deposit was examined by private interests in the 1960s, but the results of that examination have not been made public.

Alteration:

Age of mineralization:
Cretaceous.

Deposit model:
Alaskan PGE (Cox and Singer, 1986; model 9)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
9

Production Status: None

Site Status: Undetermined

Workings/exploration:
The deposit was examined by private interests in the mid-1960s, but the results of that examination have not been made public.

Production notes:

Reserves:

Additional comments:

References:
Elliott and others, 1978; Berg and others, 1978; Berg and others, 1988

Primary reference: Berg and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Quartz Ledge

Site type: Prospect

ARDF no.: KC104

Latitude: 55.227 **Quadrangle:** KC A-4

Longitude: 131.021

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 200 feet, 0.2 mile inland from the shore of Behm Canal, and 1.3 miles southwest of Roe Point. The site is in section 1, T. 77 S., R. 95 E., of the Copper River Meridian. It corresponds to loc. 101 in Elliott and others (1978). The location is probably accurate within about 0.1 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The Quartz Ledge prospect area is underlain by an assemblage of undivided Mesozoic or Paleozoic metamorphosed sedimentary, volcanic, and intrusive rocks; and by a stock and dikes of Cretaceous granodiorite and quartz diorite (Berg and others, 1988, p. 21, 22). The undivided assemblage was regionally metamorphosed to amphibolite grade in middle or Late Cretaceous Cretaceous time, and locally remetamorphosed to hornblende hornfels near the contacts of some of the granodiorite and quartz diorite plutons.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in amphibolite-grade metamorphic rocks, was staked for gold. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:
The site is in Misty Fiords National Monument Wilderness.

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Nanjan

Site type: Prospect

ARDF no.: KC105

Latitude: 55.241 **Quadrangle:** KC A-3

Longitude: 130.993

Location description and accuracy:

The Nanjan prospect is at an elevation of about 100 feet, about 0.2 mile from the shoreline of Behm Canal, and 0.4 mile east-southeast of Roe Point. The prospect is in the west wall of the gorge of a linear, unnamed creek that flows north-northwest into Behm Canal. The site is in section 33, T. 76 S., R. 96 E., of the Copper River Meridian. It corresponds to loc. 441 (1-3) in Maas and others (1995). The location is accurate within a few hundred feet.

Commodities:

Main: Mo

Other:

Ore minerals: Molybdenite, pyrite

Gangue minerals: Quartz

Geologic description:

The Nanjan prospect area is underlain by an assemblage of undivided Mesozoic or Paleozoic metamorphosed sedimentary, volcanic, and intrusive rocks; and by a stock and dikes of Cretaceous granodiorite and quartz diorite (Berg and others, 1988, p. 21, 22). The undivided assemblage was regionally metamorphosed to amphibolite grade in middle or Late Cretaceous Cretaceous time, and locally remetamorphosed to hornblende hornfels near the contacts of some of the granodiorite and quartz diorite plutons. The prospect is situated on a prominent high-angle fault of unknown displacement that strikes north-northwest, along the valley of the unnamed creek that adjoins the property (Maas and others, 1995, fig. 70).

The Nanjan prospect consists of sparse nodules of pyrite and molybdenite in a quartz fissure vein that reportedly lies near the contact of hornblende granite and altered limestone (Maas and others, 1995, p. 268). The vein strikes between N40W and N20E and dips generally to the west. The vein is up to 8 feet thick, but probably averages less than 3 feet thick; it is exposed intermittently along strike for at least 1300 feet. Most of the molybdenite is associated with fault gouge that bounds the vein. The vein apparently is younger than most or all of the middle or Late Cretaceous regional metamorphism, but

older than an episode of local(?) faulting.

Molybdenite mineralization was discovered at the Nanjan property in about 1935, Workings in the 1930s included trenches, opencuts, test pits, and shafts, but little of the work was evident in 1992 (Maas and others, 1995). Samples collected by Maas and others (1995, p. 269) along the Nanjan vein revealed low precious- and base-metal values. The highest molybdenum analysis was 0.25% Mo in a selected sample, and 0.20% Mo across a 4-foot-wide section of the vein.

Alteration:

Age of mineralization:
Late Cretaceous or younger?

Deposit model:
Polymetallic vein? (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c?

Production Status: None

Site Status: Undetermined

Workings/exploration:
Molybdenite mineralization was discovered at the Nanjan property in about 1935, Workings in the 1930s included trenches, opencuts, test pits, and shafts, but little of the work was evident in 1992 (Maas and others, 1995). Samples collected by Maas and others (1995, p. 269) along the Nanjan vein revealed low precious- and base-metal values. The highest molybdenum analysis was 0.25% Mo in a selected sample, and 0.20% Mo across a 4-foot-wide section of the vein.

Production notes:

Reserves:

Additional comments:
The prospect is in Misty Fiords National Monument Wilderness.

References:
Berg and others, 1988; Maas and others, 1995

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Pyrite Lode

Site type: Occurrence

ARDF no.: KC106

Latitude: 55.256 **Quadrangle:** KC B-3

Longitude: 130.968

Location description and accuracy:

The approximate location of the Pyrite Lode, known only from U.S. Bureau of Mines (1977) claim records, is at an elevation of about 400 feet, 0.4 mile inland from the shoreline of Behm Canal, and about 1.55 miles northeast of Roe Point. The site is in section 27, T. 76 S., R. 95 E., of the Copper River Meridian. It corresponds to loc. 103 in Elliott and others (1978). The location is probably accurate within about 0.2 mile.

Commodities:

Main: Mo

Other:

Ore minerals: Molybdenite, pyrite

Gangue minerals: Quartz

Geologic description:

The Pyrite Lode prospect area is underlain by an assemblage of undivided Mesozoic or Paleozoic metamorphosed sedimentary, volcanic, and intrusive rocks; and by a stock and dikes of Cretaceous granodiorite and quartz diorite (Berg and others, 1988, p. 21, 22). The undivided assemblage was regionally metamorphosed to amphibolite grade in middle or Late Cretaceous time, and locally remetamorphosed to hornblende hornfels near the contacts of some of the granodiorite and quartz diorite plutons.

The deposit consists of small pockets of molybdenite and pyrite in a quartz fissure vein in metamorphic rocks (Elliott and others, 1978). The Pyrite Lode was staked in 1953 (Maas and others, 1995, p. 266). No other information about this prospect has been made public.

Assuming that the vein cuts the foliation of the metamorphic rocks, it probably is younger than the middle or Late Cretaceous regional metamorphism.

Alteration:

Age of mineralization:

Late Cretaceous or younger?

Deposit model:
Polymetallic vein? (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:
The property is in Misty Fiords National Monument Wilderness.

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): IXL No. 1; Reliance

Site type: Prospect

ARDF no.: KC107

Latitude: 55.265 **Quadrangle:** KC B-3

Longitude: 130.965

Location description and accuracy:

The IXL No. 1 prospect is on the shoreline of Behm Canal about 2.15 miles northeast of Roe Point. The site is in section 22, T. 76 S., R. 95 E., of the Copper River Meridian. It corresponds to loc. 440(1-2) in Maas and others (1995). The location is accurate within 0.1 mile. This record also includes references to the Reliance prospect, which Elliott and others (1978, loc. 104) locate on the shoreline of Behm Canal about a mile northeast of the IXL No. 1.

Also see Additional comments.

Commodities:

Main: Ag, Au

Other: Cu, Zn

Ore minerals: Chalcopyrite, pyrite, pyrrhotite, sphalerite

Gangue minerals: Quartz, sericite

Geologic description:

The IXL No. 1 prospect area is underlain by an assemblage of undivided Mesozoic or Paleozoic metamorphosed sedimentary, volcanic, and intrusive rocks; and by a stock and dikes of Cretaceous granodiorite and quartz diorite (Berg and others, 1988, p. 21, 22). The undivided assemblage was regionally metamorphosed to amphibolite grade in middle or Late Cretaceous Cretaceous time, and locally remetamorphosed to hornblende hornfels near the contacts of some of the granodiorite and quartz diorite plutons.

The IXL No. 1 deposit consists of stratiform layers of massive sulfides in quartz-sericite schist (Maas and others, 1995, p. 268). Layers of almost pure sulfide are commonly 5-8 inches thick, and combine to form an approximately 8-foot-thick sulfide-rich zone. The sulfides consist chiefly of pyrite, accompanied by pyrrhotite, sphalerite, chalcopyrite, and galena. The massive sulfide layers are approximately parallel to the foliation of the schist, which strikes NW and dips steeply SW to vertical. Pyrite also is finely disseminated in the schist in the hanging wall of the massive sulfide zone. The quartz-sericite schist is in contact with mafic schist or gneiss within a few tens of feet of the prospect.

The IXL No. 1 deposit was discovered in 1898 and developed in the early 1900s by about 65 feet of crosscuts and drifts, and a 33-foot winze (Maas and others, 1995, p. 266). The property was restaked and drilled by private interests in the 1970s. Drill core, probably from that exploration, is located about 2300 feet SE of the IXL No. 1 adit. The deposit was also sampled by Maas and others (1995, p. 268-269) in the early 1990s.

Also see Workings/exploration.

Alteration:

Age of mineralization:

Deposit model:

Metamorphosed Besshi massive sulfide? (Cox and Singer, 1986; model 24b)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

24b?

Production Status: None

Site Status: Undetermined

Workings/exploration:

The IXL No. 1 deposit was discovered in 1898 and developed in the early 1900s by about 65 feet of crosscuts and drifts, and a 33-foot winze (Maas and others, 1995, p. 266). The property was restaked and drilled by private interests in the 1970s. Drill core, probably from that exploration, is located about 2300 feet SE of the IXL No. 1 adit. The core reveals massive sulfide layers up to 10 feet thick interlayered within a 66-foot-long intercept of various schists, along with quartz lenses that carry pods or streaks of coarse-grained sulfides (Maas and others, 1995, p. 268, 269). The richest 10 feet of a 61-foot section of core contained 2.0 ppm Au, 23.6 ppm Ag, and 1.45% Zn. Other samples of the core contained up to 2.1 ppm Au, 43.7 ppm Ag, 0.57% Cu, 0.67% Pb, and 2.3% Zn. The weighted average of all samples of the core is 800 ppb Au, 23.4 ppm Ag, 0.3% Cu, 0.3% Pb, and 1.1% Zn.

The IXL No. 1 deposit was sampled in the early 1990s by Maas and others (1995, p. p. 268-269). A sample across 4 feet of the stratified zone contained 224 ppb Au, 26.5 ppm Ag, 0.1% Cu, and 1.0% Zn. Select samples of massive sulfide contained up to 130 ppb Au, 98 ppm Ag, 0.2% Cu, 0.7% Pb, and 2.5% Zn.

Production notes:

Reserves:

Additional comments:

This record includes references to the Reliance prospect, which Elliott and others (1978, loc. 104) locate on the shoreline of Behm Canal about a mile north of the IXL No. 1 prospect. The Reliance prospect, staked in 1953 (Maas and others, 1995, p. 266), probably is

at the location shown by Elliott and others, but their description apparently is of the IXL No. 1 deposit. If so, other than its year of staking, no other information about the Reliance prospect has been made public.

The IXL No. 1 (and Reliance) prospects are in Misty Fiords National Monument Wilderness.

References:

Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/04/99

Site name(s): Quartz Hill

Site type: Prospect

ARDF no.: KC108

Latitude: 55.403 **Quadrangle:** KC B-2

Longitude: 130.483

Location description and accuracy:

The surface expression of the Quartz Hill deposit occupies a mile-square area that encompasses Quartz Hill and parts of the upper drainages of White and Beaver Creeks (sections 1, 2, 26, 34, 35, and 36, T. 74 and 75 S., R. 98 E., of the Copper River Meridian.). The map site is at the summit of Quartz Hill and is accurate within a few hundred feet. The site corresponds to loc. 105 in Elliott and others (1978).

Commodities:

Main: Mo

Other:

Ore minerals: Molybdenite, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks in the general area of the Quartz Hill deposit include: Cretaceous or Tertiary quartz diorite, granodiorite, and quartz monzonite of the Coast Range batholith; hypabyssal stocks and associated dikes of Miocene or Oligocene granite and gabbro; Tertiary lamprophyre dikes that postdate the stocks; and Tertiary and Quaternary basalt and andesite lava flows and cinder cones (Berg and others, 1988).

The Quartz Hill deposit consists of a molybdenite-quartz stockwork and molybdenite fracture coatings in a hypabyssal, Miocene or Oligocene, composite stock and associated apophyses of porphyritic, aplitic, and aphanitic quartz monzonite and quartz latite (Elliott and others, 1976; Hudson and others, 1977, 1978, 1979). Molybdenite-quartz veinlets and fracture coatings also occur in the country rocks near the stock. Pyrite is common, chiefly as disseminated grains and small veinlets in the porphyritic rocks, and in the country rocks near the stock.

The Quartz Hill deposit was discovered in 1974. Since then, the orebody has been defined by more than 450 drill holes totalling about 265,000 feet (Maas and others, 1995, p. 265). Two test adits, totalling nearly 5,000 feet of underground workings, were driven in 1981 to better define the deposit and to collect metallurgical test samples. The orebody is generally tabular and subhorizontal. Assuming a cutoff grade of 0.05% molybdenum sul-

fide (MoS2), the orebody has a surface area of about 5,000 feet by 10,000 feet, and extends to a depth of up to 1,700 feet. Resource estimates vary, depending on cutoff grades. In 1992, the property owners reported a 'probable resource' of 210 million metric tons (mt) averaging 0.22% MoS2, and an additional 'possible resource' of 1.2 billion mt averaging 0.12% MoS2. A more widely publicized estimate is a probable resource of 444 million mt containing 0.219% MoS2, and a possible resource of 1.36 billion mt averaging 0.136% MoS2 (Maas and others, 1995, p. 265).

Alteration:
Pyritization, silicification.

Age of mineralization:
Miocene or Oligocene.

Deposit model:
Porphyry Mo, Low-F (Cox and Singer, 1986; model 21b)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
21b

Production Status: None

Site Status: Active

Workings/exploration:
The Quartz Hill deposit was discovered in 1974. Since then, the orebody has been defined by more than 450 drill holes totalling about 265,000 feet (Maas and others, 1995, p. 265). Two test adits, totalling nearly 5,000 feet of underground workings, were driven in 1981 to better define the deposit and to collect metallurgical test samples.

Production notes:

Reserves:
The orebody is generally tabular and subhorizontal. Assuming a cutoff grade of 0.05% molybdenum sulfide (MoS2), the orebody has a surface area of about 5,000 feet by 10,000 feet, and extends to a depth of up to 1,700 feet. Resource estimates vary, depending on cutoff grades. In 1992, the property owners reported a 'probable resource' of 210 million metric tons (mt) averaging 0.22% MoS2, and an additional 'possible resource' of 1.2 billion mt averaging 0.12% MoS2. A more widely publicized estimate is a probable resource of 444 million mt containing 0.219% MoS2, and a possible resource of 1.36 billion mt averaging 0.136% MoS2 (Maas and others, 1995, p. 265).

Additional comments:
This world-class deposit is estimated to contain 10% of the free world's known reserves of molybdenum.

References:

Elliott and others, 1976; Elliott and others, 1978; Hudson and others, 1977; Hudson and others, 1978; Hudson and others, 1979; Berg and others, 1988; Maas and others, 1995

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Gullette

Site type: Prospect

ARDF no.: KC109

Latitude: 55.148 **Quadrangle:** KC A-2

Longitude: 130.529

Location description and accuracy:

The approximate location of this gold placer claim, known only from U. S. Bureau of Mines (1977) claim records, is on the southeast shoreline of Martin Arm, about 0.3 mile northeast of the mouth of Red River. The map site is in section 32, T. 77 S., R. 99 E., of the Copper River Meridian, at the mine symbol shown on the 1:63,360-scale Ketchikan A-2 topographic map (1955 ed., rev. 1975). Assuming that the mine symbol represents this prospect, the location is accurate within a hundred feet or so. The site corresponds to loc. 106 in Elliott and others (1978).

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks in the general area of this prospect include Tertiary or Cretaceous foliated granodiorite and quartz diorite of the Coast Range batholith, and pelitic paragneiss that forms roof pendants and screens in the batholith (Berg and others, 1988). The paragneiss represents marine sedimentary strata that were regionally metamorphosed to amphibolite grade in Cretaceous or Tertiary time. The premetamorphic age of the paragneiss is uncertain, but it probably is mainly Paleozoic and may be as old as Precambrian (Berg and others, 1988, p. 26; Gehrels and others, 1990; Crawford and others, in press).

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in an area underlain chiefly by granodiorite and paragneiss, was staked as a gold placer claim. No other information about it has been made public.

Alteration:

Age of mineralization:

Holocene.

Deposit model:
Alluvial Au placer (Cox and singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:
The site is in Misty Fiords National Monument Wilderness.

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): QC

Site type: Prospect

ARDF no.: KC110

Latitude: 55.14 **Quadrangle:** KC A-2

Longitude: 130.54

Location description and accuracy:

The approximate location of this gold placer claim, known only from U. S. Bureau of Mines (1977) claim records, apparently is at an elevation of about 400 feet, about 0.2 mile south of the mouth of Red River. The site is in section 5, T. 78 S., R. 99 E., of the Copper River Meridian. It corresponds to loc. 107 in Elliott and others (1978). The location probably is accurate within about 0.3 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks in the general area of this prospect include Tertiary or Cretaceous foliated granodiorite and quartz diorite of the Coast Range batholith, and pelitic paragneiss that forms roof pendants and screens in the batholith (Berg and others, 1988). The paragneiss represents marine sedimentary strata that were regionally metamorphosed to amphibolite grade in Cretaceous or Tertiary time. The premetamorphic age of the paragneiss is uncertain, but they probably are mainly Paleozoic and may be as old as Precambrian (Berg and others, 1988, p. 26; Gehrels and others, 1990; Crawford and others, in press).

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in an area underlain chiefly by granodiorite and paragneiss, was staked as a gold placer claim. No other information about it has been made public.

Alteration:

Age of mineralization:

Holocene.

Deposit model:

Alluvial gold placer (Cox and Singer, 1986; model 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
39a

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:
The site is in Misty Fiords National Monument Wilderness.

References:
U.S. Bureau of Mines, 1977; Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Elliott and others, 1978; Berg and others, 1988

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Unnamed (north of Humpback Lake)

Site type: Prospect

ARDF no.: KC111

Latitude: 55.069 **Quadrangle:** KC A-2

Longitude: 130.512

Location description and accuracy:

The approximate location of this prospect is at an elevation of about 1500 feet, about 2.4 miles north-northwest of the east end of Humpback Lake. The site is in section 33, T. 78 S., R. 99 E., of the Copper River Meridian. It corresponds to loc. 108 in Elliott and others (1978), who refer to it as 'Red River.' The location is accurate within 0.2 mile.

Commodities:

Main: Cu, Mo

Other:

Ore minerals: Bornite, chalcopyrite, magnetite, molybdenite, pyrite, pyrrhotite

Gangue minerals:

Geologic description:

The country rocks in the general area of this prospect include Tertiary or Cretaceous foliated granodiorite and quartz diorite of the Coast Range batholith, and pelitic paragneiss that forms roof pendants and screens in the batholith (Berg and others, 1988). The paragneiss represents marine sedimentary strata that were regionally metamorphosed to amphibolite grade in Cretaceous or Tertiary time. The premetamorphic age of the paragneiss is uncertain, but they probably are mainly Paleozoic and may be as old as Precambrian (Berg and others, 1988, p. 26; Gehrels and others, 1990; Crawford and others, in press).

According to Elliott and others (1978), who attribute their information to an oral communication from Kenneth Eichner, the property owner at that time, the deposit consists of pyrite, chalcopyrite, pyrrhotite, magnetite, bornite, and molybdenite that occur as scattered grains along gneissic bands in pelitic paragneiss. The metamorphic rocks presumably are part of a roof pendant in the Coast Range batholith. The mineralized bands range from an inch or so to about 100 feet thick. The deposit has been drilled by private interests, but the results of that exploration have not been made public.

Alteration:

Age of mineralization:

Deposit model:
Metamorphosed Besshi massive sulfide? (Cox and Singer, 1986; model 24b)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
24b?

Production Status: None

Site Status: Undetermined

Workings/exploration:
The deposit has been drilled by private interests, but the results of that exploration have not been made public.

Production notes:

Reserves:

Additional comments:
The site is in Misty Fiords National Monument Wilderness.

References:
Elliott and others, 1978; Berg and others, 1988; Gehrels and others, 1990; Crawford and others, in press

Primary reference: Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Grotto

Site type: Prospect

ARDF no.: KC112

Latitude: 55.198 **Quadrangle:** KC A-6

Longitude: 131.733

Location description and accuracy:

The Grotto prospect is at an elevation of about 250 feet, approximately 0.5 mile north-northwest of the west head of Seal Cove. The site is in section 7, T. 77 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 109 in Elliott and others (1978). The location is accurate within about 0.1 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

Brooks (1902, p. 70-71) describes a deposit on the Grotto claim as mineralized breccia in shear zones that cut the foliation of greenschist country rock, which also is mineralized, especially near the shear zones. Brooks does not identify the ore or gangue minerals. The owners at the time of Brooks' investigation reported an average of 11% Cu across 5 feet of a 25-foot-wide mineralized zone. The high copper assay suggests that at least one of the ore minerals is chalcopyrite.

Wright and Wright (1908, p. 140) describe the Grotto deposit only as a thick vein that has been developed by about 550 feet of drifts and crosscuts. The vein apparently follows a fault that cuts greenschist, conglomerate, and rhyolite.

Maas and others' (1995, p. 227) description of the mineral deposits in the Seal Cove

area probably applies in general to the Grotto prospect. They report that chalcopyrite occurs as vein fillings, disseminations, and in fault breccias west and northwest of Seal Cove. The mineralized breccias have a siliceous matrix. Small quartz-barite veins with galena and sphalerite have been found west of Seal Cove, and on the northeast slopes of Punch Hill. The rocks at or near the Grotto prospect are cut by high-angle faults that strike north-northeast and northwest (Maas and others, (1995, fig 58).

Maas and others (1995, p. 227) report that copper mineralization on southern Gravina Island generally is associated with faulting. The deposits are mainly in meta-andesite (greenschist) and trondhjemite, but also in the overlying Triassic strata. The deposits are chiefly chalcopyrite- and pyrite-bearing quartz fissure veins, but the sulfide minerals also occur as disseminations in the metavolcanic rocks, in silicified zones in the trondhjemite, and as clasts or pods in silicified or carbonatized breccia. The character and setting of the deposits suggest that they mainly are polymetallic veins of Late Triassic or younger age.

Alteration:

Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:

Late Triassic or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

The Grotto prospect was explored in the early 1900s by a shaft and about 550 feet of drifts and crosscuts. The owners at that time reported 11% Cu across a 5-foot -wide mineralized zone (Brooks, 1902, p. 71).

Production notes:

Reserves:

Additional comments:

References:

Brooks, 1902; Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Doe; Trio

Site type: Prospect

ARDF no.: KC113

Latitude: 55.197 **Quadrangle:** KC A-6

Longitude: 131.743

Location description and accuracy:

The Doe prospect is at an elevation of about 500 feet in, or adjacent to, the valley of an unnamed creek that follows the northwest flank of Punch Hill. The site is in section 17, T. 77 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 110 in Elliott and others (1978). The location is accurate within about 0.1 mile.

Also see Additional comments.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

Wright and Wright (1908, p. 140) describe the Doe deposit only as a quartz vein 3-6 feet wide in siliceous chlorite schist. The vein strikes N20E and contains pyrite and chalcopyrite.

Maas and others' (1995, p. 227) description of the mineral deposits in the Seal Cove area probably applies in general to the Doe prospect. They report that chalcopyrite occurs as vein fillings, disseminations, and in fault breccias west and northwest of Seal Cove. The mineralized breccias have a siliceous matrix. Small quartz-barite veins with galena and sphalerite have been found west of Seal Cove, and on the northeast slopes of Punch Hill. The rocks at or near the Doe prospect are cut by high-angle faults that strike north-

northeast and northwest (Maas and others, (1995, fig 58).

Maas and others (1995, p. 227) report that copper mineralization on southern Gravina Island generally is associated with faulting. The deposits are mainly in meta-andesite (greenschist) and trondhjemite, but also in the overlying Triassic strata. The deposits are chiefly chalcopyrite- and pyrite-bearing quartz fissure veins, but the sulfide minerals also occur as disseminations in the metavolcanic rocks, in silicified zones in the trondhjemite, and as clasts or pods in silicified or carbonatized breccia. The character and setting of the deposits suggest that they mainly are polymetallic veins of Late Triassic or younger age.

Alteration:

Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:

Late Triassic or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

Early reports also refer to this property as the Trio claim (Brooks, 1902; Cobb and Elliott, 1980, p. 35).

References:

Brooks, 1902; Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Cobb and Elliott, 1980; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Damon

Site type: Prospect

ARDF no.: KC114

Latitude: 55.194 **Quadrangle:** KC A-6

Longitude: 131.745

Location description and accuracy:

The Damon prospect is at an elevation of about 700 feet in, or adjacent to, the valley of an unnamed creek that follows the northwest flank of Punch Hill. The site is on the boundary of sections 17 and 18, T. 77 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 111 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

Wright and Wright (1908, p. 140) describes the Damon deposit only as a quartz vein heavily mineralized with pyrite. The vein is in banded chlorite country rock and strikes N20W. The Wrights' description suggests that the Damon and the Plutyas (KC117) prospects are on different parts of the same, NW-striking, vein. Their map (Wright and Wright, 1908, fig. 10), however, shows that the prospects align E-W, not NW-SE, which suggests instead that the veins are on separate, parallel, NW-striking faults.

Maas and others' (1995, p. 227) description of the mineral deposits in the Seal Cove area probably applies in general to the Damon prospect. They report that chalcopyrite occurs as vein fillings, disseminations, and in fault breccias west and northwest of Seal Cove. The mineralized breccias have a siliceous matrix. Small quartz-barite veins with

galena and sphalerite have been found west of Seal Cove, and on the northeast slopes of Punch Hill. The rocks at or near the Damon prospect are cut by a high-angle fault that strikes north-northeast (Maas and others, (1995, fig 58).

Maas and others (1995, p. 227) report that copper mineralization on southern Gravina Island generally is associated with faulting. The deposits are mainly in meta-andesite (greenschist) and trondhjemite, but also in the overlying Triassic strata. The deposits are chiefly chalcopyrite- and pyrite-bearing quartz fissure veins, but the sulfide minerals also occur as disseminations in the metavolcanic rocks, in silicified zones in the trondhjemite, and as clasts or pods in silicified or carbonatized breccia. The character and setting of the deposits suggest that they mainly are polymetallic veins of Late Triassic or younger age.

Alteration:

Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:

Late Triassic or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:

Brooks, 1902; Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Hobo

Site type: Prospect

ARDF no.: KC115

Latitude: 55.191 **Quadrangle:** KC A-6

Longitude: 131.747

Location description and accuracy:

The Hobo prospect is at an elevation of about 500 feet in, or adjacent to, the valley of an unnamed creek that follows the northwest flank of Punch Hill. The site is in section 18, T. 77 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 112 in Elliott and others (1978). The location is accurate within about 0.1 mile.

Also see Additional comments.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

Wright and Wright (1908, p. 140) describe the Hobo prospect only as a 10-foot vein that contains pyrite and chalcopyrite, has well-defined walls, and evidently is a northwest continuation of the deposit on the War Eagle claim (KC116).

Maas and others' (1995, p. 227) description of the mineral deposits in the Seal Cove area probably applies in general to the Hobo prospect. They report that chalcopyrite occurs as vein fillings, disseminations, and in fault breccias west and northwest of Seal Cove. The mineralized breccias have a siliceous matrix. Small quartz-barite veins with galena and sphalerite have been found west of Seal Cove, and on the northeast slopes of Punch Hill. The rocks at or near the Hobo prospect are cut by high-angle faults that strike

north-northeast and northwest (Maas and others, (1995, fig 58).

Maas and others (1995, p. 227) report that copper mineralization on southern Gravina Island generally is associated with faulting. The deposits are mainly in meta-andesite (greenschist) and trondhjemite, but also in the overlying Triassic strata. The deposits are chiefly chalcopyrite- and pyrite-bearing quartz fissure veins, but the sulfide minerals also occur as disseminations in the metavolcanic rocks, in silicified zones in the trondhjemite, and as clasts or pods in silicified or carbonatized breccia. The character and setting of the deposits suggest that they mainly are polymetallic veins of Late Triassic or younger age.

Alteration:

Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:

Late Triassic or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

In the early 1900s, the Hobo prospect was on the property of Patterson and Co. (Cobb and Elliott, 1980, p. 146).

References:

Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Cobb and Elliott, 1980; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): War Eagle; Patterson and Co.

Site type: Mine

ARDF no.: KC116

Latitude: 55.187 **Quadrangle:** KC A-6

Longitude: 131.738

Location description and accuracy:

The location of the War Eagle mine is either (1) at an elevation of about 1450 feet on the northeast ridgeline of Punch Hill; or (2) between 450 and 700 feet elevation on the northeast flank of Punch Hill . The first location is approximated from fig. 10 in Wright and Wright (1908); the second assumes that the War Eagle corresponds to the mine and adit symbols at loc. 311 (10, 11) in Maas and others (1995, fig. 58). For this record, the map site is at the mine symbol (311-10), in section 17, T. 77 S., R. 91 E., of the Copper River Meridian. The location is accurate within a few hundred feet.

Also see Additional comments.

Commodities:

Main: Au

Other: Cu

Ore minerals: Gold, pyrite

Gangue minerals: Quartz

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

According to Brooks (1902, p. 70), the War Eagle deposit consists of quartz veins in shear or breccia zones in greenschist. One such mineralized fault zone, exposed in a tunnel, is about 3 feet thick, strikes N30E, and dips 30S. The veins contain pyrite, chalcopyrite, and minor free gold. Wright and Wright (1908, p. 140) describe the deposit only as a 10-foot vein that contains pyrite and chalcopyrite, has well-defined walls, and evidently is a southeast continuation of the Hobo deposit (KC115). An 1800-foot-long crosscut tun-

nel driven in the early 1900s intersected 6 or more veins (Brooks, 1902). Other workings at that time included a 40-foot shaft, 2 adits 100 vertical feet apart, and 700 feet of additional tunnel.

Maas and others' (1995, p. 227) description of the mineral deposits in the Seal Cove area probably applies in general to the War Eagle deposit. They report that chalcopyrite occurs as vein fillings, disseminations, and in fault breccias west and northwest of Seal Cove. The mineralized breccias have a siliceous matrix. Small quartz-barite veins with galena and sphalerite have been found west of Seal Cove, and on the northeast slopes of Punch Hill. The rocks at the War Eagle mine are cut by a high-angle fault that strikes west and northwest (Maas and others, (1995, fig 58).

Maas and others (1995, p. 227) report that copper mineralization on southern Gravina Island generally is associated with faulting. The deposits are mainly in meta-andesite (greenschist) and trondhjemite, but also in the overlying Triassic strata. The deposits are chiefly chalcopyrite- and pyrite-bearing quartz fissure veins, but the sulfide minerals also occur as disseminations in the metavolcanic rocks, in silicified zones in the trondhjemite, and as clasts or pods in silicified or carbonatized breccia. The character and setting of the deposits suggest that they mainly are polymetallic veins of Late Triassic or younger age.

Alteration:

Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:

Late Triassic or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

An 1800-foot-long crosscut tunnel driven in the early 1900s intersected 6 or more veins (Brooks, 1902). Other workings at that time included a 40-foot shaft, 2 adits 100 vertical feet apart, and 700 feet of additional tunnel.

Production notes:

An unknown, but probably small, amount of gold probably was recovered from the War Eagle mine in the early 1900s (Cobb and Elliott, 1980, p. 109).

Reserves:

Additional comments:

In the early 1900s, the War Eagle mine was on the property of Patterson and Co. (Cobb and Elliott, 1980, p. 146).

References:

Brooks, 1902; Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Cobb and Elliott, 1980; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Brooks, 1902; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Plutyas, Phityas

Site type: Prospect

ARDF no.: KC117

Latitude: 55.195 **Quadrangle:** KC A-6

Longitude: 131.739

Location description and accuracy:

The approximate location of the Plutyas prospect is at an elevation of about 800 feet on the northeast ridge of Punch Hill. The site is in section 17, T. 77 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 114 in Elliott and others (1978). The location is probably accurate within about 0.1 mile.

Also see Additional comments.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

Wright and Wright (1908, p. 140) describe the Plutyas prospect only as a quartz vein heavily mineralized with pyrite. The vein is in banded chlorite schist and strikes N20W. The Wrights' description suggests that the Plutyas and Damon (KC114) prospects are on different parts of the same, NW-striking vein. Their map (Wright and Wright, 1908, fig. 10), however, shows that the prospects align E-W, not NW-SE, which suggests instead that the veins are on separate, parallel, NW-striking faults.

Maas and others' (1995, p. 227) description of the mineral deposits in the Seal Cove area probably applies in general to the Plutyas prospect. They report that chalcopyrite occurs as vein fillings, disseminations, and in fault breccias west and northwest of Seal

Cove. The mineralized breccias have a siliceous matrix. Small quartz-barite veins with galena and sphalerite have been found west of Seal Cove, and on the northeast slopes of Punch Hill.

Maas and others (1995, p. 227) report that copper mineralization on southern Gravina Island generally is associated with faulting. The deposits are mainly in meta-andesite (greenschist) and trondhjemite, but also in the overlying Triassic strata. The deposits are chiefly chalcopyrite- and pyrite-bearing quartz fissure veins, but the sulfide minerals also occur as disseminations in the metavolcanic rocks, in silicified zones in the trondhjemite, and as clasts or pods in silicified or carbonatized breccia. The character and setting of the deposits suggest that they mainly are polymetallic veins of Late Triassic or younger age.

Alteration:

Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:

Late Triassic or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

Wright and Wright (1908) spell the name of this prospect 'Plutyas' on p. 140, and 'Phityas' on fig. 10.

References:

Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Big Joe

Site type: Prospect

ARDF no.: KC118

Latitude: 55.192 **Quadrangle:** KC A-6

Longitude: 131.741

Location description and accuracy:

The approximate location of the Big Joe prospect is at an elevation of about 1050 feet on the northeast ridge of Punch Hill. The site is in section 17, T. 77 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 115 in Elliott and others (1978). The location is probably accurate within 0.1 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

Wright and Wright (1908, p. 140) describe the Big Joe deposit as a well-defined quartz fissure vein that strikes N-S, carries pyrite and some chalcopyrite, and can be traced for more than 3000 feet in chlorite schist.

Maas and others' (1995, p. 227) description of the mineral deposits in the Seal Cove area probably applies in general to the Big Joe prospect. They report that chalcopyrite occurs as vein fillings, disseminations, and in fault breccias west and northwest of Seal Cove. The mineralized breccias have a siliceous matrix. Small quartz-barite veins with galena and sphalerite have been found west of Seal Cove, and on the northeast slopes of Punch Hill. In addition to the N-S fault that probably localizes the Big Joe vein, the rocks near the prospect also are cut by a high-angle fault that strikes NW (Maas and others,

1995, fig. 58).

Maas and others (1995, p. 227) report that copper mineralization on southern Gravina Island generally is associated with faulting. The deposits are mainly in meta-andesite (greenschist) and trondhjemite, but also in the overlying Triassic strata. The deposits are chiefly chalcopyrite- and pyrite-bearing quartz fissure veins, but the sulfide minerals also occur as disseminations in the metavolcanic rocks, in silicified zones in the trondhjemite, and as clasts or pods in silicified or carbonatized breccia. The character and setting of the deposits suggest that they mainly are polymetallic veins of Late Triassic or younger age.

Alteration:

Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:

Late Triassic or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

The deposit was explored in the early 1900s by an open cut (Brooks, 1902, p. 70).

Production notes:

Reserves:

Additional comments:

References:

Brooks, 1902; Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Jewel; Jumbo

Site type: Prospect

ARDF no.: KC119

Latitude: 55.19 **Quadrangle:** KC A-6

Longitude: 131.73

Location description and accuracy:

The approximate location of the Jewel prospect is at an elevation of about 150-200 feet, about 0.5 mile north-northwest of the west head of Seal Cove. The site is in section 17, T. 77 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 116 in Elliott and others (1978). The location is probably accurate within about 0.5 mile.

Also see Additional comments.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

Brooks (1902, p. 71) and Wright and Wright (1908, p. 139) describe the Jewel deposit only as a pyrite- and chalcopyrite-bearing quartz [fissure] vein 5-10 feet wide, that strikes N-S.

Maas and others' (1995, p. 227) description of the mineral deposits in the Seal Cove area probably applies in general to the Jewel prospect. They report that chalcopyrite occurs as vein fillings, disseminations, and in fault breccias west and northwest of Seal Cove. The mineralized breccias have a siliceous matrix. Small quartz-barite veins with galena and sphalerite have been found west of Seal Cove, and on the northeast slopes of Punch Hill. In addition to the N-S fault that probably localizes the Jewel vein, the rocks

near the prospect also are cut by a high-angle fault that strikes NW (Maas and others, 1995, fig. 58).

Maas and others (1995, p. 227) report that copper mineralization on southern Gravina Island generally is associated with faulting. The deposits are mainly in meta-andesite (greenschist) and trondhjemite, but also in the overlying Triassic strata. The deposits are chiefly chalcopyrite- and pyrite-bearing quartz fissure veins, but the sulfide minerals also occur as disseminations in the metavolcanic rocks, in silicified zones in the trondhjemite, and as clasts or pods in silicified or carbonatized breccia. The character and setting of the deposits suggest that they mainly are polymetallic veins of Late Triassic or younger age.

Alteration:

Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:

Late Triassic or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

The deposit was explored in the early 1900s by a small crosscut (Brooks, 1902, p. 71).

Production notes:

Reserves:

Additional comments:

Early reports refer to the Jewel prospect as the Jumbo claim (Cobb and Elliott, 1980, p. 59).

References:

Brooks, 1902; Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Cobb and Elliott, 1980; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Brooks, 1902; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Buck; North Paula

Site type: Prospect

ARDF no.: KC120

Latitude: 55.192 **Quadrangle:** KC A-6

Longitude: 131.733

Location description and accuracy:

The approximate location of the Buck prospect, as described in early reports (Wright and Wright, 1908, fig. 10; Elliott and others, 1978, loc. 117), apparently coincides with the location of the North Paula prospect, as described by Maas and others (1995, loc. 310). The map site is for the North Paula prospect, at an elevation of about 150-175 feet on the NE flank of Punch Hill (sec 17, T. 77 S., R. 91 E., of the Copper River Meridian). The location of the North Paula prospect is accurate within a hundred feet or so.

Commodities:

Main: Au, Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

Wright and Wright (1908, p. 139) describe the Buck prospect only as a wide quartz vein, in altered quartzite and schist, that reportedly assayed well in Cu and Au. Maas and others (1995, p. 229) describe the North Paula deposit as seams and clasts of chalcopyrite and pyrite in silicified breccia in metavolcanic hostrock. Their best sample assayed 1.1% Cu across a 6-foot-wide section of the deposit. Workings, probably mainly dating to the early 1900s, included a 12.5-foot adit, a flooded shaft, and several trenches.

Maas and others (1995, p. 227) report that copper mineralization on southern Gravina Island generally is associated with faulting. The deposits are mainly in meta-andesite

(greenschist) and trondhjemite, but also in the overlying Triassic strata. The deposits are chiefly chalcopyrite- and pyrite-bearing quartz fissure veins, but the sulfide minerals also occur as disseminations in the metavolcanic rocks, in silicified zones in the trondhjemite, and as clasts or pods in silicified or carbonatized breccia. The character and setting of the deposits suggest that they mainly are polymetallic veins of Late Triassic or younger age.

Alteration:
Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:
Late Triassic or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:
Workings, probably mainly dating to the early 1900s, included a 12.5-foot adit, a flooded shaft, and several trenches (Maas and others, 1995, p. 229). Maas and others' best sample assayed 1.1% Cu across a 6-foot-wide section of the deposit.

Production notes:

Reserves:

Additional comments:

References:
Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Berg, 1973; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Bay View

Site type: Mine

ARDF no.: KC121

Latitude: 55.187 **Quadrangle:** KC A-6

Longitude: 131.729

Location description and accuracy:

The Bay View mine is at an elevation of less than 100 feet, about 300 feet west of the shoreline of Seal Cove, and about 0.3 mile south-southwest of the west head of the cove. The site is in section 17, T. 77 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 118 in Elliott and others (1978), and to loc. 311-12 in Maas and others (1995). The location is accurate within a hundred feet or so.

Commodities:

Main: Au, Cu

Other:

Ore minerals: Bornite, chalcopyrite, hematite, pyrite, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

The Bay View deposit consists of a sulfide-bearing, quartz- and calcite-cemented, fault-breccia zone 30-40 feet wide that cuts metarhyolite, trondhjemite, and a prominent mafic dike (Brooks, 1902, p. 70; H.C. Berg, unpublished field data, 1968, 1969). The sulfide minerals include pyrite, chalcopyrite, and a little bornite and sphalerite. Brooks (1902, p. 70) describes two fault zones at this site. One strikes N30E; the other strikes about N60W and carries a foot-thick pyritic quartz vein that in the early 1900s had been explored by a 20-foot drift. Locally, quartz-calcite fissure veins in the mafic dike contain lenses of specular hematite up to several inches thick and several feet long.

Workings at the Bay View consist of a northwest-trending adit near sea level about 300

feet west of tidewater (Maas and others, 1995, p. 227). The adit, evidently an extension of the 20-foot drift described by Brooks, is accessible for about 200-250 feet, beyond which the roof has collapsed beneath a creek, and the workings are flooded. A small smelter shipment reportedly was made in the early 1900s (Cobb and Elliott, 1980, p. 13).

Samples of the breccia zone collected by the USGS in the 1960s contained up to 10 ppm Ag, 0.10 ppm Au, 200 ppm As, more than 2% Cu, and 150 ppm Sn (Koch and Elliott, 1978 [OFR 78-156A]).

Maas and others (1995, p. 227) report that copper mineralization on southern Gravina Island generally is associated with faulting. The deposits are mainly in meta-andesite (greenschist) and trondhjemite, but also in the overlying Triassic strata. The deposits are chiefly chalcopyrite- and pyrite-bearing quartz fissure veins, but the sulfide minerals also occur as disseminations in the metavolcanic rocks, in silicified zones in the trondhjemite, and as clasts or pods in silicified or carbonatized breccia. The character and setting of the deposits suggest that they mainly are polymetallic veins of Late Triassic or younger age.

Alteration:

Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:

Late Triassic or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

Workings at the Bay View consist of a northwest-trending adit near sea level about 300 feet west of tidewater (Maas and others, 1995, p. 227). The adit, evidently an extension of a 20-foot drift described by Brooks (1902. p. 70), is accessible for about 200-250 feet, beyond which the roof has collapsed beneath a creek, and the workings are flooded.

Samples of the breccia zone collected by the USGS in the 1960s contained up to 10 ppm Ag, 0.10 ppm Au, 200 ppm As, more than 2% Cu, and 150 ppm Sn (Koch and Elliott, 1978 [OFR 78-156A]).

Production notes:

A small smelter shipment reportedly was made in the early 1900s (Cobb and Elliott, 1980, p. 13).

Reserves:

Additional comments:

References:

Brooks, 1902; Berg, 1973; Elliott and others, 1978; Koch and Elliott, 1978 (OFR 78-156A); Cobb and Elliott, 1980; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Brooks, 1902; Cobb and Elliott, 1980; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Sanford

Site type: Prospect

ARDF no.: KC122

Latitude: 55.184 **Quadrangle:** KC A-6

Longitude: 131.725

Location description and accuracy:

The approximate location of the Sanford prospect is near tidewater, at about the midpoint of the southwest shore of Seal Cove. The site is in section 20, T. 77 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 119 in Elliott and others (1978). The location is probably accurate within about 0.1 mile.

Commodities:

Main: Au?, Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Carbonate, quartz

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

Wright and Wright (1908, p. 139) describe the Sanford deposit as a quartz-carbonate vein that contains pyrite and chalcopyrite, and is hosted by a much-altered chlorite rock. The Wright's description implies that the deposit contains low values in gold. The prospect was explored in the early 1900s by opencuts and a short shaft.

Maas and others' (1995, p. 227) description of the mineral deposits in the Seal Cove area probably applies in general to the Sanford prospect. They report that chalcopyrite occurs as vein fillings, disseminations, and in fault breccias west and northwest of Seal Cove. The mineralized breccias have a siliceous matrix. Small quartz-barite veins with galena and sphalerite have been found west of Seal Cove, and on the northeast slopes of Punch Hill.

Maas and others (1995, p. 227) report that copper mineralization on southern Gravina Island generally is associated with faulting. The deposits are mainly in meta-andesite (greenschist) and trondhjemite, but also in the overlying Triassic strata. The deposits are chiefly chalcopyrite- and pyrite-bearing quartz fissure veins, but the sulfide minerals also occur as disseminations in the metavolcanic rocks, in silicified zones in the trondhjemite, and as clasts or pods in silicified or carbonatized breccia. The character and setting of the deposits suggest that they mainly are polymetallic veins of Late Triassic or younger age.

Alteration:
Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:
Late Triassic or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:
The deposit was explored in the early 1900s by a opencuts and a short shaft.

Production notes:

Reserves:

Additional comments:

References:
Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Wright and Wright, 1908; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Concord group; Apex group; Concord no. 2, 3, 4; Blue Jay; Old Man; Sunrise

Site type: Prospects

ARDF no.: KC123

Latitude: 55.174 **Quadrangle:** KC A-6

Longitude: 131.742

Location description and accuracy:

The Concord group of prospects is at an elevation of about 300 feet near the south foot of Punch Hill . The prospects are in section 20, T. 71 S., R. 91 E., of the Copper River Meridian, about 0.8-1.0 mile north-northwest of the mouth of the unnamed creek at the north entrance to Dall Bay. The site corresponds to loc. 120 in Elliott and others (1978), and to loc. 312 in Maas and others (1995). The location is accurate within 0.1 mile.

Also see Additional comments.

Commodities:

Main: Ag, Au, Cu, Zn

Other: Barite

Ore minerals: Barite, chalcopyrite, pyrite, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

Brooks (1902, p. 72-73) describes the deposits on the Concord group of claims as sulfide-bearing quartz-barite-carbonate veins at
greenschist-pegmatite contacts. The veins contain chalcopyrite, sphalerite, probably pyrite, and low Ag and Au values. The Sunrise vein is 12-18 inches thick, strikes N75W and dips 80 SW, and was traced in outcrop for several hundred feet. The vein contained a conspicuous mass of chalcopyrite ore, which was said to carry values of $72 per ton, chiefly in Cu, and a little Ag and Au.

Maas and others' (1995, p. 229) best samples of the Concord deposit were: 1.4% Cu in a 6-foot sample; 0.44% Cu in a 16-foot sample; and 0.24% Cu in a 38-foot sample. Workings that could be identified at the time of their investigation included 2 adits, one 11.5 feet long and one caved; a 20-foot flooded shaft; and several trenches.

Maas and others (1995, p. 227) description of the mineral deposits in the area north of Dall Bay probably applies in general to the Concord group of deposits. They report that chalcopyrite is associated with sheared, silicified zones, chiefly in trondhjemite. Small barite veins are also found in the area. About 0.6 mile north of Dall Bay, chalcopyrite occurs as clasts or pods in a siderite-hematite matrix in altered trondhjemite. One deposit that Maas and others assign to the Concord group is on a NE-striking, high-angle fault that forms the contact between the trondhjemite and the Silurian-Ordovician metamorphic rocks (Maas and others, 1995, loc. 312-1 on fig. 58). The characteristics and setting of the deposits suggest that they mainly are polymetallic veins of Late Triassic or younger age.

Alteration:

Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:

Late Triassic or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

Early assays of a conspicuous mass of chalcopyrite ore were said to carry values of $72 per ton, chiefly in Cu, and a little Ag and Au (Brooks, 1902).

Maas and others' (1995, p. 229) best samples of the Concord deposit were: 1.4% Cu in a 6-foot sample; 0.44% Cu in a 16-foot sample; and 0.24% Cu in a 38-foot sample. Workings that could be identified at the time of their investigation included 2 adits, one 11.5 feet long and one caved; a 20-foot flooded shaft; and several trenches.

Production notes:

Reserves:

Additional comments:

Early reports describing the Concord group refer to it as the Apex group; the Concord

no. 2, 3, and 4 (group); and the Blue Jay, Old Man, and Sunrise claims (Cobb and Elliott, 1980, p. 144-146).

References:

Brooks, 1902; Berg, 1973; Elliott and others, 1978; Cobb and Elliott, 1980; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Brooks, 1902; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Grenadier

Site type: Prospect

ARDF no.: KC124

Latitude: 55.173 **Quadrangle:** KC A-6

Longitude: 131.749

Location description and accuracy:

The approximate location of the Grenadier prospect is at an elevation of about 200 feet at the south foot of Punch Hill. The prospect is in section 19, T. 77 S., R. 91 E., of the Copper River Meridian. It is about 0.7 mile from Dall Bay, and is in, or adjacent to, the valley of an unnamed, southeast-flowing creek that reaches Dall Bay at its north entrance. The site corresponds to loc. 121 in Elliott and others (1978). The location probably is accurate within about 0.2 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

Brooks (1902, p. 73) describes the Grenadier prospect as a mineralized shear or breccia zone at the contact of pegmatite with schist and greenstone.

Maas and others' (1995, p. 227) description of the mineral deposits in the area north of Dall Bay probably applies in general to the Grenadier deposit. They report that chalcopyrite is associated with sheared, silicified zones, chiefly in trondhjemite. Small barite veins are also found in the area. About 0.6 mile north of Dall Bay, chalcopyrite occurs as clasts or pods in a siderite-hematite matrix in altered trondhjemite. The Grenadier prospect is near the intersection of high-angle, NE- and NW-striking faults that juxtapose trondhje-

mite and metavolcanic rocks (Maas and others, 1995, fig. 58). The characteristics and setting of the deposits suggest that they mainly are polymetallic veins of Late Triassic or younger age.

Alteration:
Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:
Late Triassic or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Brooks, 1902; Berg, 1973; Elliott and others, 1978; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Brooks, 1902; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Friday

Site type: Prospect

ARDF no.: KC125

Latitude: 55.164 **Quadrangle:** KC A-6

Longitude: 131.784

Location description and accuracy:
The Friday prospect is near tidewater, about midway along the southeast shore of Nehenta Bay. The site is in sec 25, T. 77 S., R. 90 E., of the Copper River Meridian. It corresponds to loc. 122 in Elliott and others (1978). The location is accurate within 0.1 mile.

Commodities:

Main: Cu

Other: Barite

Ore minerals: Barite, chalcopyrite, pyrite

Gangue minerals: Carbonate, quartz

Geologic description:
Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

The Friday prospect was probably staked for copper in the early 1900s (U. S. Bureau of Mines, 1977); it was mapped, and the prospect briefly examined, by the U.S. Geological Survey in 1969 (Elliott and others, 1978). Elliott and others describe the deposit as pyrite- and chalcopyrite-bearing quartz-carbonate-barite? veins in breccia zones in strongly iron-stained metamorphosed volcanic, sedimentary and intrusive country rocks. Berg (1973, pl. 1) maps the rocks at and near this prospect as Triassic basal conglomerate containing clasts of the underlying trondhjemite and metamorphic assemblage. The mineralized breccia zones probably are hosted by this conglomerate, rather than by the metamorphic unit described by Elliott and others. The country rocks at the Friday prospect are cut by a high-angle fault that strikes NE, parallel to the SE shoreline of Nehenta Bay (Berg, 1973, pl. 1). Several occurrences of barite-bearing fissure veins are in Triassic sedimen-

tary rocks on the islands at the mouth of Nehenta Bay. The characteristics and setting of these deposits suggest that they are polymetallic veins of Late Triassic or younger age. Workings visible in 1969 were a few small pits and short tunnels.

Alteration:
Locally conspicuous iron staining.

Age of mineralization:
Late Triassic or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:
Workings visible in 1969 were a few small pits and short tunnels.

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Berg, 1973; Elliott and others, 1978; Berg, 1982; Berg and others, 1988

Primary reference: Berg, 1973; Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Unnamed (southwest Bostwick Inlet)

Site type: Occurrence

ARDF no.: KC126

Latitude: 55.199 **Quadrangle:** KC A-6

Longitude: 131.716

Location description and accuracy:

This unnamed occurrence is on the southwest shore of Bostwick Inlet, near its mouth, about 0.9 mile north of the south-projecting point at the north entrance of Seal Cove. The site is in section 16, T. 77 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 309 in Maas and others (1995). The location is accurate within 0.1 mile.

Commodities:

Main: Zn

Other: Ag

Ore minerals: Pyrite, sphalerite

Gangue minerals:

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). The rocks are complexly folded and are cut by high-angle faults and by low-angle thrust faults. In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14).

This occurrence consists of stratiform layers, up to 1.6 feet thick, of massive pyrite and sphalerite in Upper Triassic rhyolite at its depositional contact with overlying Upper Triassic carbonaceous slate (H.C. Berg, unpublished field data, 1968; Maas and others, 1995, p. 227). The contact strikes west and dips steeply to the north, and is truncated by a NW-striking, high-angle fault along the southwest shore of Bostwick Inlet (Berg, 1973). Samples collected by Maas and others (1995, p. 229) across about 10 feet of mineralized rock contained up to 1.6% Zn and small amounts of Ag. The characteristics and setting of this occurrence indicate that it is a stratiform, volcanogenic massive-sulfide deposit of Late Triassic age. As such, it is the southernmost known occurrence of a belt of Upper Triassic, stratabound, volcanogenic massive-sulfide deposits in southeastern Alaska (Berg,

1981).

Alteration:

Age of mineralization:
Late Triassic.

Deposit model:
Kuroko massive sulfide (Cox and Singer, 1986; model 28a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
28a

Production Status: None

Site Status: Inactive

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1973; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Carita; Erhart; Starlight

Site type: Prospects

ARDF no.: KC127

Latitude: 55.167 **Quadrangle:** KC A-6

Longitude: 131.781

Location description and accuracy:

The Carita group of prospects is in section 25, T. 77 S., R. 90 E., of the Copper River Meridian, at or near the east corner of Nehenta Bay. The prospects are in an estimated half-mile-square area that trends roughly eastward from the shoreline of the bay to an elevation of about 200 feet. The map site is at the approximate center of the group of prospects and is accurate within a few hundred feet. The site corresponds to loc. 124 in Elliott and others (1978), and to loc. 316 (1-5) in Maas and others (1995).

Also see Additional comments.

Commodities:

Main: Cu

Other: Barite

Ore minerals: Barite, chalcopyrite, galena, pyrite, sphalerite

Gangue minerals: Quartz, siderite

Geologic description:

Southern Gravina Island is underlain by an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks; a stock and associated dikes of Silurian trondhjemite that cuts the metamorphic assemblage; and a sequence of Upper Triassic carbonate, clastic, rhyolitic, and basaltic strata that unconformably overlies the older rocks (Berg, 1973, 1982; Berg and others, 1988). In many places, the Triassic rhyolite and the rocks beneath it are permeated by microscopic particles of hydrothermal hematite, giving them a pink, purple, or red hue (Berg, 1973, p. 14). The country rocks in the area of the Carita prospects are cut by a complex system of high-angle faults that strike NE and NW, and by at least one thrust fault that dips gently northward (Berg, 1973, pl. 1).

Brooks (1902, p. 73) described the Erhart and Starlight claims. The Erhart prospect is a mineralized shear zone in porphyritic rock. The mineralization, chiefly chalcopyrite, extends over a width of 4-5 feet, but the richer parts are less than 2 feet thick. On the Starlight claim, the deposit is a quartz-chalcopyrite-pyrite breccia zone about 3 feet thick, apparently hosted by the same country rocks as the deposit at the Erhart prospect.

Wright and Wright (1908, p. 140) describe the Carita deposit only as a chalcopyrite-

bearing quartz vein in calcic conglomerate.

Maas and others (1995, p. 227) report that exploration of the Carita group by private interests in 1973-74 identified a zone of mineralized, siliceous breccia hosted by limestone, metavolcanic rocks (greenschist), and altered trondhjemite. The breccia includes quartz, barite, siderite, pyrite, galena, sphalerite, and chalcopyrite. The zone was defined by geochemical anomalies in soil samples, and by an induced polarization survey. Four holes, totalling about 200 feet, drilled to test the anomaly, indicated only minor copper mineralization. The richest 10-foot section assayed 0.28% Cu. Maas and others (1995, p. 229) were able to locate a 50-foot adit and a few small pits and trenches, but not the other adit and shafts reported in the area.

The characteristics and setting of the Carita deposits indicate that they are polymetallic veins of Late Triassic or younger age.

Alteration:

Locally conspicuous iron staining. Probably local silicification, carbonatization, pyritization, and introduction of hydrothermal hematite.

Age of mineralization:

Late Triassic or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

Development work in the early 1900s included an opencut and a 50-foot tunnel (Brooks, 1902, p. 73). Maas and others (1995, p. 227) report that exploration of the Carita group by private interests in 1973-74 identified a zone of mineralized, siliceous breccia hosted by limestone, metavolcanic rocks (greenschist), and altered trondhjemite. The breccia includes quartz, barite, siderite, pyrite, galena, sphalerite, and chalcopyrite. The zone was defined by geochemical anomalies in soil samples, and by an induced polarization survey. Four holes, totalling about 200 feet, drilled to test the anomaly, indicated only minor copper mineralization. The richest 10-foot section assayed 0.28% Cu. Maas and others (1995, p. 229) were able to locate a 50-foot adit and a few small pits and trenches, but not the other adit and shafts reported in the area.

Production notes:

Reserves:

Additional comments:

Early descriptions of the Carita group of prospects also refer to the Erhart and Starlight claims (Cobb and Elliott, 1980, p. 24).

References:

Brooks, 1902; Wright and Wright, 1908; Berg, 1973; Elliott and others, 1978; Cobb and Elliott, 1980; Berg, 1982; Berg and others, 1988; Maas and others, 1995

Primary reference: Brooks, 1902; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Boots

Site type: Prospect

ARDF no.: KC128

Latitude: 55.149 **Quadrangle:** KC A-6

Longitude: 131.751

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of less than 100 feet, about 1.2 miles inland from the head of Dall Bay. The site is in section 31, T. 77 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 125 in Elliott and others (1978). The location is probably accurate within about 0.2 mile.

Commodities:

Main: U?

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks in the area of this prospect consist of an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks that are intruded by stocks and dikes of Silurian trondhjemite (Berg, 1973; Berg and others, 1988), The rocks are cut by a complex system of high-angle faults that mainly strike NE and NW. Locally, they also are permeated by finely disseminated hydrothermal hematite, giving them (especially the trondhjemite) a pink or red hue commonly mistaken for potassium feldspar.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in complexly faulted, metamorphosed bedded rocks, was staked for uranium or for other radioactive minerals. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Berg, 1973; Elliott and others, 1978; Berg and others, 1988

Primary reference: Elliott and others, 1978; Berg, 1973

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Black Jack; Black Jack No. 7; Black Jacks

Site type: Prospect

ARDF no.: KC129

Latitude: 55.151 **Quadrangle:** KC A-6

Longitude: 131.743

Location description and accuracy:

The Black Jack prospect is at an elevation of less than 100 feet, near the base of the peninsula that forms the east side of Dall Bay The prospect is in section 32, T. 77 S., R. 91 E., of the Copper River Meridian, about 0.1 mile northeast of the southeast head of the bay, and about 500 feet from tidewater. The site corresponds to loc. 126 in Elliott and others (1978), and to loc. 315 in Maas and others (1995). The location is accurate within 0.1 mile.

Also see Additional comments.

Commodities:

Main: U

Other:

Ore minerals: Pitchblende?

Gangue minerals:

Geologic description:

The country rocks in the area of this prospect consist of an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks that are intruded by stocks and dikes of Silurian trondhjemite (Berg, 1973; Berg and others, 1988), The rocks are cut by a complex system of high-angle faults that mainly strike NE and NW. Locally, they also are permeated by finely disseminated hydrothermal hematite, giving them (especially the trondhjemite) a pink or red hue commonly mistaken for potassium feldspar.

The deposit consists of a thin, discontinuous seam, or seams, of a black, radioactive mineral, possibly pitchblende, in a dike of 'serpentinized' basalt or gabbro that may be in fault contact with metamorphic country rocks (Elliott and others, p. 13). The radioactive mineral apparently occurs on the surfaces of small faults. A 2.5-foot-thick layer (dike?) of 'pink feldspar' that may be hydrothermally altered trondhjemite, forms the hanging wall of the fault plane(s) on which the radioactive material occurs. A site examination and tests with a Geiger counter in 1956 showed only traces of radioactive material (J.A. Williams, unpublished site examination report, Alaska Territorial Department of Mines,

1956). Several samples collected at that time contained up to 0.07% U, and one sample contained several percent equivalent uranium. Workings in 1956 consisted of several small pits.

According to Maas and others (1995, p. 227, 229), a 1970 reconnnaissance of the prospect indicates that the radioactive material occurs in albite pods adjacent to small, serpentinized zones in basalt or gabbro. The highest radioactivity in the pods is associated with thin, black coatings on fractures in the feldspar.

Alteration:

Probable local hydrothermal alteration (disseminated hematite) of trondhjemite or other country rock. Reported serpentinization of basalt or gabbro dike hostrock.

Age of mineralization:

Deposit model:

Radioactive veins or coatings of undetermined origin, in basalt or gabbro.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

A site examination and tests with a Geiger counter in 1956 showed only traces of radioactive material (J.A. Williams, unpublished site examination report, Alaska Territorial Department of Mines, 1956). Several samples collected at that time contained up to 0.07% U, and one sample contained several percent equivalent uranium. Workings in 1956 consisted of several small pits.

Production notes:

Reserves:

Additional comments:

At various times, this property has also been referred to as Black Jack No. 7, and Black Jacks (Cobb and Elliott, 1980, p. 17).

References:

Berg, 1973; Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988; Maas and others, 1995

Primary reference: Elliott and others, 1978; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Washington

Site type: Prospect

ARDF no.: KC130

Latitude: 55.151 **Quadrangle:** KC A-6

Longitude: 131.761

Location description and accuracy:

The Washington prospect is at an elevation of less than 100 feet, about 0.2 mile northwest of the southwest head of Dall Bay, and about 0.1 mile from tidewater. The site is in section 31, T. 77 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 127 in Elliott and others (1978), and to loc. 317 in Maas and others (1995). The location is accurate within 0.1 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Jasper, quartz

Geologic description:

The country rocks in the area of this prospect consist of an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks that are intruded by stocks and dikes of Silurian trondhjemite (Berg, 1973; Berg and others, 1988), The rocks are cut by a complex system of high-angle faults that mainly strike NE and NW. Locally, they also are permeated by finely disseminated hydrothermal hematite, giving them (especially the trondhjemite) a pink or red hue commonly mistaken for potassium feldspar.

According to Elliott and others (1978), the deposit consists of a mineralized zone along a sheared and brecciated contact between diabase and pegmatite (hydrothermally altered trondhjemite?). Pyrite and chalcopyrite occur in the zone, accompanied by quartz and jasper gangue. The deposit was explored in the early 1900s by a 20-foot drift or adit (Brooks, 1902, p. 72; Maas and others, 1995, p. 229). Similarities in character and setting of the Washington deposit to those of other lodes in the Dall Bay area (see, for example, KC 131, 132) suggest that it is a polymetallic vein of Late Triassic or younger age.

Alteration:

Probably local silicification, carbonatization, pyritization, and introduction of hy-

drothermal hematite.

Age of mineralization:
Late Triassic or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:
The deposit was explored in the early 1900s by a 20-foot drift or adit (Brooks, 1902, p. 72; Maas and others, 1995, p. 229).

Production notes:

Reserves:

Additional comments:

References:
Brooks, 1902; Berg, 1973; Elliott and others, 1978; Berg and others, 1988; Maas and others, 1995

Primary reference: Elliott and others, 1978; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Julian

Site type: Prospect

ARDF no.: KC131

Latitude: 55.16 **Quadrangle:** KC A-6

Longitude: 131.74

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at or near sea level, on the north side of the entrance to Dall Bay. The site is in section 29, T. 77 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 128 in Elliott and others (1978). The location probably is accurate within 0.3 mile.

Commodities:

Main: Cu

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks in the area of this prospect consist of an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks that are intruded by stocks and dikes of Silurian trondhjemite (Berg, 1973; Berg and others, 1988), The rocks are cut by a complex system of high-angle faults that mainly strike NE and NW. Locally, they also are permeated by finely disseminated hydrothermal hematite, giving them (especially the trondhjemite) a pink or red hue commonly mistaken for potassium feldspar.

According to U.S. Bureau of Mines claim records (1977), this prospect, which appears to be in complexly faulted and hydrothermally altered trondhjemite and/or metamorphic rocks, was staked for copper. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Berg, 1973; Elliott and others, 1978; Berg and others, 1988

Primary reference: Berg, 1973; Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Dall; Dall Bay

Site type: Prospects

ARDF no.: KC132

Latitude: 55.164 **Quadrangle:** KC A-6

Longitude: 131.733

Location description and accuracy:

The prospects at and near Dall Bay that are described in this record lie in a quarter-mile-wide area that extends northwestward from tidewater at the north mouth of the bay, inland for about 0.55 mile, to an elevation of about 150 feet. The map site is in section 29, T. 77 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 129 in Elliott and others (1978), and to loc. 314 (1-6) in Maas and others (1995). It also represents Maas and others' loc. 313 (1-3), about a half-mile to the northwest. The location is accurate within 0.1 mile.

Commodities:

Main: Ag, Au, Cu

Other: Barite

Ore minerals: Barite, chalcopyrite, pyrite

Gangue minerals: Carbonate, quartz

Geologic description:

The country rocks in the area of these prospects consist of an assemblage of undivided Silurian or Ordovician metamorphosed bedded and intrusive rocks that are intruded by stocks and dikes of Silurian trondhjemite (Berg, 1973; Berg and others, 1988), The rocks are cut by a complex system of high-angle faults that mainly strike NE and NW. In many places, they also are permeated by finely disseminated hydrothermal hematite, giving them (especially the trondhjemite) a pink or red hue commonly mistaken for potassium feldspar.

According to Elliott and others (1978), who summarize Brooks' (1902) description of the prospects at Dall Bay, the principal deposit in the early 1900s was a chalcopyrite-bearing quartz vein in greenschist and pegmatite. The owners at that time reported an average grade of $6 Au/ton (Au at $20.67/ounce), 11% Cu, and low Ag values; and had explored the deposit by two shafts. A reconnaissance examination of the area in 1968 by the USGS showed disseminated pyrite and chalcopyrite, and pyrite- and chalcopyrite-bearing quartz-carbonate-barite veins in breccia zones in iron- and copper-stained metamorphic rocks (samples 68Bg752-754, in Koch and Elliott, 1978 [OFR 78-156A]).

As described by Maas and others (1995, p. p. 227, 229; loc. 314) the deposits on the north side of Dall Bay consist of chalcopyrite in one or more sheared, silicified, zones in altered trondhjemite. Their best sample was a 75-foot width of mineralized rock containing 1.4% Cu. Workings, dating to the early 1900s, included two shafts, one 60 feet deep and a flooded one 30 feet deep; and several surface trenches, pits, and opencuts. These deposits were explored in 1956 by by private interests, who drilled 14 holes totalling about 3900 feet (Maas and others, 1995, p. 228). Mineralization was found in eight holes drilled along about 600 feet of strike length. Assays ranged from 0.38% Cu to 1.1% Cu over intervals of 5 to 46 feet.

In the area about a half-mile northwest of Dall Bay (the 'Dall Bay area' of Maas and others, 1995, p. 227; loc. 313-1), chalcopyrite occurs as clasts or pods in a siderite-hematite-matrix breccia in altered trondhjemite. Maas and others' best sample was a 27-foot width of otherwise unspecified mineralized rock containing 1.1% Cu and 1.8 ppm Au. Workings, probably dating to the early 1900s, included a caved adit, and several trenches and opencuts. About 1000 feet north of Dall Bay, a pit and trenches expose mineralized breccia that averaged 1.1% Cu over 28 feet, and 0.7% Cu over 23 feet (Maas and others, 1995, p. 228; loc. 313-2,3). Select samples contained up to 2.5% Cu.

The characteristics and setting of the deposits in the Dall Bay area indicate that they mainly are polymetallic veins. Their similarity to deposits in the Seal Cove area (see, for example, KC 121) suggest that they probably are Late Triassic or younger in age.

Alteration:

Local silicification, pyritization, and carbonatization, and widespread permeation of country rocks by finely disseminated hydrothermal hematite.

Age of mineralization:

Probably Late Triassic or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: Undetermined.

Site Status: Undetermined

Workings/exploration:

The deposits on the north side of Dall Bay were explored in the early 1900s by two shafts, 30 and 60 feet deep, and by several trenches, pits, and opencuts (Brooks, 1902, p. 71-72). The owners at that time reported a pay shoot 3 feet wide containing an average of 11% Cu, $6 in gold/ton (Au at $20.67/ounce), and a trace of silver. The deposits were explored in 1956 by private interests, who drilled 14 holes totalling about 3900 feet (Maas and others, 1995, p. 228). Mineralization was found in 8 holes drilled along about 600 feet of strike length. Assays ranged from 0.38%-1.1% Cu over intervals of 5 to 46 feet.

Sampling by Maas and others (1995, p. 229) showed a 75-foot width of otherwise unspecified mineralized rock containing 1.4% Cu.

In the area up to a half-mile north of Dall Bay, workings, probably dating to the early 1900s, included a caved adit and several trenches and opencuts (Maas and others, 1995, p. 227; loc. 313). Maas and others' samples at one site showed a 27-foot width of otherwise unspecified mineralized rock containing 1.1% Cu and 1.8 ppm Au. At another site, their samples of mineralized breccia averaged 1.1% Cu over 28 feet and 0.7% Cu over 23 feet. Select samples contained up to 2.5% Cu.

Production notes:

Reserves:

Additional comments:

References:

Brooks, 1902; Berg, 1973; Elliott and others, 1978; Koch and Elliott, 1978 (OFR 78-156A); Berg and others, 1988; Maas and others, 1995

Primary reference: Brooks, 1902; Maas and others, 1995

Reporter(s): H.C. Berg, USGS

Last report date: 07/05/99

Site name(s): Unnamed (near head of Annette Bay)

Site type: Occurrence

ARDF no.: KC133

Latitude: 55.25 **Quadrangle:** KC A-5

Longitude: 131.51

Location description and accuracy:
This occurrence, described only vaguely in early reports, is said to to be near the head of Annette Bay. The site is in section 25, T. 76 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 130 in Elliott and others (1978). The location is probably accurate within 0.5 mile.

Commodities:

Main: Cu, Sb

Other:

Ore minerals:

Gangue minerals:

Geologic description:
The country rocks near the head of Annette Bay are recrystallized, Upper Jurassic or Cretaceous andesitic or basaltic flows and tuff, and a stock of quartz metadiorite that may be cogenetic with some of the volcanic rocks (Berg, 1972 [I 684]; Karl, 1992). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. The site has been described only as a reported occurrence of antimony and copper minerals (Berg and Cobb, 1967, p. 180).

Alteration:

Age of mineralization:

Deposit model:
Probably a lode deposit.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg and Cobb, 1967; Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Berg and Cobb, 1967

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Lone Wolf (southwest of Nadzaheen Cove)

Site type: Prospect

ARDF no.: KC134

Latitude: 55.219 **Quadrangle:** KC A-5

Longitude: 131.484

Location description and accuracy:

This site represents 3 occurrences at an elevation of about 500 feet on a knoll about 0.9 mile southwest of Nadzaheen Cove The map site is in section 1, T. 77 S., R. 92 E., of the Copper River Meridian, at the approximate center of the quarter-square-mile area that contains the occurrences. The site corresponds to loc. 12 in Berg (1972 [I 684]), loc. 131 in Elliott and others (1978), and loc. 10a-c in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Au

Other: Ag, Pb

Ore minerals: Galena, gold, pyrite

Gangue minerals: Calcite, muscovite, quartz

Geologic description:

The country rocks in the area of this site are Upper Jurassic or Cretaceous flyschlike metasedimentary rocks that are gradationally interbedded with recrystallized andesitic or basaltic volcanic flows and tuff (Berg, 1972). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The Lone Wolf prospect consists of several trenches along a fault zone that contains abundant quartz veins (Karl, 1992, loc. 10). The hostrock is gray, thinly-laminated quartz phyllite; both the phyllite and the quartz veins are folded and faulted. A six-foot-thick vein, which has been traced on the surface for about 300 feet, cements greenstone and phyllite breccia, and contains muscovite, calcite, and pyrite. Other veins in the area have cumulative widths of up to about 60 feet. A sample of a pyritic quartz vein contained 0.88 ppm Au; and a sample of pyritic green phyllite contained 0.56 ppm Au (Karl, 1992). Samples of pyrite- and galena-bearing quartz veins collected by the USGS in the 1930s contained 0.71 oz. Au/ton and 0.91 oz. Ag/ton; and 7 chip samples collected in 1975 by private interests contained as much as 0.23 oz. Au/ton (Berg, 1972; Karl, 1992).

Alteration:

Sericitic, suggested by muscovite in veins.

Age of mineralization:
Probably Late Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
The Wolf prospect has been explored by several trenches. A sample of a pyritic quartz vein contained 0.88 ppm Au, and a sample of pyritic green phyllite contained 0.56 ppm Au (Karl, 1992). Samples of pyrite- and galena-bearing quartz veins collected by the USGS in the 1930s contained 0.71 oz. Au/ton and 0.91 oz. Ag/ton; and 7 chip samples collected in 1975 by private interests contained as much as 0.23 oz. Au/ton (Berg, 1972; Karl, 1992).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (ridge NE of Round Mountain)

Site type: Occurrences

ARDF no.: KC135

Latitude: 55.212 **Quadrangle:** KC A-5

Longitude: 131.543

Location description and accuracy:

This site includes 4 occurrences in about a half-mile-square area northeast of Round Mountain. The occurrences are in sections 3, 9, and 10, T. 77 S., R. 92 E., of the Copper River Meridian, and are at elevations of 1200-1500 feet on and near the northeast spur of Round Mountain, and about a mile northeast of the top of the mountain. The map site is at the approximate center of the area of occurrences. The site corresponds to loc. 21 in Berg (1972 [I 684]), loc. 132 in Elliott and others (1978), and loc. 11a-d in Karl (1992). The location is accurate within about 0.1 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Malachite, pyrite

Gangue minerals: Calcite, quartz

Geologic description:

The hostrocks of these occurrences are bounded by faults, and consist of recrystallized, Upper Triassic sedimentary and volcanic rocks that unconformably overlie a sequence of undivided, metamorphosed Silurian and Ordovician volcanic, sedimentary, and intrusive rocks (Berg, 1972). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences are in bleached, Upper Triassic, rhyolite tuff-breccia, black shale and limestone, and conglomerate. They consist of quartz-calcite-pyrite fissure veins in shear zones; of minute cubes of pyrite disseminated in the country rocks; and of local copper-staining (malachite) (Berg, 1972; Karl, 1992). A sample of felsic tuff-breccia contained 150 ppm Pb; a sample of a quartz-calcite-pyrite fissure vein contained 300 ppm Cu; and a sample of sheared rhyolite breccia contained 700 ppm Pb (Karl, 1992, loc. 11a-d).

Alteration:

Local bleaching and iron and copper staining.

Age of mineralization:
The fissure veins probably are Late Cretaceous or younger in age.

Deposit model:
Polymetallic veins? (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c?

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of felsic tuff-breccia contained 150 ppm Pb; a sample of a quartz-calcite-pyrite fissure vein contained 300 ppm Cu; and a sample of sheared rhyolite breccia contained 700 ppm Pb (Karl, 1992, loc. 11a-d).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (shoreline of Sylburn Harbor)

Site type: Occurrence

ARDF no.: KC136

Latitude: 55.201 **Quadrangle:** KC A-5

Longitude: 131.586

Location description and accuracy:
This occurrence is on the shoreline of outer Sylburn Harbor, about 1.8 miles north-northeast of Driest Point. The site is in section 8, T. 77 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 14 in Berg (1972 [I 684]), loc. 133 in Elliott and others (1978), and loc. 14a-c in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Ag, Au, Pb

Other:

Ore minerals: Galena

Gangue minerals: Calcite, quartz

Geologic description:
The country rock at this site is locally sheared and sericitized Silurian trondhjemite that was regionally metamorphosed to greenschist grade in Late Cretaceous time (Berg, 1972). The occurrence consists of galena in a thin, discontinuous, calcite-quartz fissure vein in a subhorizontal shear zone up to 20 feet thick and several hundred feet long. A grab sample of the sulfide-bearing vein assayed 1.38 oz. Au/ton and 0.42 oz. Ag/ton.

Alteration:
Local sericitization of trondhjemite.

Age of mineralization:
The fissure vein probably is Late Cretaceous or younger in age.

Deposit model:
Polymetallic veins? (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
A grab sample of the sulfide-bearing vein assayed 1.38 oz. Au/ton and 0.42 oz. Ag/ton (Berg, 1972).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Berg, 1972 (I 684)

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (near Driest Point)

Site type: Occurrences

ARDF no.: KC137

Latitude: 55.177 **Quadrangle:** KC A-5

Longitude: 131.605

Location description and accuracy:

This site represents 3 occurrences along about 0.3 mile of shoreline at and near Driest Point (section 19, T. 77 S., R. 92 E., of the Copper River Meridian). The map site is at Driest Point and is accurate within 0.1 mile. The site corresponds to loc. 15 in Berg (1972 [I 684]), loc. 134 in Elliott and others (1978), and loc. 22a-c in Karl (1992).

Commodities:

Main: Ag, Pb, Zn

Other: Barite

Ore minerals: Barite, galena, pyrite

Gangue minerals: Calcite, quartz

Geologic description:

The country rocks at this site consist of sheared, recrystallized, Upper Triassic carbonate and clastic rocks, rhyolite, and basalt; and of diorite dikes that intrude the Triassic strata (Berg, 1972). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The mineral occurrences are quartz-calcite-barite-galena fissure veins up to 6 feet thick in sheared, rhyolite-clast conglomerate Berg, 1992; Karl, 1992). Quartz-calcite veins also cut pyritic diorite dikes that intrude the bedded rocks. Samples of variously mineralized bedded rocks contained up to 1.5 ppm Ag, 150 ppm Pb, 200 ppm Zn, and 5000 ppm Ba; a sample of the diorite contained 100 ppm Co, 700 ppm Cr, and 150 ppm Ni; and samples of mineralized rhyolite contained up to 0.7 ppm Ag (Karl, 1992, loc. 22a-c).

The fissure veins are probably Late Cretaceous or younger, assuming that they formed during, or following, the regional metamorphism.

Alteration:

Age of mineralization:

The fissure veins are probably Late Cretaceous or younger in age, assuming that they formed during, or following, the regional metamorphism.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (southeast of Driest Point)

Site type: Occurrences

ARDF no.: KC138

Latitude: 55.171 **Quadrangle:** KC A-5

Longitude: 131.592

Location description and accuracy:

This site represents 5 occurrences along about a half-mile of the south shoreline of the west-trending peninsula that separates Sylburn Harbor from Port Chester. The occurrences are in sections 9 and 29, T. 77 S., R. 92 E., of the Copper River Meridian, between 0.5 and 0.9 mile from Driest Point. The map coordinates are for their approximate midpoint. The site corresponds to loc. 16 in Berg (1972 [I 684]), loc. 135 in Elliott and others (1978), and loc. 23a-e in Karl (1992). The location is accurate within about 0.1 mile.

Commodities:

Main: Ag, barite, Pb, Zn

Other:

Ore minerals: Barite, galena, pyrite, sphalerite

Gangue minerals: Calcite, hematite, quartz

Geologic description:

The country rocks in the area of this site are recrystallized, Upper Triassic carbonate and clastic rocks, rhyolite, and basalt (Berg, 1972). The rocks are folded and faulted, and intruded by rhyolite dikes. All were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The mineral occurrences consist of quartz-calcite-barite(-hematite) veins up to 6 feet thick that contain galena and sphalerite, and extend at least 60 feet inland from tidewater (Karl, 1992, loc. 23). The veins are hosted by dolomitic conglomerate and brecciated rhyolite. Rhyolite dikes up to 60 feet thick cut the conglomerate and also intrude the veins. Samples of variously mineralized veins and bedded rocks contained up to 20 ppm Ag, more than 2% Pb, 1500 ppm Zn; and more than 5000 ppm Ba (Karl, 1992, loc. 23a-e).

Alteration:

Age of mineralization:

Veins hosted by Upper Triassic strata and cut by a rhyolite dike may be Late Triassic in age; veins that postdate the dike may be Late Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
Samples of variously mineralized veins and bedded rocks contained up to 20 ppm Ag, more than 2% Pb, 1500 ppm Zn; and more than 5000 ppm Ba (Karl, 1992, loc. 23a-e).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Japan Bay

Site type: Prospect

ARDF no.: KC139

Latitude: 55.178 **Quadrangle:** KC A-5

Longitude: 131.575

Location description and accuracy:

This site, informally called the Japan Bay prospect, is on the southwest shore of inner Sylburn Harbor, about 0.5 mile from its head. The site is in section 20, T. 77 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 18 in Berg (1972 [I 684]), loc. 136 in Elliott and others (1978), and loc. 19 in Karl (1992). The location is accurate within a few hundred feet.

Commodities:

Main: Ag, barite, Pb, Zn

Other:

Ore minerals: Barite, galena, pyrite, sphalerite

Gangue minerals: Calcite, hematite

Geologic description:

The country rocks in the area of this site are recrystallized, locally intensely sheared and hematite?-altered, Upper Triassic rhyolite and limestone (Berg, 1972). The rocks are complexly folded and faulted, and were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The deposit consists chiefly of barite veins in a 10-foot-wide shear zone in brecciated rhyolite (Karl, 1992, loc. 19). The veins contain minor quartz and calcite, and clots, laminae, and stringers of hematite, galena, and sphalerite. Barite forms irregular veins and masses up to 3 feet wide. The sheared rhyolite contains disseminated sulfides.

The prospect was explored in the 1970s and 1980s by private interests (Hawley and Associates, in Karl, 1992). The work included 5 diamond drill holes, soil surveys, and other studies. The drill holes indicated that the barite zone dips 25 W, and barite was intercepted as deep as 150 feet. The soil surveys indicated that the barite zone is about 100 feet wide and extends about 1000 feet to the south. The barite lenses and veins are sparse and irregular, and barite grade is low, but the deposit size is estimated to exceed 1,000,000 tons. Karl's (1992, loc. 19a, b) samples of the barite and of variously mineralized country rocks contained as much as 0.11 ppm Au, 50 ppm Ag, 1% Pb, 700 ppm Zn, and 10 ppm Mo.

Alteration:
Probable local permeation of some of the country rocks by hydrothermal hematite.

Age of mineralization:
Late Triassic or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
The prospect was explored in the 1970s and 1980s by private interests (Hawley and Associates, in Karl, 1992, loc. 19). The work included 5 diamond drill holes, soil surveys, and other studies. The drill holes indicated that the barite zone dips 25 west, and barite was intercepted as deep as 150 feet. The soil surveys indicated that the barite zone is about 100 feet wide and extends about 1000 feet to the south. The barite lenses and veins are sparse and irregular, and barite grade is low, but the deposit size is estimated to exceed 1,000,000 tons. Karl's (1992, loc. 19a, b) samples of the barite and of variously mineralized country rocks contained as much as 0.11 ppm Au, 50 ppm Ag, 1% Pb, 700 ppm Zn, and 10 ppm Mo.

Production notes:

Reserves:
The deposit size is estimated to exceed 1,000,000 tons (Karl, 1992, loc. 19).

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (east of inner Sylburn Harbor)

Site type: Occurrences

ARDF no.: KC140

Latitude: 55.177 **Quadrangle:** KC A-5

Longitude: 131.551

Location description and accuracy:

This site consists of three, roughly E-W aligned, occurrences at 200-300 feet elevation, and 0.3-0.7 mile east of the head of Sylburn Harbor. The occurrences are in section 21, T. 77 S., R. 92 E., of the Copper River Meridian. The coordinates are for the approximate center of the line of occurrences. The site corresponds to locs. 19 and 20 in Berg (1972 [I 684]), loc. no. 137 in Elliott and others (1978), and loc. 18a-c in Karl (1992). The location is accurate within 0.2 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Azurite, chalcopyrite, hematite, magnetite, malachite, pyrite

Gangue minerals: Calcite, quartz

Geologic description:

The country rock in the area of this site is Silurian trondhjemite that was regionally metamorphosed to greenschist grade in Late Cretaceous time (Berg, 1972). The mineral occurrences consist of quartz-carbonate fissure veins in sheared, brecciated, and sericitized trondhjemite. The shear zones are up to ten feet or so wide. The veins contain chalcopyrite, pyrite, hematite, magnetite, azurite, and malachite. The mineralization extends beyond the vein margins into the trondhjemite.

Of 63 rock samples collected from 1969-1975 by private interests, 8 had Cu values of more than 200 ppm, and 8 had Zn values of more than 200 ppm (Karl, 1992). One sample of a chalcopyrite-bearing quartz vein contained 6900 ppm Cu. Karl's (1992) samples of sulfide-bearing trondhjemite contained as much as 5500 ppm Cu; and a sample of a quartz-calcite-sulfide vein contained 0.08 ppm Au and 15,000 ppm Cu.

Alteration:

Local oxidation of chalcopyrite to azurite and malachite; oxidation of iron mineral(s) to hematite; sericitization of sheared trondhjemite country rock; sulfide impregnation of wallrock adjacent to veins.

Age of mineralization:
The fissure veins probably are Late Cretaceous or younger in age.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
Of 63 rock samples collected from 1969-1975 by private interests, 8 had Cu values of more than 200 ppm, and 8 had Zn values of more than 200 ppm (Karl, 1992). One sample of a chalcopyrite-bearing quartz vein contained 6900 ppm Cu. Karl's (1992) samples of sulfide-bearing trondhjemite contained as much as 5500 ppm Cu; and a sample of a quartz-calcite-sulfide vein contained 0.08 ppm Au and 15,000 ppm Cu.

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (near Hassler Harbor)

Site type: Occurrence

ARDF no.: KC141

Latitude: 55.204 **Quadrangle:** KC A-5

Longitude: 131.414

Location description and accuracy:
This occurrence is at an elevation of about 100 feet, on the southwest side of the midpoint of the divide between Hassler Harbor and Cascade Inlet. The site is in section 9, T. 77 S., R. 93 E., of the Copper River Meridian. It corresponds to loc. 11 in Berg (1972 [I 684]), loc. 138 in Elliott and others (1978), and loc. 16 in Karl (1992). The location is accurate within a few hundred feet.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite

Gangue minerals:

Geologic description:
The country rock at this site is Silurian trondhjemite that was regionally metamorphosed to greenschist grade in Late Cretacous time (Berg, 1972). The occurrence consists of chalcopyrite sparsely disseminated in sheared and sericitized trondhjemite (Berg, 1972, loc. 11).

Alteration:
Trondhjemite hostrock is sericitized.

Age of mineralization:

Deposit model:
Disseminated sulfide deposit in trondhjemite.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Berg, 1972 (I 684)

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (on Ham Island)

Site type: Occurrence

ARDF no.: KC142

Latitude: 55.181 **Quadrangle:** KC A-5

Longitude: 131.368

Location description and accuracy:

This site consists of three occurrences on the southwest shore of Ham Island, about midway in Cascade Inlet. The 0.2-mile-long strip of shoreline that contains the occurrences is in sections 22 and 23, T. 77 S., R. 93 E., of the Copper River Meridian. The site corresponds to loc. 10 in Berg (1972 [I 684]), loc. 139 in Elliott and others (1978), and loc. 25a-c in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Au

Other:

Ore minerals: Gold

Gangue minerals: Quartz

Geologic description:

The country rocks at this site are Jurassic and Cretaceous flyschlike metasedimentary rocks that grade upward into andesitic or basaltic metavolcanic rocks (Berg, 1972). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences consist of traces of gold in quartz fissure veins that cut the metasedimentary rocks, and traces of gold in a small beach placer. A pan concentrate of beach gravel contained 0.05 ppm Au, 500 ppm Cu, and 200 ppm Pb; and samples of pyritic tuff and a quartz-pyrite vein respectively contained 0.7 ppm Ag and 0.05 ppm Au (Karl, 1992, loc. 25a-c).

Alteration:

Age of mineralization:

Fissure veins are Cretaceous or younger; placer is Holocene.

Deposit model:

Low-sulfide Au-quartz veins; Placer Au-PGE (Cox and Singer, 1986; models 36a, 39a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a, 39a

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Beaverlodge

Site type: Prospect

ARDF no.: KC143

Latitude: 55.17 **Quadrangle:** KC A-5

Longitude: 131.34

Location description and accuracy:
This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is on the northeast side of Ham Island, possibly about 0.4 mile northwest of Camp Cove. The site is in section 24, T. 77 S., R. 93 E., of the Copper River Meridian. It corresponds to loc. 140 in Elliott and others (1978). The location probably is accurate within about 0.5 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:
The country rocks in the area of this site are Upper Jurassic or Cretaceous andesitic or basaltic metavolcanic rocks (Berg, 1972 [I 684]). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. According to U.S. Bureau of Mines claim records (1977), this prospect, which apparently is in an area underlain by the metavolcanic rocks, was staked for gold. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); U.S. Bureau of Mines, 1977; Elliott and others, 1978

Primary reference: Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (near Cascade Lake)

Site type: Prospect

ARDF no.: KC144

Latitude: 55.17 **Quadrangle:** KC A-5

Longitude: 131.38

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at an elevation of about 300 feet, on or near the north shore of the east arm of Cascade Lake. The site is in section 27, T. 77 S., R. 93 E., of the Copper River Meridian. It corresponds to loc. 141 in Elliott and others (1978). The location probably is accurate within about 0.5 mile.

Commodities:

Main: Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rock in the area of this prospect is Silurian trondhjemite that was regionally metamorphosed to greenschist grade in Late Cretaceous time (Berg, 1972 [I 684]). According to U.S. Bureau of Mines claim records (1977), this prospect, which probably is in sheared trondhjemite, was staked for gold. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); U.S. Bureau of Mines, 1977; Elliott and others, 1978

Primary reference: Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (northeast of Blunt Mountain)

Site type: Occurrences

ARDF no.: KC145

Latitude: 55.151 **Quadrangle:** KC A-5

Longitude: 131.365

Location description and accuracy:

This site represents five occurrences northeast of Blunt Mountain. The occurrences are in sections 34 and 35, T. 77 S., R. 93 E., of the Copper River Meridian, and range from about 400 feet in elevation to sealevel, and about 1.2-1.7 miles northeast of the highest point on Blunt Mountain . The coordinates are for the approximate center of the approximately half-mile-square area that contains these occurrences. The site corresponds to locs. 8 and 9 in Berg (1972 [I 684]), loc. 142 in Elliott and others (1978), and locs. 27a-b and 28a-c in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Au, Cu, Pb, Zn

Other:

Ore minerals: Chalcopyrite, galena, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of these occurrences are recrystallized, Upper Triassic conglomerate and overlying rhyolite and felsic tuff (Berg, 1972). The rocks are complexly folded and faulted, and were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The deposits consist of quartz fissure veins up to 30 feet thick and 100 feet long that contain clots of pyrite, galena, and chalcopyrite; and of sheared metarhyolite containing sparsely disseminated sphalerite, chalcopyrite, pyrite, and galena (Berg, 1972; Karl, 1992). Variously mineralized samples of veins and country rocks contained up to 0.34 ppm Au, 2.5 ppm Ag, and 0.5% Cu (Karl, 1992, locs. 27, 28) . Soil samples contained as much as 0.27 ppm Au, and detectable Ag.

Alteration:

Age of mineralization:

The fissure veins probably are Late Cretaceous.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
Variously mineralized samples of veins and country rocks contained up to 0.34 ppm Au, 2.5 ppm Ag, and 0.5% Cu (Karl, 1992, locs. 27, 28) . Soil samples contained as much as 0.27 ppm Au, and detectable Ag.

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (east of Blunt Mountain)

Site type: Occurrences

ARDF no.: KC146

Latitude: 55.142 **Quadrangle:** KC A-5

Longitude: 131.363

Location description and accuracy:

This site represents three occurrences east of Blunt Mountain. The occurrences are in section 2, T. 78 S., R. 93 E., of the Copper River Meridian and section 35, T. 77 S., R. 93 E., of the Copper River Meridian. They range in elevation from about 300 feet to sealevel, and are about 1.3-1.5 miles from the highest point on Blunt Mountain. The coordinates are for the approximate center of the half-square-mile area that contains the occurrences. The site corresponds to loc. 3 in Berg (1972 [I 684]), loc. 143 in Elliott and others (1978), and loc. 29a-c in Karl (1992). The location is accurate within about 0.1 mile.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

Ore minerals: Chalcopyrite, galena, pyrite, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of this site are recrystallized, Upper Triassic rhyolite, felsic tuff, and limestone (Berg, 1972). The rocks are folded and complexly faulted, and were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences consist of sparsely mineralized, auriferous, sulfide-bearing quartz fissure veins in rhyolite that locally is sheared, sericitized, and impregnated with finely disseminated iron oxide. The veins are up to about 3 feet thick and contain sparse clots of pyrite and other sulfide minerals that, judging from sample assays, include galena, chalcopyrite, and sphalerite. Samples of variously mineralized quartz veins and country rocks contained up to 0.43 oz. Au/ton; 0.91 oz. Ag/ton, 2% Pb, 16.75% Zn, and 1.25% Cu (Berg, 1972, loc. 3; Karl, 1992, loc. 29).

Alteration:

Local sericitization and iron-oxide alteration.

Age of mineralization:
Probably Late Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
Samples of variously mineralized quartz veins and country rocks contained up to 0.43 oz. Au/ton; 0.91 oz. Ag/ton, 2% Pb, 16.75% Zn, and 1.25% Cu (Berg, 1972, loc. 3; Karl, 1992, loc. 29).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (on Blunt Mountain)

Site type: Occurrence

ARDF no.: KC147

Latitude: 55.139 **Quadrangle:** KC A-5

Longitude: 131.394

Location description and accuracy:
This occurrence is at an elevation of about 2000 feet on Blunt Mountain, about 0.15 mile east of the summit. The site is in section 3, T. 78 S., R. 93 E., of the Copper River Meridian. It corresponds to loc. 30 in Berg (1972 [I 684]), loc. 144 in Elliott and others (1978), and loc. 40 in Karl (1992). The location is accurate within a few hundred feet.

Commodities:

Main: Pb

Other:

Ore minerals: Galena, pyrite

Gangue minerals: Hematite?, quartz

Geologic description:
The country rock in the area of this site is Silurian trondhjemite that was regionally metamorphosed to greenschist grade in Late Cretaceous time (Berg, 1972). The occurrence is in sericitized trondhjemite, and consists of sparse galena, hematite(?), and pyrite in iron-stained quartz fissure veins and pods up to 10 feet thick.

Alteration:
Sericitization of trondhjemite, and oxidation of iron mineral(s) in veins to hematite(?).

Age of mineralization:
Fissure veins probably are Late Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Berg, 1972 (I 684)

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (southeast of Blunt Mountain)

Site type: Prospects

ARDF no.: KC148

Latitude: 55.128 **Quadrangle:** KC A-5

Longitude: 131.374

Location description and accuracy:

This site represents a line of old prospects between 200 and 800 feet elevation near the southeast foot of Blunt Mountain, and 1.0-1.5 miles southeast of the highest point on the mountain. The prospects are in sections 2 and 3, T. 78 S., R. 93 E., of the Copper River Meridian. The coordinates are for the approximate center of the half-mile-long line of prospects. The site corresponds to locs. 1 and 2 in Berg (1972 [I 684]), loc. 145 in Elliott and others (1978), and locs. 30a-d and 31 in Karl (1992). The location is accurate within about 0.1 mile.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other: Barite

Ore minerals: Barite, chalcopyrite, galena, hematite, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of this site are recrystallized, Upper Triassic carbonate and clastic rocks, rhyolite, and basalt (Berg, 1972). The rocks are complexly folded and faulted, and were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time. All of the mineral deposits are hosted by metarhyolite and tuff.

The deposits consist of sparsely mineralized, sulfide-bearing, locally vuggy quartz veins up to 3 feet thick, in sheared, sericitized, and chloritized rhyolite and tuff (Berg, 1972, locs. 1, 2; Karl, 1992, locs. 30, 31). Some of the mineralized shear zones are up to 10 feet wide and have been traced on the surface for 40 feet. The chief sulfide mineral is pyrite, which also is sparsely disseminated in the altered rhyolite adjacent to the veins. Other sulfide minerals, inferred from sample assays, probably include galena, chalcopyrite, sphalerite, and barite. Minor hematite is reported in some of the veins.

The deposits were explored in the 1930s by a 110-foot-long, NE-trending adit, and in the 1970s by trenches, shallow pits, and soil surveys (Berg, 1972; Karl, 1992). Selected samples of mineralized quartz veins and stringers collected by the USGS in the 1930s contained up to 0.05 oz. Au/ton, 20.60 oz. Ag/ton, 4.63% Cu, 9.75% Pb, and 13.14% Zn

(Berg, 1972. loc. 1). Samples of variously mineralized quartz veins and of altered rhyolite collected by the USGS in the early 1990s contained as much as 2.68 oz. Au/ton, 8.75 oz. Ag/ton, 200 ppm Cu, 1000 ppm Pb, 200 ppm Zn, and more than 5000 ppm Ba (Karl, 1992, locs. 30a, 31). A limonitic quartz vein sampled in the 1970s by private interests contained 0.93 oz. Au/ton; and soil samples that they collected contained up to 0.9 ppm Au (Karl, 1992, loc. 30c).

Alteration:
Rhyolite is sericitized and pyritic in shear zones and adjacent to quartz veins.

Age of mineralization:
Probably Late Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
The deposits were explored in the 1930s by a 110-foot-long, NE-trending adit, and in the 1970s by trenches, shallow pits, and soil surveys (Berg, 1972; Karl, 1992). Selected samples of mineralized quartz veins and stringers collected by the USGS in the 1930s contained up to 0.05 oz. Au/ton, 20.60 oz. Ag/ton, 4.63% Cu, 9.75% Pb, and 13.14% Zn (Berg, 1972. loc. 1). Samples of variously mineralized quartz veins and of altered rhyolite collected by the USGS in the early 1990s contained as much as 2.68 oz. Au/ton, 8.75 oz. Ag/ton, 200 ppm Cu, 1000 ppm Pb, 200 ppm Zn, and more than 5000 ppm Ba (Karl, 1992, locs. 30a, 31). A limonitic quartz vein sampled in the 1970s by private interests contained 0.93 oz. Au/ton; and soil samples that they collected contained up to 0.9 ppm Au (Karl, 1992, loc. 30c).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Berg, 1972 (I 684); Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed ('Sink Lake')

Site type: Occurrences

ARDF no.: KC149

Latitude: 55.106 **Quadrangle:** KC A-5

Longitude: 131.403

Location description and accuracy:

This site represents four occurrences near an unnamed lake (informally called Sink Lake), about midway between the heads of Purple Lake and Crab Bay. The occurrences are are in section 16, T. 78 S., R. 93 E., of the Copper River Meridian, and are at elevations of about 200-400 feet around the lake, mainly near its southeast corner, and above the north shore. The coordinates are for the approximate center of the estimated half-mile-square area that contains the occurrences. The site corresponds to loc. 4 in Berg (1972 [I 684]), loc. 146 in Elliott and others (1978), and loc. 35a-d in Karl (1992). The location is accurate within about 0.1 mile.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other:

Ore minerals: Barite, chalcocite, chalcopyrite, covellite, galena, magnetite, pyrargyrite, pyrite, sphalerite, stibnite, tetrahedrite

Gangue minerals: Calcite, hematite, quartz

Geologic description:

The country rocks in the area of this site include undivided, metamorphosed Silurian and Ordovician volcanic, sedimentary, and intrusive rocks; and a sequence of recrystallized, Upper Triassic carbonate, clastic, and rhyolitic rocks that unconformably overlies the Paleozoic rocks (Berg, 1972). The rocks are complexly folded and faulted, and were metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The principal occurrence consists of sulfide-bearing quartz-calcite ladder and stringer veins in a 300-foot by 500-foot area at or near a faulted contact between dolomitic limestone and locally sericitized rhyolite (Karl, 1992, loc. 35c). The veins aggregate as much as 10% of the total rock volume in this area. A 10-foot-wide shear zone at the contact contains quartz veins that predate the shearing (Karl, 1992, loc. 35). The veins, which are mostly in the dolomitic limestone, contain galena, sphalerite, pyrite, hematite, tetrahedrite, stibnite, malachite, and barite. Samples collected in the 1930s by the USGS reportedly also contained chalcopyrite, covellite, chalcocite, and a trace of pyrargyrite ('ruby

silver') (Berg, 1972, loc. 4).

Sheared rhyolite sampled in the 1970s by private interests reportedly contained massive chalcopyrite up to 2 inches thick, malachite coatings, and up to 50% magnetite (Karl, 1992). Karl's samples of sulfide- and/or magnetite-bearing quartz veins and country rocks at the sheared contact of greenstone and rhyolite contained up to 300 ppm Zn and 20 ppm Mo (Karl, 1992, loc. 35a, b). Other samples of sulfide-bearing quartz veins and of mineralized country rocks collected during USGS and private investigations in the 1930s, 1970s, and the early 1990s assayed as much as 0.03 oz. Au/ton, 20.4 oz. Ag/ ton, more than 2% Cu, 12.43 % Pb, more than 1% Zn, more than 1% Sb, 3000 ppm Ba, and 15 ppm Mo (Karl, 1992, loc. 35c).

Alteration:

Secondary copper and silver minerals suggest local supergene enrichment. Dolomitization of limestone; sericitization of rhyolitic volcanic rocks.

Age of mineralization:

Late Triassic or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: None

Site Status: Undetermined

Workings/exploration:

Sheared rhyolite sampled in the 1970s by private interests reportedly contained massive chalcopyrite up to 2 inches thick, malachite coatings, and up to 50% magnetite (Karl, 1992). Karl's samples of sulfide- and/or magnetite-bearing quartz veins and country rocks at the sheared contact of greenstone and rhyolite contained up to 300 ppm Zn and 20 ppm Mo (Karl, 1992, loc. 35a, b). Other samples of sulfide-bearing quartz veins and of mineralized country rocks collected during USGS and private investigations in the 1930s, 1970s, and the early 1990s assayed as much as 0.03 oz. Au/ton, 20.4 oz. Ag/ ton, more than 2% Cu, 12.43 % Pb, more than 1% Zn, more than 1% Sb, 3000 ppm Ba, and 15 ppm Mo (Karl, 1992, loc. 35c).

Production notes:

Reserves:

Additional comments:

References:

Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (west of Crab Bay); Tyee?

Site type: Occurrences

ARDF no.: KC150

Latitude: 55.111 **Quadrangle:** KC A-5

Longitude: 131.397

Location description and accuracy:

This site includes a roughly 0.3-mile-long line of occurrences and a prospect pit, at elevations of about 200 to 300 feet, midway between the outlet of 'Sink Lake' and the head of Crab Bay. The pit and occurrences are in section 16, T. 78 S., R. 93 E., of the Copper River Meridian, and the map coordinates are for the approximate center of the line. The site corresponds to loc. 5 in Berg (1972 [I 684]), loc. 146 in Elliott and others (1978), and loc. 33a-c in Karl (1992). The location is accurate within 0.1 mile.

Also see Additional comments.

Commodities:

Main: Ag, Au, Cu, Pb, Zn

Other: Barite

Ore minerals: Barite, chalcopyrite, galena, malachite, pyrite, sphalerite, tetrahedrite?

Gangue minerals: Calcite, quartz

Geologic description:

The country rocks in the area of this site are recrystallized rhyolite and overlying, locally dolomitic, limestone (Berg, 1972). These Upper Triassic rocks are complexly folded and faulted, and were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences consist of quartz pods and fissure veins up to about a foot thick in carbonate and volcanic rocks, and of quartz-calcite-barite veins in locally silicified carbonate rock (Karl, 1992, loc. 33). In addition to barite, these veins contain white mica, pyrite, sphalerite, and galena.

At and near a prospect pit, samples of brecciated, dolomitic limestone carrying stringers and disseminated grains of pyrite, galena, and chalcopyrite; of nearby sulfide quartz veins; and of sheared pyritic rhyolite at the limestone contact contained as much as 0.05 ppm Au, 70 ppm Ag, 1000 ppm Pb, more than 1% Zn, 20 ppm Mo, and more than 5000 ppm Ba (Berg, 1972, loc. 5; Karl, 1992, loc. 33c).

Reports based on fieldwork by private interests in the 1970s describe a mineralized zone 150 feet wide and 450 feet long at a rhyolite-dolomite contact. The zone contains

quartz veins carrying galena, sphalerite, tetrahedrite?, and malachite (Karl, 1992, loc. 33). Another 150-foot by 450-foot zone in dolomite locally contains disseminated sulfides that assay up to 8% lead and zinc, as well as quartz veins containing sphalerite and galena. Two soil samples in rhyolite near the dolomite contained detectable gold; and pyritic limestone contained 150 ppm Pb.

Alteration:

Local silicification, sericitization, and dolomitization; minor oxidation of copper minerals.

Age of mineralization:

The fissure veins probably are Late Cretaceous or younger in age.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: None

Site Status: Undetermined

Workings/exploration:

Prospect pit, probably dating to the 1930s. Samples at and near this pit contained as much as 0.05 ppm Au, 70 ppm Ag, 1000 ppm Pb, more than 1% Zn, 20 ppm Mo, and more than 5000 ppm Ba (Berg, 1972, loc. 5; Karl, 1992, loc. 33c).

Reports based on fieldwork by private interests in the 1970s describe a mineralized zone 150 feet wide and 450 feet long at a rhyolite-dolomite contact. The zone contains quartz veins carrying galena, sphalerite, tetrahedrite?, and malachite (Karl, 1992, loc. 33). Another 150-foot by 450-foot zone in dolomite locally contains disseminated sulfides that assay up to 8% lead and zinc, as well as quartz veins containing sphalerite and galena. Two soil samples in rhyolite near the dolomite contained detectable gold; and pyritic limestone contained 150 ppm Pb.

Production notes:

Reserves:

Additional comments:

Early references to the Tyee prospect on Annette Island may refer to this site (Cobb and Elliott, 1980, p. 30).

References:

Berg, 1972 (I 684); Elliott and others, 1978; Cobb and Elliott, 1980; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (head of Purple Lake)

Site type: Occurrence

ARDF no.: KC151

Latitude: 55.108 **Quadrangle:** KC A-5

Longitude: 131.439

Location description and accuracy:
This occurrence is on the north shore of an unnamed small lake that drains into the head of Purple Lake. The site is in section 17, T. 78 S., R. 93 E., of the Copper River Meridian. It corresponds to loc. 23 in Berg (1972 [I 684]), loc. 147 in Elliott and others (1978), and loc. 42 in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite

Gangue minerals:

Geologic description:
The country rock in the area of this site is Silurian trondhjemite (Berg, 1972). Locally, the trondhjemite is sheared and sericitized, probably owing to Late Cretaceous greenschist-grade regional metamorphism. The occurrence consists of small amounts of chalcopyrite disseminated in the trondhjemite.

Alteration:
Local sericitization of trondhjemite hostrock.

Age of mineralization:

Deposit model:
Disseminated Cu deposit of undetermined origin.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (near Metlakatla)

Site type: Occurrence

ARDF no.: KC152

Latitude: 55.126 **Quadrangle:** KC A-5

Longitude: 131.567

Location description and accuracy:
This occurrence is at sea level, at the west end of the town of Metlakatla. The site is in section 9, T. 78 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 24 in Berg (1972 [I 684]), loc. 148 in Elliott and others (1978), and loc. 47 in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, malachite, pyrite

Gangue minerals:

Geologic description:
The country rocks in the area of this site are schist, hornfels, and gneiss derived from an assemblage of undivided volcanic, sedimentary, and intrusive rocks of Silurian and Ordovician age (Berg, 1972; Berg and others, 1988). The rocks are polymetamorphic: the latest metamorphism, to greenschist grade, probably occurred in Late Cretaceous time. The occurrence consists of sparsely disseminated pyrite, chalcopyrite, and traces of malachite in schist (Berg, 1972, loc. 24).

Alteration:
Minor oxidation of copper mineral.

Age of mineralization:

Deposit model:
Disseminated lode deposit of undetermined origin.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Elliott and others, 1978; Karl, 1992

Primary reference: Berg, 1972 (I 684)

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Yellow Hill

Site type: Occurrences

ARDF no.: KC153

Latitude: 55.106 **Quadrangle:** KC A-5

Longitude: 131.574

Location description and accuracy:

This site consists of two occurrences near Yellow Hill, in sections 16 and 17, T. 78 S., R. 92 E., of the Copper River Meridian. One is at an elevation of about 300 feet, about 0.3 mile north-northeast of the top of Yellow Hill; the other is at an elevation of about 200 feet, about 0.45 mile northwest of the top of the hill. The coordinates are for the approximate midpoint between the occurrences. The site corresponds to loc. 22 in Berg (1972 [I 684]), loc. 149 in Elliott and others (1978), and loc. 49a, b in Karl (1992). The location is accurate within about 0.1 mile.

Commodities:

Main: Cr

Other: PGM, chrysotile asbestos

Ore minerals: Chromite, chrysotile, magnetite

Gangue minerals:

Geologic description:

The country rocks in the area of this site are hornblende gabbro and partly serpentinized dunite, probably of Cretaceous age (Berg, 1972). The occurrences consist of sparse, thin veinlets, and disseminated grains, of magnetite and chromite in massive dunite that also contains abundant thin seams of chrysotile (Berg, 1972, loc. 22; Karl, 1992, loc. 49a, b). Samples of the dunite contained up to 150 ppm Co, 2000 ppm Cr, and 150 ppm Ni; and one sample yielded a value of 0.029 Pt (Berg, 1972; Karl, 1992). Most samples of dunite from the Yellow Hill area, however, showed no Pt content above the lowest limit of detection. A sample of gabbro contained 0.015 ppm Pt (Karl, 1992, loc. 49b).

Alteration:

Serpentinization of dunite.

Age of mineralization:

Oxide minerals probably are magmatic segregations of Cretaceous age.

Deposit model:
Alaskan PGE (Cox and Singer, 1986; model 9)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
9

Production Status: None

Site Status: Undetermined

Workings/exploration:
Samples of the dunite contained up to 150 ppm Co, 2000 ppm Cr, and 150 ppm Ni; and one sample yielded a value of 0.029 Pt (Berg, 1972; Karl, 1992). Most samples of dunite from the Yellow Hill area, however, showed no Pt content above the lowest limit of detection. A sample of gabbro contained 0.015 ppm Pt (Karl, 1992, loc. 49b).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Berg, 1972 (I 684)

Reporter(s): H.C. Berg, USGS

Last report date: 07/06/99

Site name(s): Unnamed (inner Tamgas Harbor)

Site type: Occurrence

ARDF no.: KC154

Latitude: 55.079 **Quadrangle:** KC A-5

Longitude: 131.542

Location description and accuracy:
This occurrence is at the south tip of an islet just off the east shoreline of inner Tamgas Harbor, about 0.85 mile north-northeast of Crab Point. The site is in section 27, T. 78 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 42 in Berg (1972 [I 684]), loc. 150 in Elliott and others (1978), and loc. 46 in Karl (1992). The location is accurate within a few hundred feet.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals:

Geologic description:
The country rocks at this site are greenschist-grade schist and hornfels, probably derived from volcanic, sedimentary, and intrusive rocks of Silurian and Ordovician age (Berg, 1972; Berg and others, 1988). The occurrence consists of pyrite and chalcopyrite very sparsely disseminated in the schist and hornfels (Berg, 1992, loc. 42).

Alteration:

Age of mineralization:

Deposit model:
Disseminated sulfide deposit of undetermined origin.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Berg and others, 1988; Karl, 1992

Primary reference: Berg, 1972 (I 684)

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Canoe Cove)

Site type: Occurrence

ARDF no.: KC155

Latitude: 55.036 **Quadrangle:** KC A-5

Longitude: 131.648

Location description and accuracy:
This occurrence is at sea level on the southwest coast of Annette Island, just off the unnamed point about a mile southwest of Canoe Cove. The site is in section 12, T. 79 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 25 in Berg (1972 [I 684]), loc. 151 in Elliott and others (1978), and loc. 51 in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals:

Geologic description:
The country rocks at this site are amphibolite-grade schist and gneiss, probably derived from volcanic, sedimentary, and intrusive rocks of Silurian and Ordovician age (Berg, 1972, Berg and others, 1988). The occurrence consists of thin stringers of pyrite and chalcopyrite in the schist and gneiss (Berg, 1972, loc. 25).

Alteration:

Age of mineralization:

Deposit model:
Disseminated sulfide deposit of undetermined origin.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Berg and others, 1988; Karl, 1992

Primary reference: Berg, 1972 (I 684)

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Sockeye

Site type: Prospect

ARDF no.: KC156

Latitude: 55.06 **Quadrangle:** KC A-5

Longitude: 131.49

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at about 200 feet elevation, about 0.2 mile southeast of the outlet of Tamgas Lake. The site is in section 2, T. 79 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 152 in Elliott and others (1978). The location is probably accurate within about 0.5 mile.

Commodities:

Main: U?

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rock in the area of this site is recrystallized diorite of Silurian or Ordovician age (Berg, 1972 [I 684]). According to U.S. Bureau of Mines claim records (1977), this prospect, which is in the diorite, was staked for uranium or for other radioactive minerals. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
U.S. Bureau of Mines, 1977; Berg, 1972 (I 684); Elliott and others, 1978

Primary reference: Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (east of Crater Lake)

Site type: Occurrences

ARDF no.: KC157

Latitude: 55.058 **Quadrangle:** KC A-5

Longitude: 131.352

Location description and accuracy:

This site represents three occurrences along a 0.3 mile stretch of the southeast shoreline of Annette Island, about 0.7 mile east of Crater Lake. The occurrences are in section 35, T. 78 S., R. 93 E., of the Copper River Meridian. The coordinates are for the approximate center of this group of occurrences. The site corresponds to loc. 7 in Berg (1972 [I 684]), loc. 153 in Elliott and others (1978), and loc. 39a-c in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Cu

Other: Ag, Au, Pb

Ore minerals: Bornite, chalcopyrite, malachite, pyrite

Gangue minerals: Calcite, hematite, quartz

Geologic description:

The country rocks in the area of this site include undivided, metamorphosed Silurian and Ordovician volcanic, sedimentary, and intrusive rocks; and Silurian felsic granitic rocks that intrude the undivided assemblage (Berg, 1972). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time, and are intensely sheared, sericitized, and locally permeated with hydrothermal hematite.

The occurrences consist of sparse sulfide pods and sulfide-bearing quartz-calcite veins in the sheared granitic rock (Berg, 1972, loc. 7; Karl, 1992, loc. 39). The metalliferous minerals occur in iron-stained zones an inch or so wide and about a foot long. Sulfides include pyrite, chalcopyrite, and traces of bornite; some of the occurrences contain a little malachite, and the sheared rocks locally contain finely disseminated hematite.

Samples of sulfide-bearing granitic rock and of a pyritic quartz vein contained up to 0.41 ppm Au, 20 ppm Ag, and 2% Cu; a sample of a pyrite- and bornite-bearing quartz-calcite vein contained 0.07 ppm Au, 7 ppm Ag, 1% Cu, and 100 ppm Pb (Karl, 1992, loc. 39a-c).

Alteration:

Local iron staining. Hydrothermal alteration (sericite, hematite) of country rocks.

Age of mineralization:

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
Samples of sulfide-bearing granitic rock and of a pyritic quartz vein contained up to 0.41 ppm Au, 20 ppm Ag, and 2% Cu; a sample of a pyrite- and bornite-bearing quartz-calcite vein contained 0.07 ppm Au, 7 ppm Ag, 1% Cu, and 100 ppm Pb (Karl, 1992, loc. 39a-c).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Walden Point)

Site type: Occurrence

ARDF no.: KC158

Latitude: 55.257 **Quadrangle:** KC B-5

Longitude: 131.589

Location description and accuracy:
This occurrence is on the shoreline of northwest Annette Island, about 1.2 miles south of Walden Point. The site is in section 28, T. 76 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 1 in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Calcite, quartz

Geologic description:
The country rocks in the area of this occurrence are Upper Jurassic or Cretaceous flyschlike metasedimentary rocks that are gradationally interbedded with andesitic or basaltic metavolcanic rocks (Berg, 1972 [I 684]; Berg and others, 1988). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrence consists of abundant quartz-calcite fissure veins up to at least 3 feet thick in pyritic argillite (Karl, 1992, loc. 1). The veins contain pyrite and inclusions of argillite country rock. The pyrite in the argillite occurs as disseminated cubes as large as a half inch or so. A sample of a quartz vein contained 0.26 ppm Au, 1% As, and 2 ppm Sb.

Alteration:
Pyritization of argillic country rock.

Age of mineralization:
Probably Late Cretaceous or younger.

Deposit model:
Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of a quartz vein contained 0.26 ppm Au, 1% As, and 2 ppm Sb (Karl, 1992, loc. 1).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (shore of Annette Bay)

Site type: Occurrence

ARDF no.: KC159

Latitude: 55.259 **Quadrangle:** KC B-5

Longitude: 131.546

Location description and accuracy:
This occurrence is on the southwest shore of Annette Bay, about 1.6 miles from the head of the bay. The site is in section 23, T. 76 S., R. 91 E., of the Copper River Meridian. It corresponds to loc. 2 in Karl (1992). The location is accurate within about 0.1 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Chalcopyrite, malachite

Gangue minerals:

Geologic description:
The country rocks in the area of this site are Upper Jurassic or Cretaceous andesitic and basaltic metavolcanic rocks that are gradationally interbedded with flyschlike metasedimentary rocks (Berg, 1972 [I 684]; Berg and others, 1988). The bedded rocks are intruded by a diorite stock, also of Jurassic or Cretaceous age. The rocks were regionally metamorphosed to
greenschist-grade phyllite and semischist in Late Cretaceous time.
The occurrence consists of sparsely disseminated chalcopyrite in chloritic metavolcanic schist near the contact of the diorite stock (Karl, 1992, loc. 2). Malachite occurs locally on the foliation planes of the schist. Analyses of 15 samples collected in 1969-70 by private interests contained up to 468 ppm Cu.

Alteration:

Age of mineralization:

Deposit model:
Disseminated sulfide deposit of undetermined origin.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
Analyses of 15 samples collected in 1969-70 by private interests contained up to 468 ppm Cu (Karl, 1992, loc. 2).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (northwest Annette Island)

Site type: Occurrences

ARDF no.: KC160

Latitude: 55.239 **Quadrangle:** KC A-5

Longitude: 131.605

Location description and accuracy:

This site represents two occurrences on the northwest shoreline of Annette Island, 2.3-2.6 miles south of Walden Point. The occurrences are in section 33, T. 76 S., R. 91 E., of the Copper River Meridian. The coordinates are for the midpoint between the occurrences. The site corresponds to loc. 3a, b in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Au

Other: Cu, Pb

Ore minerals: Galena, pyrite

Gangue minerals: Calcite, quartz

Geologic description:

The country rocks in the area of this site are chiefly Upper Jurassic or Cretaceous flyschlike metasedimentary rocks that are gradationally interbedded with subordinate andesitic or basaltic metatuff (Berg, 1972 [I 684]; Berg and others, 1988). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences consist of abundant quartz-calcite-pyrite veins that cut argillite, metagraywacke, and conglomerate (Karl, 1992, loc. 3). The veins enclose angular inclusions of greenstone and argillite, and some of the country rocks contain abundant disseminated pyrite. Some of the quartz veins contain chalcopyrite or galena in addition to the pyrite. A sample of a quartz vein contained 0.21 ppm Au; another sample contained 7 ppm Ag, 500 ppm As, and 16 ppm Sb (Karl, 1992, loc. 3a, b).

Alteration:

Pyritization of argillic country rock.

Age of mineralization:

Probably Late Cretaceous or younger.

Deposit model:
Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of a quartz vein contained 0.21 ppm Au; another sample contained 7 ppm Ag, 500 ppm As, and 16 ppm Sb (Karl, 1992, loc. 3a, b).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Red Mountain)

Site type: Occurrences

ARDF no.: KC161

Latitude: 55.251 **Quadrangle:** KC B-5

Longitude: 131.568

Location description and accuracy:

This site represents six occurrences on and near Red Mountain on northern Annette Island. The occurrences are in sections 21, 27, and 34, T. 76 S., R. 91 E., of the Copper River Meridian. They are at elevations ranging from about 500-2000 feet, and are distributed along a northwest-trending line 1.7 miles long, that extends from the southeast foot of Red Mountain to the northwest foot. The coordinates are for the approximate center of the estimated two-square-mile area that contains these occurrences. The site corresponds to loc. 4a-f in Karl (1992). The location is accurate within 0.2 mile.

Commodities:

Main: Cu, Pb

Other: Ag

Ore minerals: Chalcopyrite, galena, pyrite, pyrrhotite

Gangue minerals:

Geologic description:

The country rocks in the area of Red Mountain are Upper Jurassic or Cretaceous andesitic or basaltic metavolcanic rocks that are gradationally interbedded with subordinate flyschlike metasedimentary rocks (Berg, 1972 [I 684]; Berg and others, 1988). The bedded rocks are intruded by a Jurassic or Cretaceous diorite stock and related dikes. The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences consist of ubiquitously disseminated pyrite and pyrrhotite in metadiorite, argillite, metagraywacke, and metatuff (Karl, 1992, loc. 4a-f). The sulfides commonly make up as much as 10 volume percent, and locally up to 40 volume percent, of the hostrocks. In places, a little galena or chalcopyrite accompany the other sulfides.

A sample of augite crystal metatuff contained 1.5 ppm Ag; samples of the metadiorite contained up to 700 ppm Cu and 100 ppm Pb; a sample of slate contained 10 ppm Mo; and samples of phyllitic gritstone and sandstone contained up to 200 ppm Pb (Karl, 1992, loc. 4a-f).

The distribution and setting of the disseminated sulfide mineralization suggest that it

may in part be cogenetic with Late Jurassic or Cretaceous deposition of the volcanic-sedimentary hostrocks.

Alteration:
Sulfidization of country rocks.

Age of mineralization:
Disseminated sulfide mineralization may in part be cogenetic with Late Jurassic or Cretaceous deposition of volcanic-sedimentary hostrocks.

Deposit model:
Disseminated sulfide deposit of volcanogenic origin?

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of augite crystal metatuff contained 1.5 ppm Ag; samples of the metadiorite contained up to 700 ppm Cu and 100 ppm Pb; a sample of slate contained 10 ppm Mo; and samples of phyllitic gritstone and sandstone contained up to 200 ppm Pb (Karl, 1992, loc. 4a-f).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near head of Annette Bay)

Site type: Occurrences

ARDF no.: KC162

Latitude: 55.241 **Quadrangle:** KC A-5

Longitude: 131.516

Location description and accuracy:

This site represents seven occurrences distributed in a triangular lowland area of about a square mile, whose apices are near the east foot of Nubbins Mountain, the northeast foot of Bush Mountain, and the northeast head of Annette Bay. The occurrences are in sections 25, 35, and 36, T. 76 S., R. 91 E., of the Copper River Meridian. The coordinates are for the approximate center of the area of occurrences. The site corresponds to loc. 5a-g in Karl (1992). The location is accurate within about 0.2 mile.

Commodities:

Main: Au, Cu, Pb

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals:

Geologic description:

The country rocks in the area of this site are Upper Jurassic or Cretaceous andesitic or basaltic metavolcanic rocks that are gradationally interbedded with subordinate flyschlike metasedimentary rocks (Berg, 1972 [I 684]; Berg and others, 1988). The bedded rocks are intruded by a Jurassic or Cretaceous stock and dikes of diorite and quartz diorite. The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences all are in propylitized diorite that contains about 5 percent of disseminated pyrite, and pyrite seams along fractures (Karl, 1992, loc. 5a-g). Samples of the diorite contained up to 0.26 ppm Au, 300 ppm Cu, 1500 ppm Zn, and 10 ppm Mo; a sample of chalcopyrite-bearing diorite near its contact with the bedded rocks contained 300 ppm Cu.

The distribution and setting of the disseminated sulfide mineralization suggest that it may in part be cogenetic with Jurassic or Cretaceous emplacement of the diorite hostrock.

Alteration:

Diorite hostrock is propylitized.

Age of mineralization:
Disseminated sulfide mineralization may in part be cogenetic with Jurassic or Cretaceous emplacement of the diorite hostrock.

Deposit model:
Disseminated sulfide deposit of late magmatic origin?

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
Samples of the diorite contained up to 0.26 ppm Au, 300 ppm Cu, 1500 ppm Zn, and 10 ppm Mo; and a sample of chalcopyrite-bearing greenstone near a diorite contact contained 300 ppm Cu (Karl, 1992, loc. 5a-g).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (northwestern Annette Island)

Site type: Occurrence

ARDF no.: KC163

Latitude: 55.222 **Quadrangle:** KC A-5

Longitude: 131.569

Location description and accuracy:
This occurrence is at an elevation of 450 feet on the southwest slope of Bingo Mountain, about 0.9 mile southwest of the top of the mountain. The site is in section 4, T. 77 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 6 in Karl (1992). The location is accurate within about 300 feet.

Commodities:

Main: Ag

Other:

Ore minerals: Pyrite

Gangue minerals: Calcite, quartz

Geologic description:
The area of this site is underlain by Upper Jurassic or Cretaceous flyschlike metasedimentary rocks (Berg, 1972 [I 684]; Berg and others, 1988). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.
The occurrence consists of quartz-calcite-pyrite fissure veins in argillite and minor metagraywacke (Karl, 1992, loc. 6). A sample of one of the veins contained 2 ppm Ag and 150 ppm Cr.

Alteration:

Age of mineralization:
Probably Late Cretaceous or younger.

Deposit model:
Low-sulfide Au-quartz veins? (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a?

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of one of the veins contained 2 ppm Ag and 150 ppm Cr.

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Bingo Mountain)

Site type: Occurrences

ARDF no.: KC164

Latitude: 55.228 **Quadrangle:** KC A-5

Longitude: 131.543

Location description and accuracy:

This site represents three occurrences in a half-mile-square triangular area southeast of Bingo Mountain The occurrences are in section 3, T. 77 S., R. 92 E., of the Copper River Meridian, and section 35, T. 76 S., R. 91 E., of the Copper River Meridian. They range in elevation from about 1950 feet near the top of the mountain, to about 400 feet elevation, 0.5 mile east-southeast and south-southeast of the top. The coordinates are for the approximate center of the area of occurrences. The site corresponds to loc. 7 in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Au, Cu

Other: Ag

Ore minerals: Pyrite

Gangue minerals: Calcite, quartz

Geologic description:

The country rocks in the area of this site are Upper Jurassic or Cretaceous flyschlike metasedimentary rocks that are gradationally interbedded with andesitic or basaltic metatuff (Berg, 1972 [i 684]; Karl, 1992). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences are quartz-calcite-pyrite veins in green tuffaceous phyllite that also contains disseminated minute cubes of pyrite (Karl, 1992, loc. 7). Samples of the sulfide-bearing green phyllite contained up to 0.5 ppm Ag, 300 ppm Cu, and 300 ppm Cr; a sample of a quartz-calcite-pyrite vein contained 0.21 ppm Au (Karl, 1992, loc. 7a-c).

Alteration:

Pyritization of tuffaceous phyllite country rock.

Age of mineralization:

Probably Late Cretaceous or younger.

Deposit model:
Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
Samples of the sulfide-bearing green phyllite contained up to 0.5 ppm Ag, 300 ppm Cu, and 300 ppm Cr; a sample of a quartz-calcite-pyrite vein contained 0.21 ppm Au (Karl, 1992, loc. 7a-c).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Bush Mountain)

Site type: Occurrence

ARDF no.: KC165

Latitude: 55.223 **Quadrangle:** KC A-5

Longitude: 131.518

Location description and accuracy:
This occurrence is at an elevation of about 1600 feet on the south slope of Bush Mountain, about 0.45 mile south-southwest of the top of the mountain. The site is in section 2, T. 77 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 8 in Karl (1992). The location is accurate within about 300 feet.

Commodities:

Main: Ag, Au, Cu

Other:

Ore minerals: Pyrite, pyrrhotite

Gangue minerals: Quartz

Geologic description:
The country rocks in the area of this site are Upper Jurassic or Cretaceous flyschlike metasedimentary rocks that are gradationally interbedded with andesitic or basaltic metatuff (Berg, 1972 [I 684]; Berg and others, 1988; Karl, 1992). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.
The occurrence consist of green tuffaceous phyllite and gray argillaceous phyllite that contain disseminated pyrite, and of quartz-pyrite veins (Karl, 1992, loc. 6). The pyrite also coats fractures in the country rocks. Locally, the pyrite is accompanied by pyrrhotite. Samples of green phyllite containing disseminations and veins of sulfide minerals assayed up to 0.1 ppm Au, 3 ppm Ag, and 1000 ppm Cu.

Alteration:
Pyritization of tuffaceous phyllite country rock.

Age of mineralization:
Probably Late Cretaceous or younger.

Deposit model:
Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
Samples of green phyllite containing disseminations and veins of sulfide minerals assayed up to 0.1 ppm Au, 3 ppm Ag, and 1000 ppm Cu.

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Helen Todd Lake)

Site type: Occurrences

ARDF no.: KC166

Latitude: 55.223 **Quadrangle:** KC A-5

Longitude: 131.497

Location description and accuracy:

This site represents two occurrences about 0.3 mile apart on the east shore of the unnamed lake immediately north of Helen Todd Lake. The occurrences are in section 2, T. 77 S., R. 92 E., of the Copper River Meridian. The map site is at the midpoint between these occurrences. The site corresponds to loc. 13 in Berg (1972 [I 684]), and loc. 9 in Karl (1992). The location is accurate within 0.15 mile.

Commodities:

Main: Au

Other:

Ore minerals: Pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of this site are Upper Jurassic or Cretaceous flyschlike metasedimentary rocks that are gradationally interbedded with andesitic or basaltic metatuff (Berg, 1972; Berg and others, 1988; Karl, 1992). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences consist of pyrite-bearing, vuggy quartz veins and ribbon-quartz veins up to 10 feet thick that cut gray phyllite, or form the matrix of phyllite breccia (Berg, 1972, loc. 13). A sample of ribbon quartz containing pyrite cubes assayed 4 ppm Au (Karl, 1992, loc. 9).

Alteration:

Pyritization of tuffaceous phyllite country rock. Intermittent zones of iron staining for several hundred yards along shoreline of lake.

Age of mineralization:

Probably Late Cretaceous or younger.

Deposit model:

Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of ribbon quartz containing pyrite cubes assayed 4 ppm Au (Karl, 1992, loc. 9).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (southwest ridge of Bush Mountain)

Site type: Occurrences

ARDF no.: KC167

Latitude: 55.217 **Quadrangle:** KC A-5

Longitude: 131.519

Location description and accuracy:

This site represents four occurrences in a mile-long, northwest-trending line extending from about 500 feet elevation near the northwest shore of Helen Todd Lake, to about 1100 feet elevation on the southwest ridge of Bush Mountain. The occurrences are in sections 2, 3, and 11, T. 77 S., R. 92 E., of the Copper River Meridian. The map site is at the approximate center of the line of occurrences. The site corresponds to loc. 12a-d in Karl (1992). The location is accurate within about 0.1 mile.

Commodities:

Main: Ag, Au, Cr, Cu, Mo, Ni, Pb

Other:

Ore minerals: Bornite, chalcopyrite, pyrite, pyrrhotite

Gangue minerals: Albite, calcite, quartz

Geologic description:

The country rocks in the area of this site include: undivided, metamorphosed Silurian and Ordovician volcanic, sedimentary, and intrusive rocks; Silurian trondhjemite; recrystallized, Upper Triassic sedimentary and volcanic rocks; and Upper Jurassic or Cretaceous flyschlike metasedimentary rocks and metavolcanic rocks (Berg, 1972 [I 684]; Berg and others, 1988; Karl, 1992). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The mineral occurrences consist of sheared, pyritic greenstone and microgabbro containing quartz and calcite veins (Karl, 1992, loc. 12a-d). Some of the quartz veins contain pyrite, pyrrhotite, chalcopyrite, and bornite. Some of the veins are cataclastic, and the microgabbro is propylitically altered to epidote, chlorite, quartz, calcite, and sericite.

A sample of greenstone containing calcite-pyrrhotite veins assayed 500 ppm Cr and 1000 ppm Ni. Samples of greenstone, a quartz-sulfide vein, and quartz-albite-pyrite breccia contained up to 3.25 ppm Au, 70 ppm Ag, 15000 ppm Cu, 500 ppm Pb, and 10 ppm Mo. A sample of microgabbro contained 500 ppm Cr and 200 ppm Ni; samples of greenstone and quartz breccia contained up to 3 ppm Ag and 700 ppm Cu (Karl, 1992, loc. 12a-d).

Alteration:
Country rocks are propylitized and pyritic.

Age of mineralization:
Probably Late Cretaceous or younger.

Deposit model:
Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of greenstone containing calcite-pyrrhotite veins assayed 500 ppm Cr and 1000 ppm Ni. Samples of greenstone, a quartz-sulfide vein, and quartz-albite-pyrite breccia contained up to 3.25 ppm Au, 70 ppm Ag, 15000 ppm Cu, 500 ppm Pb, and 10 ppm Mo. A sample of microgabbro contained 500 ppm Cr and 200 ppm Ni; samples of greenstone and quartz breccia contained up to 3 ppm Ag and 700 ppm Cu (Karl, 1992, loc. 12a-d).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Spine Mountain)

Site type: Occurrence

ARDF no.: KC168

Latitude: 55.208 **Quadrangle:** KC A-5

Longitude: 131.478

Location description and accuracy:

This occurrence is at an elevation of 900 feet, about 1.2 miles north-northwest of the top of Spine Mountain, and about a mile east of Helen Todd Lake. The site is in section 12, T. 77 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 13 in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Ag, Cu

Other:

Ore minerals: Chalcopyrite, pyrite

Gangue minerals:

Geologic description:

The country rocks in the area of this site are Upper Jurassic or Cretaceous flyschlike metasedimentary rocks that are gradationally interbedded with subordinate andesitic or basaltic metatuff (Berg, 1972 [I 684]; Berg and others, 1988; Karl, 1992). The area also contains small, generally fault-bounded, outcrop areas of recrystallized Upper Triassic basalt and limestone. The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrence consists of augite-porphyritic, Jurassic or Cretaceous, metatuff (greenstone) containing about five percent of disseminated sulfides, mainly pyrite and chalcopyrite (Karl, 1992). The greenstone is cut by quartz veins up to about 2 feet thick. A sample of the greenstone contained 3 ppm Ag, 200 ppm Cu, 100 ppm Co, 150 ppm Cr, and 150 ppm Ni (Karl, 1992, loc. 13).

Alteration:

Country rocks are pyritized.

Age of mineralization:

Disseminated sulfide mineralization may in part be cogenetic with Upper Jurassic or Cretaceous deposition of the metatuff (greenstone) hostrock. Fissure veins probably are

Late Cretaceous or younger.

Deposit model:
In part, possibly low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a); in part, disseminated sulfide deposit of volcanogenic? origin.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a?.

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of the greenstone contained 3 ppm Ag, 200 ppm Cu, 100 ppm Co, 150 ppm Cr, and 150 ppm Ni (Karl, 1992, loc. 13).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Hassler Lake)

Site type: Occurrence

ARDF no.: KC169

Latitude: 55.186 **Quadrangle:** KC A-5

Longitude: 131.467

Location description and accuracy:
This occurrence is at an elevation of about 600 feet on a small knoll, 0.1 mile due west of the southwest corner of Hassler Lake. The site is in sections 18, 19, T. 77 S., R. 93 E., of the Copper River Meridian. It corresponds to loc. 17 in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Cu, Pb

Other: Zn

Ore minerals: Chalcopyrite?, galena?, sphalerite?

Gangue minerals:

Geologic description:
The country rock in the area of this site is Silurian trondhjemite that locally is sheared and sericitized, probably owing to Upper Cretaceous, greenschist-grade regional metamorphism (Berg, 1972 [I 684]). The occurrence consists of sparse base-metal sulfide mineralization in the trondhjemite, and is based on a sample of trondhjemite containing Cu-Pb-Zn sulfide minerals collected by a road construction crew in 1990 (Karl, 1992, loc. 17).

Alteration:
Local sericitization of trondhjemite country rock.

Age of mineralization:

Deposit model:
Disseminated sulfide minerals in trondhjemite.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Sylburn Harbor)

Site type: Occurrences

ARDF no.: KC170

Latitude: 55.174 **Quadrangle:** KC A-5

Longitude: 131.574

Location description and accuracy:

This site represents six occurrences near the north base of the peninsula between Sylburn Harbor and Port Chester. The occurrences are in sections 20 and 21, T. 77 S., R. 92 E., of the Copper River Meridian. The map site is at the approximate center of this group of occurrences. The site corresponds to loc. 20a-f in Karl (1992). The location is accurate within about 0.15 mile.

Commodities:

Main: Ag, barite, Pb, Zn

Other:

Ore minerals: Barite, galena, pyrite, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:

The country rocks in the area of this site include recrystallized Upper Triassic carbonate and clastic rocks, rhyolite, and basalt; Silurian trondhjemite; and greenstone derived from undivided Silurian and Ordovician volcanic, sedimentary, and intrusive rocks (Berg, 1972 [I 684]; Berg and others, 1988; Karl, 1992). The rocks are folded and locally intensely sheared, sericitized, and permeated with hydrothermal hematite. The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences consist of quartz-barite-calcite-sulfide fissure veins as much as three feet thick, in sheared, siliceous phyllite, greenstone, rhyolite, and limestone (Karl, 1992, loc. 20a-f). Sulfide minerals, inferred from sample analyses, probably are mainly pyrite, galena, and sphalerite.

Samples of sulfide-bearing quartz, calcite, and barite veins contained up to 20 ppm Ag, 2% Pb, more than 1% Zn, and 100 ppm Ni; a sample of limestone contained 1000 ppm Ba, 100 ppm Pb, and 500 ppm Zn; a sample of greenstone contained 200 ppm Zn, 100 ppm Co, 100 ppm Cr, and 100 ppm Ni; and samples of rhyolite and rhyolite tuff breccia contained up to 1 ppm Ag, 1% Ba, and 200 ppm Cu (Karl, 1992, loc. 20a-f).

Alteration:

Country rocks locally are sericitized and permeated with hydrothermal hematite.

Age of mineralization:
Fissure veins probably are Late Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
Samples of sulfide-bearing quartz, calcite, and barite veins contained up to 20 ppm Ag, 2% Pb, more than 1% Zn, and 100 ppm Ni; a sample of limestone contained 1000 ppm Ba, 100 ppm Pb, and 500 ppm Zn; a sample of greenstone contained 200 ppm Zn, 100 ppm Co, 100 ppm Cr, and 100 ppm Ni; and samples of rhyolite and rhyolite tuff breccia contained up to 1 ppm Ag, 1% Ba, and 200 ppm Cu (Karl, 1992, loc. 20a-f).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Hemlock Bay)

Site type: Occurrences

ARDF no.: KC171

Latitude: 55.169 **Quadrangle:** KC A-5

Longitude: 131.571

Location description and accuracy:

This site represents six occurrences: five along a mile-long section of the south shore of the peninsula between Sylburn Harbor and Port Chester, and one on the north shore of Hemlock Island. The ones on the peninsula are 1.0-2.0 miles east-southeast of Driest Point. The occurrences are in sections 28 and 29, T. 77 S., R. 92 E., of the Copper River Meridian. The map site is at the approximate midpoint of this roughly E-W line of occurrences. The site corresponds to loc. 24a-f in Karl (1992). The location is accurate within about 0.1 mile.

Commodities:

Main: Ag, barite, Cu, Pb, Zn

Other:

Ore minerals: Barite, galena, pyrite, sphalerite

Gangue minerals: Calcite, quartz

Geologic description:

The country rocks in the area of this site include recrystallized, Upper Triassic carbonate and clastic rocks, rhyolite, and basalt; Silurian trondhjemite; and greenstone derived from undivided Silurian and Ordovician volcanic, sedimentary, and intrusive rocks (Berg, 1972 [I 684]; Berg and others, 1988; Karl, 1992). The rocks are folded and locally intensely sheared, sericitized, and permeated with hydrothermal hematite. The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences consist of quartz-barite-sulfide fissure veins in cataclastic to mylonitic Paleozoic greenstone, carbonate, and trondhjemite; locally, they are in Triassic limestone and rhyolite that generally are in fault contact with the Paleozoic rocks (Karl, 1992, loc. 24). Pyrite and hematite are reported at some of the occurrences; sulfide minerals, inferred from sample analyses, probably are mainly galena and sphalerite.

Variously mineralized samples of greenstone and other country rocks, barite-bearing veins, and quartz-sulfide veins contained up to 2 ppm Ag, 700 ppm Cu, 100 ppm Pb, 700 ppm Zn, more than 5000 ppm Ba, 500 ppm Cr, and 200 ppm Ni; soil and rock samples

collected in the 1970s by private interests contained up to 475 ppm Cu and 1100 ppm Zn (Karl, 1992, loc. 24a-f).

Alteration:
Country rocks locally are sericitized and permeated with hydrothermal hematite.

Age of mineralization:
Fissure veins probably are Late Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
Variously mineralized samples of greenstone and other country rocks, barite-bearing veins, and quartz-sulfide veins contained up to 2 ppm Ag, 700 ppm Cu, 100 ppm Pb, 700 ppm Zn, more than 5000 ppm Ba, 500 ppm Cr, and 200 ppm Ni; soil and rock samples collected in the 1970s by private interests contained up to 475 ppm Cu and 1100 ppm Zn (Karl, 1992, loc. 24a-f).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (on Cascade Inlet)

Site type: Occurrence

ARDF no.: KC172

Latitude: 55.174 **Quadrangle:** KC A-5

Longitude: 131.373

Location description and accuracy:
This occurrence is on the west shore of Cascade Inlet, about 2.1 miles from the extreme head of the inlet. The site is in section 22, T. 77 S., R. 93 E., of the Copper River Meridian. It corresponds to loc. 26 in Karl (1992). The location is accurate within about 300 feet.

Commodities:

Main: Ag, Au, Cu, Pb

Other:

Ore minerals: Chalcopyrite, galena, pyrite

Gangue minerals: Quartz

Geologic description:
The country rock at this site is Silurian trondhjemite (Berg, 1972 [I 684]; Berg and others, 1988). In this area, the trondhjemite is schistose and sericitized, probably owing to regional greenschist-grade metamorphism in Late Cretaceous time. The occurrence consists of sulfide-bearing quartz fissure veins up to 6 feet thick in sheared, sericitized trondhjemite. Sulfide minerals include galena, and, based on sample analyses, probably chalcopyrite and pyrite. Samples of the sulfide-bearing quartz veins contained up to 14 ppm Au, 5 ppm Ag, 1500 ppm, Cu, and 300 ppm Pb (Karl, 1992, loc. 26).

Alteration:
Sericitization of trondhjemite country rock.

Age of mineralization:
Probably Late Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
Samples of the sulfide-bearing quartz veins contained up to 14 ppm Au, 5 ppm Ag, 1500 ppm, Cu, and 300 ppm Pb (Karl, 1992, loc. 26).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (Crab Bay area)

Site type: Occurrences

ARDF no.: KC173

Latitude: 55.119 **Quadrangle:** KC A-5

Longitude: 131.389

Location description and accuracy:

This site represents five occurrences in about a half-mile-square area, west of the inner arm of Crab Bay. All of the occurrences are about 0.4-0.5 mile inland from the bay: three are at elevations of 100-200 feet, and one is at an elevation of about 400 feet. The occurrences are in section 10, T. 78 S., R. 93 E., of the Copper River Meridian. The map site is at the approximate center of the area of occurrences. The site corresponds to loc. 32a-d in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Ag, barite, Pb, Zn

Other:

Ore minerals: Barite, galena, sphalerite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of the site are recrystallized, locally phyllitic, rhyolite, and massive, dolomitic limestone that conformably overlies the rhyolite (Berg, 1972 [I 684]; Berg and others, 1988). These Upper Triassic rocks were regionally metamorphosed to greenschist grade in Late Cretaceous time.

The occurrences are quartz fissure veins in dolomite and at a dolomite-rhyolite contact (Karl, 1992a-d). The veins, which contain barite, galena, and sphalerite, have the character of ladder veins, and are most abundant at the dolomite-rhyolite contact.

At a locality informally called 'Cave Creek,' exploration in the 1970s by private interests showed galena and sphalerite in quartz veins up to 3 feet thick, as well as disseminated galena and sphalerite, in a 75-foot-wide zone in dolomite. Their exploration reportedly also showed two other occurrences of sulfide-bearing quartz veins at the dolomite-rhyolite contact. A sample of a quartz vein contained 5000 ppm Ba (Karl, 1992, loc. 32a-d).

Alteration:

Dolomitization of limestone country rock.

Age of mineralization:
Probably Late Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
At a locality informally called 'Cave Creek,' exploration in the 1970s by private interests showed galena and sphalerite in quartz veins up to 3 feet thick, as well as disseminated galena and sphalerite, in a 75-foot-wide zone in dolomite. Their exploration reportedly also showed two other occurrences of sulfide-bearing quartz veins at the dolomite-rhyolite contact. A sample of a quartz vein contained 5000 ppm Ba (Karl, 1992, loc. 32a-d).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (south entrance of Crab Bay)

Site type: Occurrence

ARDF no.: KC174

Latitude: 55.103 **Quadrangle:** KC A-5

Longitude: 131.362

Location description and accuracy:
This occurrence is at sea level, at the base of the small peninsula at the south entrance of Crab Bay. The site is in section 14, T. 78 S., R. 93 E., of the Copper River Meridian. It corresponds to loc. 34 in Karl (1992). The location is accurate within about 300 feet.

Commodities:

Main: Ag, Pb

Other:

Ore minerals: Galena, pyrite

Gangue minerals: Quartz

Geologic description:
The country rocks at this site are Upper Jurassic or Cretaceous flyschlike metasedimentary rocks and andesitic or basaltic metavolcanic rocks, which are in thrust contact with underlying recrystallized Upper Triassic limestone (Berg, 1972 [I 684], Berg and others, 1988). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrence consists of abundant quartz veins in the thrust zone, which is marked by as much as two feet of gouge. The veins contain pyrite and galena. A sample of one of the veins contained 0.05 ppm Au, 15 ppm Ag, and 700 ppm Pb (Karl, 1992, loc. 34).

Alteration:

Age of mineralization:
Probably Late Cretaceous or younger.

Deposit model:
Low-sulfide Au-quartz veins (Cox and Singer, 1986; model 36a)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of one of the veins contained 0.05 ppm Au, 15 ppm Ag, and 700 ppm Pb (Karl, 1992, loc. 34).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (west of Kwain Bay)

Site type: Occurrences

ARDF no.: KC175

Latitude: 55.091 **Quadrangle:** KC A-5

Longitude: 131.383

Location description and accuracy:

This site represents three occurrences west and northwest of innermost Kwain Bay. The occurrences are at elevations of 100-300 feet and are distributed along a 0.2-mile-long, northwest-trending, line extending from 0.1 mile west of the marshy flat at the head of the bay. The occurrences are in section 22, T. 78 S., R. 93 E., of the Copper River Meridian. The map site is at the approximate midpoint of this line of occurrences. The site corresponds to loc. 36 in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Ag, Au, Pb, Zn

Other:

Ore minerals: 'Sulfide minerals'

Gangue minerals:

Geologic description:

The country rocks at this site are recrystallized, locally semischistose, rhyolite, that is conformably overlain by massive dolomitic limestone (Berg, 1972 [I 684]). These Upper Triassic strata were regionally metamorphosed to greenschist grade in Late Cretaceous time. The occurrences, found by private exploration in the 1970s, reportedly consist of sulfide minerals at or near the rhyolite-carbonate contact. One soil(?) sample near this contact reportedly contained detectable gold (Karl, 1992, loc. 36a-c).

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
The occurrences were found by private exploration in the 1970s. One soil(?) sample near this contact reportedly contained detectable gold (Karl, 1992, loc. 36a-c).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (south of Kwain Bay)

Site type: Occurrences

ARDF no.: KC176

Latitude: 55.075 **Quadrangle:** KC A-5

Longitude: 131.361

Location description and accuracy:

This site represents seven occurrences: six are at sea level, 0.5-1.3 miles south of the mouth of Kwain Bay; and one is at an elevation of about 500 feet at the eastern foot of Tamgas Mountain, about 1.4 miles east-northeast of the mountain peak. The occurrences are in sections 26 and 35, T. 78 S., R. 93 E., of the Copper River Meridian. The map site is at the approximate center of the estimated half-square-mile area that contains these occurrences. The site corresponds to loc. 37a-g in Karl (1992). The location is accurate within about 0.2 mile.

Commodities:

Main: Au, Cu

Other: Pb, Zn

Ore minerals: Chalcopyrite, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of this site include undivided, metamorphosed Silurian and Ordovician volcanic, sedimentary, and intrusive rocks; Silurian trondhjemite that intrudes the Silurian and Ordovician assemblage; and recrystallized, Upper Triassic carbonate and clastic rocks, rhyolite, and basalt that unconformably overlie the Paleozoic rocks (Berg, 1972 [I 684]; Berg and others, 1988). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences consist of pyrite- and chalcopyrite-bearing quartz fissure veins in locally sheared, felsic to mafic metavolcanic and volcaniclastic rocks (Karl, 1992, loc. 37a-g). The presence of small amounts of galena and sphalerite is inferred from sample assays. The sulfides also occur as disseminations and seams in the volcaniclastic rocks.

A sample of pyrite[?] contained 100 ppm Pb, 300 ppm Zn, 300 ppm Cr, 200 ppm Ni, and 1000 ppm As; samples of various, sulfide-bearing country rocks contained up to 0.08 ppm Au, 2 ppm Ag, 1500 ppm Cu, 10 ppm Mo, 100 ppm Co, and 300 ppm Ni; samples of quartz veins contained up to 0.1 ppm Au, 2 ppm Ag, and 500 ppm Cu; and a soil survey conducted in the 1970s by private interests reportedly showed detectable gold (Karl,

1992, loc. 37a-g).

Alteration:

Age of mineralization:
Fissure veins probably are Late Cretaceous or younger.

Deposit model:
Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
22c

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of pyrite[?] contained 100 ppm Pb, 300 ppm Zn, 300 ppm Cr, 200 ppm Ni, and 1000 ppm As; samples of various, sulfide-bearing country rocks contained up to 0.08 ppm Au, 2 ppm Ag, 1500 ppm Cu, 10 ppm Mo, 100 ppm Co, and 300 ppm Ni; samples of quartz veins contained up to 0.1 ppm Au, 2 ppm Ag, and 500 ppm Cu; and a soil survey conducted in the 1970s by private interests reportedly showed detectable gold (Karl, 1992, loc. 37a-g).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Purple Lake)

Site type: Occurrence

ARDF no.: KC177

Latitude: 55.107 **Quadrangle:** KC A-5

Longitude: 131.489

Location description and accuracy:

This site represents two occurrences: one is on the north shore of Purple Lake about 1.2 miles east-northeast of the head of the trail to the lake from Tamgas Harbor; the other is at an elevation of about 1600 feet on the crest of the east ridge of Purple Mountain, about 1.2 miles from the peak. The occurrences are in section 13, T. 78 S., R. 92 E., of the Copper River Meridian. The map site is at the approximate midpoint between these occurrences. The site corresponds to loc. 43a, b in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Au, Mo

Other:

Ore minerals: Magnetite, pyrite

Gangue minerals:

Geologic description:

The country rock at this site is Silurian trondhjemite (Berg, 1972 [I 684]; Berg and others, 1988). The trondhjemite, which locally is sheared, sericitized, and permeated with hydrothermal hematite, was regionally metamorphosed to greenschist grade in Late Cretaceous time.

The occurrences are in sheared, hydrothermally altered trondhjemite, and consist of disseminated pyrite, and of pyrite-magnetite veins associated with a 300-foot-wide shear zone. A sample of rusty, altered, granitic rock contained 0.14 ppm Au; a sample of a pyrite-magnetite vein contained 15 ppm Mo (Karl, 1992, loc. 43a, b).

Alteration:

Trondhjemite is sericitized and locally permeated with hydrothermal hematite.

Age of mineralization:

Probably Late Cretaceous or younger.

Deposit model:
Disseminated sulfide and magnetite mineralization of undetermined origin.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of rusty, altered, granitic rock contained 0.14 ppm Au; and a sample of a pyrite-magnetite vein contained 15 ppm Mo (Karl, 1992, loc. 43a, b).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Metlakatla)

Site type: Occurrence

ARDF no.: KC178

Latitude: 55.118 **Quadrangle:** KC A-5

Longitude: 131.543

Location description and accuracy:

This occurrence is at an elevation of about 300 feet, at the southeast corner of Port Chester, about a mile from the town of Metlakatla, and near the foot of the trail to Chester Lake. The site is in section 10, T. 78 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 44 in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Ag, Au, Mo

Other:

Ore minerals: Pyrite

Gangue minerals:

Geologic description:

The country rock in the area of this site is Silurian trondhjemite (Berg, 1972 [I 684]; Berg and others, 1988). The site is in or near a major N-S fault zone between mainland Annette Island and the peninsula containing the town of Metlakatla. The trondhjemite in and near this zone is intensely sheared and brecciated, with widespread sericitization, silicification, and formation of hydrothermal(?) potassium feldspar and specular hematite. Some of these features probably are due to Late Cretaceous greenschist-grade regional metamorphism, and some to subsequent large-scale faulting.

The occurrence consists of disseminated pyrite and hematite, and of thin seams of pyrite, in a 1000-foot-wide zone of cataclastic, pervasively altered, granitic rock (Karl, 1992, loc. 44). A sample of hematitic granitic rock contained 0.28 ppm Au and 5 ppm Ag; a sample from a pyrite seam contained 0.7 ppm Ag and 20 ppm Mo.

Alteration:

Sheared granitic hostrock is silicified and/or sericitized, and permeated with hydrothermal hematite.

Age of mineralization:

Probably Late Cretaceous or younger.

Deposit model:
Disseminated sulfide and iron mineralization of undetermined origin in granitic rock.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of hematitic granitic rock contained 0.28 ppm Au and 5 ppm Ag; a sample from a pyrite seam contained 0.7 ppm Ag and 20 ppm Mo (Karl, 1992, loc. 44).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Purple Lake)

Site type: Occurrence

ARDF no.: KC179

Latitude: 55.095 **Quadrangle:** KC A-5

Longitude: 131.535

Location description and accuracy:
This occurrence is at an elevation of about 500 feet, midway between the northeast head of Tamgas Harbor and the foot of Purple Lake. The site is in section 22 T. 78 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 45 in Karl (1972). The location, which is erroneously marked as a mine on the Ketchikan A-5 topographic map (1955 ed., revised 1962), is accurate to within about a hundred feet.

Commodities:

Main: Ag, Au, Cu, Mo

Other:

Ore minerals: Unspecified sulfides

Gangue minerals:

Geologic description:
The country rock at this site is Silurian trondhjemite (Berg, 1972 [I 684]; Berg and others, 1988). It was regionally metamorphosed to greenschist grade in Late Cretaceous time, and locally is intensely sheared, sericitized, and permeated with hydrothermal hematite. The occurrence consists of unspecified disseminated sulfide minerals in aplite dikes that cut altered trondhjemite. A sample of the sulfide-bearing aplite contained 0.25 ppm Au, 1.5 ppm Ag, 1000 ppm Cu, and 50 ppm Mo (Karl, 1992, loc. 45). If the aplite dikes postdate the Late Cretaceous regional metamorphism, the mineralization may be Tertiary in age.

Alteration:
The trondhjemite locally is sericitized and permeated with hydrothermal hematite. The aplite dikes may postdate this alteration.

Age of mineralization:
If the aplite dikes postdate the Late Cretaceous regional metamorphism, the mineralization may be Tertiary in age.

Deposit model:
Disseminated sulfide mineralization of undetermined origin.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of the sulfide-bearing aplite contained 0.25 ppm Au, 1.5 ppm Ag, 1000 ppm Cu, and 50 ppm Mo (Karl, 1992, loc. 45).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Yellow Hill)

Site type: Occurrences

ARDF no.: KC180

Latitude: 55.096 **Quadrangle:** KC A-5

Longitude: 131.565

Location description and accuracy:
This site represents six occurrences in about a square-mile area south and east of Yellow Hill. The occurrences are in sections 16, 17, 20, and 21, T. 78 S., R. 92 E., of the Copper River Meridian. The map site is at the approximate center of this area. The site corresponds to loc. 50a-f in Karl (1992). The location is accurate within about 0.1 mile.

Commodities:

Main: Cr

Other:

Ore minerals: Chromite, magnetite

Gangue minerals:

Geologic description:
The country rocks in the area of this site are serpentinized dunite and subordinate clinopyroxenite, probably of Cretaceous age (Berg, 1972 [I 684]; Berg and others, 1988). The occurrences consist of serpentinized dunite containing disseminated magnetite and chromite, and stringers of chromite. The disseminated metalliferous minerals constitute about 3 percent of the dunite. Samples of the dunite contained up to 1000 ppm Ni, 200 ppm Co, and more than 5000 ppm Cr (Karl, 1992, loc. 50a-f).

Alteration:
Serpentinization of dunite hostrock.

Age of mineralization:
Probably Cretaceous.

Deposit model:
Alaskan PGE (Cox and Singer, 1986; model 9)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
9

Production Status: None

Site Status: Undetermined

Workings/exploration:
Samples of chromite- and magnetite-bearing dunite contained up to 1000 ppm Ni, 200 ppm Co, and more than 5000 ppm Cr (Karl, 1992, loc. 50a-f).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Helen Todd Lake)

Site type: Occurrences

ARDF no.: KC181

Latitude: 55.204 **Quadrangle:** KC A-5

Longitude: 131.523

Location description and accuracy:

This site represents two occurrences at 1000 feet elevation on the hillside west and southwest of Helen Todd Lake. The occurrences are in sections 10 and 11, T. 77 S., R. 92 E., of the Copper River Meridian. They are about 0.4 mile apart, along an unmapped logging road parallel to, and just below, the crestline of a northeast-trending ridge. The map site is approximately midway between the two occurrences. The site corresponds to locs. 28 and 29 in Berg (1972 [I 684]), and to loc. 15a, b in Karl (1992). The location is accurate within about 0.1 mile.

Commodities:

Main: Pb

Other:

Ore minerals: Galena, magnetite, pyrite

Gangue minerals: Calcite

Geologic description:

The country rocks in the area of the site are undivided, metamorphosed Silurian and Ordovician volcanic, sedimentary, and intrusive rocks; and Silurian trondhjemite that intrudes the Silurian and Ordovician rocks (Berg, 1972; Berg and others, 1988). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences are in foliated, sericitized, trondhjemite, and consist of pyrite, magnetite, and galena in sparse calcite veinlets up to 0.25 inch thick and 2-3 inches long (Berg, 1972, locs. 28, 29; Karl, 1992, loc. 15a, b) The sulfide minerals are also widely disseminated in the trondhjemite.

Alteration:

The trondhjemite hostrock is sericitized and contains disseminated sulfide minerals.

Age of mineralization:

The veins probably are Late Cretaceous or younger.

Deposit model:
Disseminated sulfide and oxide mineralization of undetermined origin.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Sylburn Harbor)

Site type: Occurrences

ARDF no.: KC182

Latitude: 55.178 **Quadrangle:** KC A-5

Longitude: 131.585

Location description and accuracy:

This site represents 6 occurrences along about a mile of the south shore of Sylburn Harbor, about 0.7-1.0 miles east of Driest Point. The occurrences are in section 20, T. 77 S., R. 92 E., of the Copper River Meridian. The map site is at the approximate midpoint of this group of occurrences. The site corresponds to loc. 17 in Berg (1972 [I 684]), and loc. 21a-f in Karl (1992). The location is accurate within about 0.1 mile.

Commodities:

Main: Ag, barite, Pb, Zn

Other:

Ore minerals: Barite, galena, sphalerite

Gangue minerals: Calcite

Geologic description:

The country rocks in the area of this site are recrystallized, Upper Triassic carbonate and clastic rocks, rhyolite, and basalt; Silurian trondhjemite; and greenstone derived from undivided Silurian and Ordovician volcanic, sedimentary, and intrusive rocks (Berg, 1972; Berg and others, 1988; Karl, 1992). The rocks are folded and locally intensely sheared, sericitized, silicified, dolomitized, and permeated with hydrothermal hematite. The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences consist of up to 3-foot-thick pods of barite in dolomite, and of barite-calcite fissure veins in sheared and brecciated rhyolite (Berg, 1972, loc. 17; Karl, 1992, loc. 21a-f). The dolomite and rhyolite contain galena and sphalerite; the barite contains argentiferous galena and sphalerite. The barite in the pods occurs as radial blades, with rosettes of barite up to 20 inches in diameter.

Samples of brecciated dolomite, massive dolomite, and sheared metabasite with calcite veins contained up to 100 ppm Pb, 300 ppm Zn, and 500 ppm Ba; a sample of barite contained 7 ppm Ag and 7000 ppm Zn; a sample of silicified tuff contained 1.5 ppm Ag, 1000 ppm Pb, 1500 ppm Zn, and 150 ppm Cr; samples of volcanic agglomerate with calcite veins, and of mylonitic calcareous conglomerate, contained up to 200 ppm Pb and

700 ppm Zn; and samples of pyritic rhyolite tuff-breccia and pyritic gray limestone contained up to 150 ppm Pb and 300 ppm Zn (Karl, 1992, loc. 21a-f).

A mapping and soil survey by private interests in the 1970s indicated that the barite-rich zone extends for about 210 feet along the west shore of a small peninsula, and for about 400 feet inland from there (Karl, 1992).

Alteration:

The rocks locally are sericitized, silicified, dolomitized, and permeated with hydrothermal hematite.

Age of mineralization:

The fissure veins probably are Late Cretaceous or younger.

Deposit model:

Polymetallic veins (Cox and Singer, 1986; model 22c)

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

22c

Production Status: None

Site Status: Undetermined

Workings/exploration:

Samples of brecciated dolomite, massive dolomite, and sheared metabasite with calcite veins contained up to 100 ppm Pb, 300 ppm Zn, and 500 ppm Ba; a sample of barite contained 7 ppm Ag and 7000 ppm Zn; a sample of silicified tuff contained 1.5 ppm Ag, 1000 ppm Pb, 1500 ppm Zn, and 150 ppm Cr; samples of volcanic agglomerate with calcite veins, and of mylonitic calcareous conglomerate, contained up to 200 ppm Pb and 700 ppm Zn; and samples of pyritic rhyolite tuff-breccia and pyritic gray limestone contained up to 150 ppm Pb and 300 ppm Zn (Karl, 1992, loc. 21a-f).

A mapping and soil survey by private interests in the 1970s indicated that the barite-rich zone extends for about 210 feet along the west shore of a small peninsula, and for about 400 feet inland from there (Karl, 1992).

Production notes:

Reserves:

Additional comments:

References:

Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (coast south of Kwain Bay)

Site type: Occurrence

ARDF no.: KC183

Latitude: 55.067 **Quadrangle:** KC A-5

Longitude: 131.351

Location description and accuracy:

This site represents two occurrences at sea level on the southeast coast of Annette Island, about 1.5 miles south of the mouth of Kwain Bay. The occurrences are about 0.1 mile apart, in section 35, T. 78 S., R. 93 E., of the Copper River Meridian. The map site is approximately midway between the occurrences. The site corresponds to loc. 6 in Berg (1972 [I 684]), and loc. 38a, b in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Fe

Other: Co, Mo

Ore minerals: Magnetite

Gangue minerals:

Geologic description:

The country rocks in the area of this site are undivided, metamorphosed Silurian and Ordovician volcanic, sedimentary, and intrusive rocks; and Silurian trondhjemite that intrudes the Silurian and Ordovician rocks (Berg, 1972, Berg and others, 1988). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences consist of veinlets and disseminations of magnetite in shear zones in sericitized granitic rocks and schist. A sample of altered granitic rock contained 150 ppm Co and 20 ppm Mo (Karl, 1992, loc. 38a, b).

Alteration:

Sericitization of sheared granitic rocks.

Age of mineralization:

Probably Late Cretaceous or younger.

Deposit model:

Disseminated magnetite mineralization of undetermined origin.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of altered granitic rock contained 150 ppm Co and 20 ppm Mo (Karl, 1992, loc. 38a, b).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (on Dubuque Mountain)

Site type: Occurrences

ARDF no.: KC184

Latitude: 55.118 **Quadrangle:** KC A-5

Longitude: 131.429

Location description and accuracy:

This site represents two occurrences on Dubuque Mountain: one is at an elevation of 2100 feet, 0.1 mile northwest of the peak; the other is at an elevation of 1350 feet, 0.4 mile northwest of the peak. The occurrences are in section 8, T. 78 S., R. 93 E., of the Copper River Meridian. The map site is approximately midway between the occurrences. The site corresponds to loc. 31 in Berg (1972 [I 684]), and loc. 41a, b in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Ag, Mo

Other:

Ore minerals: Hematite, magnetite, pyrite

Gangue minerals: Quartz

Geologic description:

The country rocks in the area of this site are undivided, metamorphosed Silurian and Ordovician volcanic, sedimentary, and intrusive rocks; and Silurian trondhjemite that intrudes the Silurian and Ordovician rocks (Berg, 1972, Berg and others, 1988). The rocks were regionally metamorphosed to greenschist-grade phyllite and semischist in Late Cretaceous time.

The occurrences consist of quartz fissure veins and iron-stained zones in foliated, sericitized trondhjemite, or associated with aplite and intermediate dikes that cut the trondhjemite (Berg, 1972, loc. 31; Karl, 1992, loc. 41a, b). One iron-stained zone is associated with a dark-green intermediate dike about 10 feet thick. The quartz veins contain pyrite and hematite, and the trondhjemite contains inch-long pods of magnetite and hematite. A sample of sulfide-bearing aplite contained 0.5 ppm Ag and 15 ppm Mo (Karl, 1992, loc. 41b).

Alteration:

Schistose trondhjemite is intensely sericitized. One iron-stained zone is associated with a dark-green intermediate dike about 10 feet thick.

Age of mineralization:
The fissure veins probably are Late Cretaceous or younger. The mineralization associated with the dikes that cut the trondhjemite probably is Tertiary.

Deposit model:
Possibly low-sulfide Au-quartz veins (Cox and singer, 1986; model 36a). Disseminated magnetite mineralization of undetermined origin.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):
36a?

Production Status: None

Site Status: Undetermined

Workings/exploration:
A sample of sulfide-bearing aplite contained 0.5 ppm Ag and 15 ppm Mo (Karl, 1992, loc. 41b).

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Karl, 1992

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (south of Metlakatla)

Site type: Occurrence

ARDF no.: KC185

Latitude: 55.119 **Quadrangle:** KC A-5

Longitude: 131.569

Location description and accuracy:

This occurrence is at about 100 feet elevation, on the east edge of the Annette Island airport road, about 0.5 mile south of Metlakatla. The site is in section 9, T. 78 S., R. 92 E., of the Copper River Meridian. It corresponds to loc. 27 in Berg (1992 [I 684]), and to loc. 48 in Karl (1992). The location is accurate within 0.1 mile.

Commodities:

Main: Cu

Other:

Ore minerals: Arsenopyrite, chalcopyrite, pyrite

Gangue minerals: Calcite

Geologic description:

The country rocks in the area of this site are schist, hornfels, and gneiss derived from an assemblage of undivided volcanic, sedimentary, and intrusive rocks of Silurian and Ordovician age (Berg, 1972; Berg and others, 1988). The rocks are polymetamorphic. The latest metamorphism, to greenschist grade, probably occurred in Late Cretaceous time.

The occurrence consists of sparse pyrite, chalcopyrite, and arsenopyrite in iron-stained, sheared, fine-grained schist that also contains abundant calcite veinlets (Berg, 1972, loc. 27; Karl, 1992, loc. 48).

Alteration:

Local iron staining.

Age of mineralization:

Calcite veinlets probably are Late Cretaceous or younger.

Deposit model:

Disseminated sulfide mineralization of undetermined origin.

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Berg, 1972 (I 684); Berg and others, 1988; Karl, 1992

Primary reference: Berg, 1972 (I 684)

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (on Cat Island)

Site type: Prospect

ARDF no.: KC186

Latitude: 55.02 **Quadrangle:** KC A-4

Longitude: 131.25

Location description and accuracy:
This prospect is on eastern Cat Island. The site is in section 16, T. 79 S., R. 94 E., of the Copper River Meridian. It corresponds to loc. 154 in Elliott and others (1978). The location probably is accurate within 0.5 mile.

Commodities:

Main: Cu

Other:

Ore minerals:

Gangue minerals:

Geologic description:
The country rocks in the area of this site are intermediate and mafic metaplutonic rocks of Silurian or Ordovician age, and ultramafic plutonic rocks, probably of Cretaceous age (Berg and others, 1988). The ultramafic rocks are in thrust contact with the underlying Paleozoic rocks. The only information about this site that has been made public, is that 50 sacks of copper ore reportedly were shipped from the property in 1907 (Cobb and Elliott, 1980, p. 26).

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: Yes; small

Site Status: Undetermined

Workings/exploration:

Production notes:
Fifty sacks of copper ore reportedly were shipped from this prospect in 1907.

Reserves:

Additional comments:

References:
Elliott and others, 1978; Cobb and Elliott, 1980; Berg and others, 1988

Primary reference: Cobb and Elliott, 1980

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

Site name(s): Unnamed (near Edge Point on Mary Island)

Site type: Prospect

ARDF no.: KC187

Latitude: 55.05 **Quadrangle:** KC A-4

Longitude: 131.19

Location description and accuracy:

This prospect is known only from U.S. Bureau of Mines (1977) claim records. Its approximate location is at or near Edge Point, at the southeast end of Mary Island. The site is in section 1, T. 79 S., R. 94 E., of the Copper River Meridian. It corresponds to loc. 155 in Elliott and others (1978), who call the site 'Ledge' Point. The location probably is accurate within about 0.3 mile.

Commodities:

Main: Ag, Au

Other:

Ore minerals:

Gangue minerals:

Geologic description:

The country rocks in the area of this site are metamorphosed volcanic, sedimentary, and intrusive rocks of Silurian or Ordovician age (Berg and others, 1988). According to U.S. Bureau of Mines claim records (1977), this prospect, which apparently is in the metamorphic rocks, was staked for silver and gold. No other information about it has been made public.

Alteration:

Age of mineralization:

Deposit model:

Deposit model number (After Cox and Singer, 1986 or Bliss, 1992):

Production Status: None

Site Status: Undetermined

Workings/exploration:

Production notes:

Reserves:

Additional comments:

References:
Elliott and others, 1978; Berg and others, 1988

Primary reference: Elliott and others, 1978

Reporter(s): H.C. Berg, USGS

Last report date: 07/07/99

References

Bain, H.F., 1946, Alaska's minerals as a basis for industry: U.S. Bureau of Mines Information Circular, 7379, 89 p.

Berg, H.C., 1972, Thrust faults, Annette-Gravina area, southeastern Alaska, *in* Geological Survey Research, 1972: U.S. Geological Survey Professional Paper 800-C, p. C79-C83.

Berg, H.C., 1972, Geologic map of Annette Island, Alaska: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-684, 1 sheet, scale 1:63,360, 8 p. pamphlet.

Berg, H.C., 1973, Geology of Gravina Island Alaska: U.S. Geological Survey Bulletin 1373, 41 p.

Berg, H.C., 1981, Upper Triassic volcanogenic massive sulfide metallogenic province identified in southeastern Alaska, *in* Albert, N.R.D., and Hudson, T.L., eds., The United States Geological Survey in Alaska: accomplishments during 1979: U.S. Geological Survey Circular 823-B, p. B104-B108.

Berg, H.C., 1982, The Alaska Mineral Resource Assessment Program: Guide to information about the geology and mineral resources of the Ketchikan and Prince Rupert quadrangles, southeastern Alaska: U.S. Geological Survey Circular 855, 24 p.

Berg, H.C., 1984, Regional geologic summary, metallogenesis, and mineral resources of southeastern Alaska: U. S. Geological Survey Open-file Report 84-572, 1 plate, scale approx. 1:600,000, 298 p. text, tables, and appendix.

Berg, H.C., 1998, Alaska Resource Data File--Bradfield Canal quadrangle: U.S. Geological Survey Open-file Report 98-327, 181 p.

Berg, H.C., 1999, Alaska Resource Data file--Prince Rupert quadrangle: U.S. Geological Survey Open-file Report 99-306, 16 p.

Berg, H.C., and Clautice, K.H., 1982, Status of mineral resource information for the Annette Island Reserve, southeastern Alaska, U.S. Bureau of Indian Affairs administrative report BIA-84, 77 p., 2 plates.

Berg, H.C. and Cobb, E.H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bulletin 1246, 254 p.

Berg, H.C., and Cruz, E.L., 1982, Map showing locations of fossil collections and related samples in the Ketchikan and Prince Rupert quadrangles, southeastern Alaska: U.S. Geological Survey Open-file Report 82-1088, 1 sheet, scale 1:250,000, 27 p. pamphlet.

Berg, H.C., Elliott, R.L., Smith, J.G., and Koch, R.D., 1978, Map and tables describing areas of metalliferous mineral resource potential in the Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-file Report 78-73M, scale 1:250,000, 48 p. pamphlet.

Berg, H.C., Elliott, R.L., and Koch, R.D., 1988, Geologic map of the Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Miscellaneous Investigations Series Map I-1807, scale 1:250,000, 27 p. pamphlet.

Berg, H.C., Elliott, R.L., Smith, J.G., Pittman, T.L., and Kimball, A.L., 1977, Mineral resources of the Granite Fiords wilderness study area, Alaska, *with* a section on aeromagnetic data by Andrew Griscom: U.S. Geological Survey Bulletin 1403, 151 p.

Bliss, J.D., ed., 1992, Developments in mineral deposit modeling: U.S. Geological Survey Bulletin 2004, 168 p.

Brew, D.A. (compiler), 1996, Geologic map of the Craig, Dixon Entrance, and parts of the Ketchikan and Prince Rupert quadrangles, southeastern Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-2319, scale 1:250,000, 53 p. pamphlet.

Brew, D.A., and Ford, A.B., 1998, The Coast Mountains structural zones in southeastern Alaska--descriptions, relations, and lithotectonic significance, *in* Gray, J.E., and Riehle, J.R., eds., The U.S. Geological Survey in Alaska--geological studies in Alaska by the U.S. Geological Survey in 1996: U.S. Geological Survey Professional Paper 1595, p. 183-192.

Brooks, A.H., 1902, Preliminary report on the Ketchikan mining district, Alaska, with an introductory sketch of the geology of southeastern Alaska: U.S. Geological Survey Professional Paper 1, 120 p.

Brooks, A.H., 1912, The mining industry in 1911: U.S. Geological Survey Bulletin 520, p. 17-44.

Brooks, A.H., 1913, The mining industry in 1912: U.S. Geological Survey Bulletin 542, p. 18-51.

Brooks, A.H., 1914, The Alaskan mining industry in 1913: U.S. Geological Survey Bulletin 592, p. 45-74.

Brooks, A.H., 1915, The Alaskan mining industry in 1914, U. S. Geological Survey Bulletin 622, p. 15-68.

Brooks, A.H., 1922, The Alaskan mining industry in 1920: U.S. Geological Survey Bulletin 722, p. 7-67.

Brooks, A. H., 1923, The Alaskan mining industry in 1921: U.S. Geological Survey Bulletin 739, p. 1-44.

Brooks, A.H., 1925, Alaska's mineral resources and production, 1923: U.S. Geological Survey Bulletin 773, p. 3-52.

Brooks, A.H., and Capps, S.R., 1924, The Alaskan mining industry in 1922: U.S. Geological Survey Bulletin 755, p. 3-49.

Buddington, A. F., 1925, Mineral investigations in southeastern Alaska: U.S. Geological Survey Bulletin 773, p. 71-139.

Buddington, A.F., 1926, Mineral investigations in southeastern Alaska: U.S. Geological Survey Bulletin 783, p. 41-62.

Buddington, A.F., 1929, Geology of Hyder and vicinity, southeastern Alaska, with a reconnaissance of Chickamin River: U.S. Geological Survey Bulletin 807, 124 p.

Buddington, A.F., and Chapin, Theodore, 1929, Geology and mineral deposits of southeastern Alaska: U.S. Geological Survey Bulletin 800, 398 p.

Bufvers, John, 1967, History of mines and prospects, Ketchikan district, prior to 1952: Alaska Division of Mines and Minerals Special Report 1, 32 p.

Byers, F.M., and Sainsbury, C.L., 1956, Tungsten deposits of the Hyder district, Alaska: U.S. Geological Survey Bulletin 1024-F, p. 123-140.

Chapin, Theodore, 1916, Mining developments in southeastern Alaska: U.S. Geological Survey Bulletin 642, p. 73-104.

Chapin, Theodore, 1918, Mining developments in the Ketchikan and Wrangell mining districts: U.S. Geological Survey Bulletin 662, p. 63-75.

Chapman, R.M., and Shacklette, H.T., 1960, Geochemical exploration in Alaska, *in* Geological Survey research

1960: U.S. Geological Survey Professional Paper 400-B, p. B104-B107.

Clark, A.L., and Greenwood, W.R., 1972, Geochemistry and distribution of platinum-group metals in mafic to ultramafic complexes of southern and southeastern Alaska: U.S. Geological Survey Professional Paper, 800-C, p. C157-C160.

Cobb, E.H., 1972, Metallic mineral resources map of the Ketchikan quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-420, 1 sheet, scale 1:250,000.

Cobb, E.H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Craig quadrangle, Alaska: U.S. Geological Survey Open-file Report 78-869, 261 p.

Cobb, E.H., and Elliott, R.L., 1980, Summaries of data on and lists of references to metallic and selected nonmetallic mineral deposits in the Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-file Report 80-1053, 154 p.

Cobb, E.H., and Kachadoorian, Reuben, 1961, Index of metallic and nonmetallic mineral deposits of Alaska compiled from published reports of Federal and State agencies through 1959: U.S. Geological Survey Bulletin 1139, 363 p.

Cox, D.P., and Singer, D.A., eds., 1986, Mineral deposit models: U.S. Geological Survey Bulletin 1693, 379 p.

Crawford, M.L., Crawford, W.A., and Gehrels, G.E., 1999?, Terrane assembly and structural relationships in the eastern Prince Rupert quadrangle, British Columbia, *in* Stowell, H., and McClelland, W.C., eds., Tectonic history of the western Coast Mountains, southeastern Alaska and British Columbia: Geological Society of America Special Paper (in press).

Eakins, G.R., 1975, Uranium investigations in southeastern Alaska: Alaska Division of Geological and Geophysical Surveys Geologic Report 44, 62 p.

Eakins, G.R., Bundtzen, T.K., Robinson, M.S., Clough, J.G., Green, C.B., Clautice, K.H., and Albanese, M.A., 1983, Alaska's mineral industry, 1982: Alaska Division of Geological and Geological Surveys Special Report 31, 68 p.

Ebbley, Norman, Jr., and Wright, W.S., 1948, Antimony deposits in Alaska: U.S. Bureau of Mines Report of Investigations 4173, 41 p.

Elliott, R.L., Berg, H.C., and Karl, Susan, 1978, map and table describing metalliferous and selected nonmetalliferous mineral deposits, Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-file Report, 78-73B, scale 1:250,000, 17 p. pamphlet.

Elliott, R.L., Smith, J.G., and Hudson, Travis, 1976, Upper Tertiary high-level plutons of the Smeaton Bay area, southeastern Alaska: U. S. Geological Survey Open-file Report 76-507, 16 p.

Erickson, A.W., 1946, Exploration of Mountain View tungsten deposit, Hyder, Alaska: U.S. Bureau of Mines Report of Investigations 3944, 10 p.

Gehrels, G.E., and Berg, H.C., 1992, Geologic map of southeastern Alaska: U.S. Geological Survey Miscellaneous Investigations Series Map I-1867, scale approx. 1:600,000, 24 p. pamphlet.

Gehrels, G.E., McClelland, W.C., Samson, S.D., Patchett, P.J., and Jackson, J.L., 1990, Ancient continental margin assemblage in the northern Coast Mountains, southeast Alaska and northwest Canada: Geology, v. 18, p. 208-211.

Gehrels, G.E., Saleeby, J.B., and Berg, H.C., 1987, Geology of Annette, Gravina and Duke Islands, southeastern

Alaska: Canadian Journal of Earth Sciences, v. 24, p. 866-881.

Gries, J.P., 1979, Providing new sources of mineral supply: U.S. Bureau of Mines Information Circular, 8789, 42 p.

Hawley, C.C., and Associates, Inc., 1975, Mineral potential survey of Annette Island Reserve, southeastern Alaska: Juneau, Alaska, U.S. Bureau of Indian Affairs technical report under Contract EOOC-4201199, 82 p.

Hawley, C.C., and Associates, Inc., 1978, Results of soil sampling program, Annette Island Reserve, southeastern Alaska: Juneau, Alaska, U.S. Bureau of Indian Affairs technical report under Contract EOOC-4201489.

Hawley, C.C., and Associates, Inc., 1980, Geology and geochemistry of the Sylburn Peninsula and Crab Bay areas, Annette Island, Alaska: Juneau, Alaska, U.S. Bureau of Indian Affairs technical report (no other reference information)

Horton, R.J., Karl, S.M., Griscom, Andrew, Taylor, C.D., and Bond, K.R., 1991, Annette Island Reserve mineral assessment project, southeastern Alaska, *in* Manydeeds, S.A., and Smith, B.D., eds., Mineral frontiers on Indian lands: Juneau, Alaska, U.S. Bureau of Indian Affairs special publication, p. 19-31.

Houston, J.R., Bates, R.G., Velikanje, R.S., and Wedow, Helmuth, Jr., 1958, Reconnaissance for radioactive deposits in southeastern Alaska, 1952: U.S. Geological Survey Bulletin 1058-A, p. 1-31.

Hudson, Travis, Elliott, R.L., and Smith, J.G., 1977, Investigations of the Wilson Arm molybdenite deposit, *in* Blean, K.M., ed., The United States Geological Survey in Alaska: accomplishments during 1976: U.S. Geological Survey Circular 751-B, p. B74.

Hudson, Travis, Elliott, R.L., and Smith, J.G., 1978, Chemistry of Quartz Hill intrusive rocks, Ketchikan quadrangle, *in* Johnson, K.M., ed., The United States Geological Survey in Alaska: accomplishments during 1977: U.S. Geological Survey Circular 772-B, p. B83-B85.

Hudson, Travis, Smith, J.G., and Elliott, R.L., 1979, Petrology, chemistry, and age of intrusive rocks associated with the Quartz Hill molybdenite deposit, southeastern Alaska: Canadian Journal of Earth Sciences, v. 16, no, 9, p. 1805-1822.

Karl, S.M., 1992, Map and table of mineral deposits on Annette Island, Alaska: U.S. Geological Survey Open-file Report 92-690, scale 1:63,360, 57 p. pamphlet.

Kaufman, Alvin, 1958, Southeastern Alaska's mineral industry: U.S. Bureau of Mines Information Circular 7844, 37 p.

Knopf, Adolph, 1910, Mining in southeastern Alaska: U.S. Geological Survey Bulletin 442, p. 133-143.

Knopf, Adolph, 1911, Mining in southeastern Alaska: U.S. Geological Survey Bulletin 480, p. 94-102.

Koch, R.D., and Elliott, R.L., 1978, Map showing copper determined by atomic absorption in stream sediments, Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-file Report 78-73C, scale 1:250,000.

Koch, R.D., and Elliott, R.L., 1978, Map showing lead determined by atomic absorption in stream sediments, Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-file Report 78-73D, scale 1:250,000

Koch, R.D., and Elliott, R.L., 1978, Map showing zinc determined by atomic absorption in stream sediments, Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-file Report 78-73E,

scale 1:250,000.

Koch, R.D., and Elliott, R.L., 1978, Map showing spectrographically determined molybdenum in stream sediments, Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-file Report 78-73F, scale 1:250,000.

Koch, R.D., and Elliott, R.L., 1978, Map showing gold determined by atomic absorption and spectrographically determined silver in stream sediments, Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-file Report 78-73G, scale 1:250,000.

Koch, R.D., and Elliott, R.L., 1978, Map showing spectrographically determined chromium in stream sediments, Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-file Report 78-73H, scale 1:250,000.

Koch, R.D., and Elliott, R.L., 1978, Map showing spectrographically determined cobalt in stream sediments, Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-file Report 78-73I, scale 1:250,000.

Koch, R.D., and Elliott, R.L., 1978, Map showing spectrographically determined nickel in stream sediments, Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-file Report 78-73J, scale 1:250,000.

Koch, R.D., and Elliott, R.L., 1978, Analyses of rock samples from the Ketchikan quadrangle, southeastern Alaska: U.S. Geological Survey Open-file Report 78-156A, 162 p.

Koch, R.D., and Elliott, R.L., 1978, Analyses of stream-sediment samples from the Ketchikan quadrangle, southeastern Alaska: U.S. Geological Survey Open-file Report 78-156C, 214 p.

Maas, K.M., Bittenbender, P.E., and Still, J.C., 1995, Mineral investigations in the Ketchikan mining district, southeastern Alaska: U.S. Bureau of Mines Open-file Report 11-95, 606 p.

Moffitt, F.H., 1927, Mineral industry of Alaska in 1925: U.S. Geological Survey Bulletin 792, p. 1-39.

Noel, G.A., 1966, The productive mineral deposits of southeastern Alaska, *in* Report for the year 1966: Alaska Division of Mines and Minerals, Juneau, Alaska, p. 51-57, 60-68.

Overstreet, W.C., 1967, The geologic occurrence of monazite: U.S. Geological Survey Professional Paper 530, 327 p.

Ransome, A.L., and Kerns, W.H., 1954, Names and definitions of regions, districts, and subdistricts in Alaska (used by the Bureau of Mines in statistical and economic studies covering the mineral industry of the Territory): U.S. Bureau of Mines Information Circular, 7679, 91 p.

Robinson, G.D., and Twenhofel, W.S., 1953, Some lead-zinc and zinc-copper deposits of the Ketchikan and Wales districts, Alaska: U.S. Geological Survey Bulletin 998-C, p. 59-84.

Roppel, Patricia, 1995, An historical guide to Revillagigedo and Gravina Islands, Alaska: Farwest Research, P.O. Box 1998, Wrangell, Alaska, 313 p.

Sainsbury, C.L., 1957, A geochemical exploration for antimony in southeastern Alaska: U.S. Geological Survey Bulletin 1024-H, p. 163-178.

Shacklette, H.T., 1960, Soil and plant sampling at the Mahoney Creek lead-zinc deposit, Revillagigedo Island, southeastern Alaska, *in* Geological Survey research 1960: U.S. Geological Survey Professional Paper 400-B, p. B102-B104.

Shacklette, H.T., 1965, Bryophytes associated with mineral deposits and solutions in Alaska: U.S. Geological Survey Bulletin 1198-C, p. C1-C18.

Smith, J.G., 1973, A Tertiary lamprophyre dike province in southeastern Alaska: Canadian Journal of Earth Sciences, v. 10, no. 3, p. 408-420.

Smith, J.G., 1977, Geology of the Ketchikan D-1 and Bradfield Canal A-1 quadrangles, Alaska: U.S. Geological Survey Bulletin 1425, 49 p.

Smith, J.G., and Diggles, M.F., 1981, Map and tables showing location and results of K/Ar determinations in the Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-file Report 78-73N, scale 1:250,000.

Smith, J.G., Elliott, R.L., Berg, H.C., and Wiggins, B.D., 1977, Map showing general geology and location of chemically and radiometrically analyzed samples in parts of the Ketchikan, Bradfield Canal, and Prince Rupert quadrangles, southeastern Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-825, scale, 1:250,000.

Smith, P.S., 1914, Lode mining in the Ketchikan region: U.S. Geological Survey Bulletin 592, p. 75-94.

Smith, P.S., 1930, Mineral industry of Alaska in 1927: U.S. Geological Survey Bulletin 810, p. 1-64.

Smith, P.S., 1930, Mineral industry of Alaska in 1928: U.S. Geological Survey Bulletin 813, p. 1-72.

Smith, P.S., 1932, Mineral industry of Alaska in 1929: U.S. Geological Survey Bulletin 824, p. 1-81.

Smith, P.S., 1933, Mineral industry of Alaska in 1930: U.S. Geological Survey Bulletin 836, p. 1-83.

Smith, P.S., 1933, Mineral industry of Alaska in 1931: U.S. Geological Survey Bulletin 844-A, p. 1-82.

Smith, P.S., 1934, Mineral industry of Alaska in 1932: U.S. Geological Survey Bulletin 857-A, p. 1-91.

Smith, P.S., 1934, Mineral industry of Alaska in 1933: U.S. Geological Survey Bulletin 864-A, p. 1-94.

Smith, P.S., 1936, Mineral industry of Alaska in 1934: U.S. Geological Survey Bulletin 868-A, p. 1-91.

Smith, P.S., 1937, Mineral industry of Alaska in 1935: U.S. Geological Survey Bulletin 880-A, p. 1-95.

Smith, P.S., 1938, Mineral industry of Alaska in 1936: U.S. Geological Survey Bulletin 897-A, p. 1-107.

Smith, P.S., 1939, Mineral industry of Alaska in 1938: U.S. Geological Survey Bulletin 917-A, p. 1-113.

Smith, P.S., 1941, Mineral industry of Alaska in 1939: U.S. Geological Survey Bulletin 926-A, p. 1-106.

Smith, P.S., 1942, Occurrences of molybdenum minerals in Alaska: U.S. Geological Survey Bulletin 926-C, p. 161-210.

Smith, P.S., 1942, Mineral industry of Alaska in 1940: U.S. Geological Survey Bulletin 933-A, p. 1-102.

Smith, S.S., 1917, The mining industry in the Territory of Alaska during the calendar year 1916: U.S. Bureau of Mines Bulletin 153, 89 p.

Steele, W.C., and Albert, N.R.D., 1978, Map showing interpretation of Landsat imagery of the Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-file Report 78-73K, 2 sheets, scale 1:250,000.

Taylor, H.P., 1967, The zoned ultramafic complexes of southeastern Alaska, *in* Ultramafic and related rocks, John Wiley and Sons, Inc., p. 97-121.

Taylor, H.P., and Noble, J.A., 1960, Origin of the ultramafic complexes in southeastern Alaska, *in* Oftedahl, Christoffer, and Hjelmquist, Sven, eds., Petrographic provinces, igneous and metamorphic rocks: International Geological Congress, 21st, Copenhagen, 1960, Report, pt. 13, p. 175-187.

Thorne, R.L., Muir, N.M., Erickson, A.W., Thomas, B.I., Heide, H.E., and Wright, W.S., 1948, Tungsten deposits in Alaska: U.S. Bureau of Mines Report of Investigations 4174, 22 p.

Twenhofel, W.S., 1953, Potential Alaskan mineral resources for proposed electrochemical and electrometallurgical industries in the upper Lynn Canal area, Alaska: U.S. Geological Survey Circular 252, 14 p.

U.S. Bureau of Mines, 1977, Claim map, Ketchikan: U.S. Bureau of Mines Map 120, scale 1:250,000.

U.S. Geological Survey, 1976, Aeromagnetic maps of Granite Fiords wilderness study area, Ketchikan and Bradfield Canal quadrangles, southeastern Alaska: U.S. Geological Survey Open-file Report 76-558, 15 sheets, scale 1:63,360.

U.S. Geological Survey, 1977, Aeromagnetic map of Ketchikan, Prince Rupert, and northeastern Craig quadrangles, Alaska: U.S. Geological Survey Open-file Report 77-359, 1 sheet, scale 1:250,000.

U.S. Geological Survey, 1979, Aeromagnetic maps of parts of Ketchikan, Prince Rupert, and Craig quadrangles, Alaska: U.S. Geological Survey Open-file Report 79-937, 19 sheets, scale 1:63,360.

Warfield, R.S., and Wells, R.R., 1967, Sampling the Moth Bay zinc-copper deposit, Revillagigedo Island, southeastern Alaska: U.S. Bureau of Mines Open-file Report 12-67, 19 p.

Wedow, Helmuth, Jr., and others, 1953, Preliminary summary of reconnaissance for uranium and thorium in Alaska, 1952: U.S. Geological Survey Circular 248, 15 p.

Wedow, Helmuth, Jr., White, M.G., and Moxham, R.M., 1952, Interim report on an appraisal of the uranium possibilities of Alaska: U.S. Geological Survey Open-file Report 51, 123 p.

Wells, R.R., 1956, Laboratory concentration of various Alaska copper ores: U.S. Bureau of Mines Report of Investigations 5245, 9 p.

West, W.S., and Benson, P.D., 1955, Investigations for radioactive deposits in southeastern Alaska: U.S. Geological Survey Bulletin 1024-B, p. 25-57.

Westgate, L.G., 1922, Ore deposits of the Salmon River district, Portland Canal region: U.S. Geological Survey Bulletin 722, p. 117-140.

Wright, C.W., 1907, Lode mining in southeastern Alaska: U.S. Geological Survey Bulletin 314, p. 47-72.

Wright, C.W., 1908, Lode mining in southeastern Alaska, 1907: U.S. Geological Survey Bulletin 345, p. 78-97.

Wright, C.W., 1909, Mining in southeastern Alaska: U.S. Geological Survey Bulletin 379, p. 76-86.

Wright, F.E., and Wright, C.W., 1906, Lode mining in southeastern Alaska, U.S. Geological Survey Bulletin 284, p. 30-54.

Wright, F.E., and Wright, C.W., 1908, The Ketchikan and Wrangell mining districts, Alaska: U.S. Geological Survey Bulletin 347, 210 p.